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Summary

Cancer screening involves testing for signs of cancer or precancerous conditions in people without obvious symptoms. The National Cervical Screening Program (NCSP) is one of Australia's three population-based cancer screening programs. It aims to reduce cervical cancer cases, illness, and deaths by detecting precancerous abnormalities before any potential progression to cervical cancer.

The NCSP is a highly successful public health initiative in Australia, halving cervical cancer incidence and mortality since it was introduced in 1991. This has been achieved through organised, population-based cervical screening to detect precancerous changes, allowing treatment before any progression to cervical cancer, thereby preventing this disease.

A renewed NCSP was introduced on 1 December 2017 that included a change from 2-yearly Pap tests for the target age group 20–69 to 5-yearly human papillomavirus (HPV) tests, followed by a liquid-based cytology (LBC) test if oncogenic (cancer-causing) HPV is found, for the target age group 25–74.

This is the sixth report to present data for the renewed NCSP. Data in this report focus on the 5 calendar years 2019, 2020, 2021, 2022, and 2023, with trend data from the year 2018.

Terminology

This report uses the terms 'participants' and 'invitees' when referring to data collected under the NCSP. These data are not restricted by sex or gender, with all cervical screening participants and invitees included in these data. For NCSP data, participants and invitees may include women, transgender men, intersex people, and non-binary people.

This report uses the term 'women' to mean 'female' when referring to cancer incidence data and cancer mortality data as these data sources are based on sex assigned at birth. However, it should be noted that some people may not identify with this term.

Recruitment

There are two measures of participation in the NCSP – participation and coverage. Participation is restricted to only screening HPV tests, whereas coverage includes all HPV and LBC tests performed for any reason, and is a better indication of overall participation in cervical screening.

Over the 5 years 2019–2023, more than 4 million participants aged 25–74 had a screening HPV test (primary screening or follow-up HPV test), which equates to a participation rate of 63% of the eligible population.

Over the 5 years 2019–2023, more than 5 million participants aged 25–74 had an HPV or LBC test for any reason, which equates to a coverage rate of 73% of the eligible population.

Screening

Screening HPV test positivity is the proportion of valid primary screening HPV tests that detected oncogenic HPV. In 2023, for participants aged 25–74, positivity was:

- 1% for oncogenic HPV 16 and 18 (the two types of HPV that cause most cervical cancers)
- 6% for oncogenic HPV other than 16 and 18
- 7% for any oncogenic HPV type.

Assessment

Participants considered at higher risk of a significant cervical abnormality are referred for colposcopy, which is the examination of the cervix using a magnifying instrument called a colposcope and is the first step in assessment.

In 2022, of the participants aged 25–74 at higher risk of a significant cervical abnormality, 59% had a colposcopy within 3 months. Median time to colposcopy was 65 days.

Diagnosis

Detection of high-grade abnormalities provides an opportunity for treatment before possible progression to cervical cancer.

In 2023, for every 1,000 participants screened, 8 had a high-grade abnormality detected by histology. In contrast, for every 1,000 participants screened, fewer than one had a cervical cancer detected. This reflects that the aim of cervical screening is not to detect cervical cancer, but to prevent it through the detection of high-grade abnormalities.

Outcomes

In 2020, 916 women aged 25–74 were diagnosed with cervical cancer, which is 11 new cases per 100,000 women in the population.

In 2022, 204 women aged 25–74 died from cervical cancer, which is between 2 and 3 deaths per 100,000 women in the population.

Aboriginal and Torres Strait Islander participants

This is the second report to include data on cervical screening outcomes for Aboriginal and Torres Strait Islander participants for HPV screening test positivity, colposcopy rate, and high-grade cervical abnormality detection rate at the national level.

In 2023, for Aboriginal and Torres Strait Islander participants aged 25–74, positivity was:

- 2% for oncogenic HPV 16 and 18 (the two types of HPV that cause most cervical cancers)
- 9% for oncogenic HPV other than 16 and 18
- 11% for any oncogenic HPV type.

In 2022, of the Aboriginal and Torres Strait Islander participants aged 25–74 at higher risk of a significant cervical abnormality, 50% had a colposcopy within 3 months.

In 2023, for every 1,000 Aboriginal and Torres Strait Islander participants aged 25–74 screened, 13 had a high-grade cervical abnormality detected by histology, providing an opportunity for treatment prior to any possible progression to cervical cancer.

In 2016–2020, 194 Aboriginal and Torres Strait Islander women aged 25–74 were diagnosed with cervical cancer. After adjusting for age, incidence among Aboriginal and Torres Strait Islander women was 2.3 times the rate of non-Indigenous women.

In 2018–2022, 64 Aboriginal and Torres Strait Islander women aged 25–74 died from cervical cancer. After adjusting for age, mortality among Aboriginal and Torres Strait Islander women was 3.6 times the rate of non-Indigenous women.

WARNING

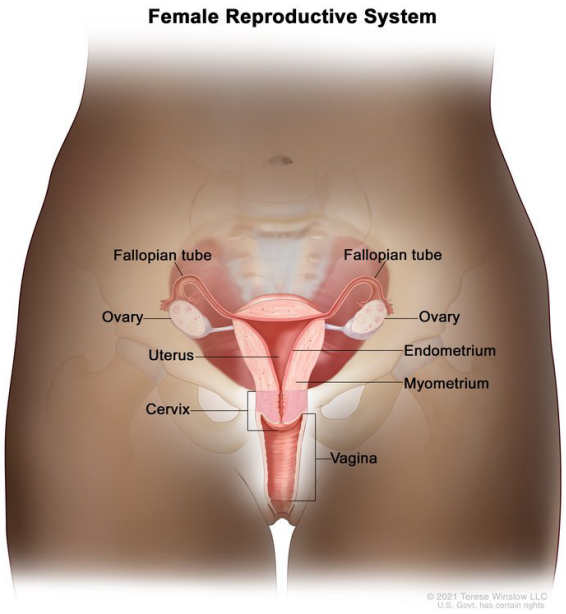
The following page contains sensitive illustrations of female body parts.

1 Prevention of cervical cancer through organised cervical screening

Cancer is a group of several hundred diseases in which abnormal cells are not destroyed naturally by the body, but instead multiply and spread out of control. Cancers are distinguished from each other by the specific type of cell involved and by the place in the body in which the disease began.

Cervical cancer affects the cells of the uterine cervix, which is the lower part (or 'neck') of the uterus where it joins the upper end of the vagina (Figure 1.1). Cervical cancer develops when abnormal cells in the lining of the cervix begin to multiply out of control and form precancerous abnormalities. If undetected, these abnormalities can develop into cervical cancer and spread into the surrounding tissue.

Figure 1.1: Anatomy of the female reproductive system



Worldwide, cervical cancer is the fourth most common cancer affecting women, ranking fourth for both incidence and mortality; however, its burden is not equal globally. Cervical cancer ranks second in incidence and mortality behind breast cancer in lower Human Development Index countries without cervical screening programs. Cervical cancer incidence is above 25 new cases per 100,000 women in some such countries, compared with a relatively low incidence of 6 new cases per 100,000 women of all ages in Australia (world age-standardised rates) (Bray et al. 2018). This is due to Australia having an organised population-based screening program in place since 1991 that has prevented many cervical cancers by detecting and treating high-grade cervical abnormalities before any possible progression to cervical cancer.

Research performed by the Australian Institute of Health and Welfare (AIHW) using linked cervical screening, cancer, and death data showed that 72% of cervical cancers diagnosed between 2002 and 2012 in women aged 20–69 occurred in those who had either never

screened or were lapsed screeners, demonstrating the effectiveness of Australia's cervical screening program in preventing cervical cancer. This research further showed that cervical cancers that did occur in recently screened women were less likely to cause death than those diagnosed in women who had never screened, which is likely due to these cancers being detected at an earlier stage (AIHW 2019).

Human papillomavirus (HPV) plays a major role in the development of precancerous cervical abnormalities and cervical cancer, with HPV being the underlying cause of almost 100% of squamous cell carcinomas and up to 90% of adenocarcinomas (Brotherton et al. 2020) (see Box 1.1 for further information).

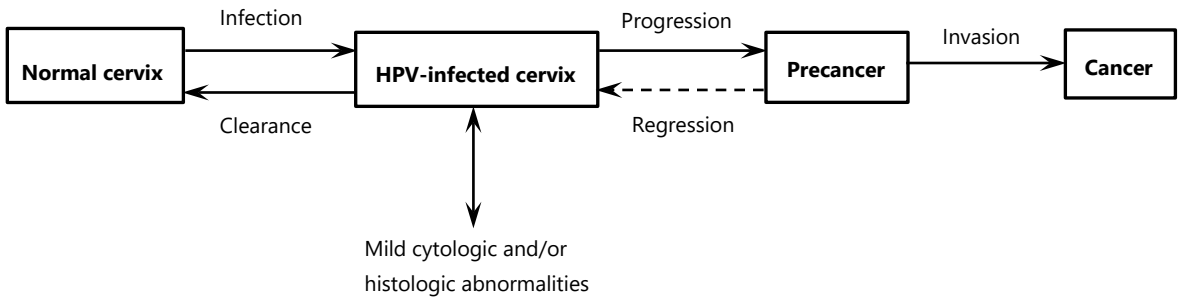
The 4 major steps in most cervical cancer development are:

1. infection with HPV (acquired through sexual contact);
2. viral persistence (as most HPV infections clear with no treatment);
3. progression to precancerous abnormalities (many of which will also regress with no treatment); and
4. invasive cervical cancer (Schiffman et al. 2007; Schiffman and Kjaer 2003) (Figure 1.2).

As indicated by the arrows in Figure 1.2, the preliminary steps towards the eventual development of cervical cancer are not unidirectional. Most HPV-infected cells return to normal, and a large proportion of precancerous abnormalities do not progress to cervical cancer, even without treatment. However, it is not possible to know which precancerous abnormalities will regress without treatment, and so the detection and treatment of all precancerous abnormalities is important.

While the cell changes caused by persistent infection with oncogenic HPV can cause precancerous changes to the cervix, a range of other factors will influence whether precancerous changes will progress to cervical cancer; these include smoking, multiparity (specifically, more than 5 full-term pregnancies), a young age at first full term pregnancy, oral contraceptive use, and immunosuppression (Cancer Council Australia 2014).

Figure 1.2: Role of HPV infection in the development of cervical cancer



Source: Reproduced with permission from M Schiffman, National Cancer Institute (Schiffman and Kjaer 2003).

Australia is set to become the first country in the world to actively eliminate cervical cancer, with modelling predicting that the incidence of cervical cancer will drop to fewer than 4 new cases per 100,000 women by 2035, and to fewer than 1 new case per 100,000 women by 2066 (Hall et al. 2019).

A greater understanding of the role of HPV in most cervical cancers (Box 1.1) has led to two major developments in Australia, which are behind these anticipated further reductions in the incidence of cervical cancer in Australia. The first of these developments is the introduction of a national HPV vaccination program in April 2007 (described in Box 1.2). The second is a

renewed national cervical screening program which commenced on 1 December 2017 and uses an HPV test as its primary screening test (Hall et al. 2019).

Note that, while Australia introduced primary prevention of cervical cancer in the form of HPV vaccination that complements the existing cervical screening program, cervical screening remains a vital secondary prevention strategy for those who are HPV-vaccinated and those who are unvaccinated. It is important that all eligible women and people with a cervix participate in cervical screening, irrespective of their HPV vaccination status.

Box 1.1: Proportion of cervical cancers caused by HPV

It was once thought that all cervical cancers were caused by HPV, but it is now recognised that there are some cervical cancers that are not caused by HPV – the majority of these being some histological types of adenocarcinoma (Hodgson and Park 2019; Stolnicu et al. 2018). Current evidence is consistent with HPV being the underlying cause of almost all squamous cell carcinomas and up to 90% of adenocarcinomas (Brotherton et al. 2020).

In Australia, HPV has been detected in 93% of cervical cancers (Brotherton/Tabrizi et al. 2017). However, the proportion of adenocarcinomas that are present will affect the proportion of cervical cancers that are caused by HPV. The success of cervical screening in reducing the incidence of squamous cell carcinomas has seen the proportion of adenocarcinomas increase in Australia from 11% in 1982 to 28% in 2020. The higher proportion of adenocarcinomas, together with the fact that HPV may no longer be detectable in some cervical cancers caused by HPV (due to loss of HPV DNA over time, for example), has contributed to HPV being detected in 93% of cervical cancers in Australia.

In the future, it is likely that the proportion of cervical cancers in which HPV is detected will fall. This would be an indication of a successful cervical screening program, with further reductions in the cervical cancers that are caused by HPV leading to a higher proportion of cervical cancers that are not caused by HPV (Brotherton et al. 2020).

Box 1.2: HPV vaccination in Australia

In April 2007, Australia introduced the National HPV Vaccination Program, which included an ongoing program for girls aged 12–13 and a ‘catch-up’ program for girls and women aged 14–26 through to the end of 2009. This program was extended to boys from February 2013. The HPV vaccine is now administered to girls and boys aged 12–13 years at school under the National Immunisation Program (NIP).

In 2018, Australia commenced using the nonavalent HPV vaccine Gardasil9 protecting against an additional 5 types of HPV, replacing the quadrivalent vaccine Gardasil. The number of doses required was reduced from 3 to 2.

Gardasil9 protects against types 6, 11, 16, 18, 31, 33, 45, 52, and 58 compared with Gardasil that protected against types 6, 11, 16, and 18. This vaccine will further improve the protection against women developing cervical abnormalities and cervical cancer.

In 2023, Australia reduced the number of HPV vaccine doses required to just a single dose, based on strong evidence of protection from a single dose. NIP-funded single dose catch-up HPV vaccination is now available to all people aged up to and including 25 years.

2 National Cervical Screening Program

Cancer screening involves testing for signs of cancer or precancerous conditions in people without obvious symptoms. The National Cervical Screening Program (NCSP) is one of Australia's three population-based cancer screening programs. It aims to reduce cervical cancer cases, illness, and deaths by detecting precancerous abnormalities before any potential progression to cervical cancer.

The NCSP is a highly successful public health initiative in Australia, halving cervical cancer incidence and mortality since it was introduced in 1991. Until December 2017, this was achieved through organised, population-based cervical screening using 2-yearly Pap tests to detect precancerous changes to cervical cells, allowing treatment before any progression to cervical cancer, thereby preventing this disease. Cervical screening using Pap tests was supported by pathology laboratories through the provision of high-quality cervical cytology, and by state and territory cervical cytology registers through appropriate recommendations for clinical management and provision of a safety net for participants.

Improvements in technology, a greater understanding of the role of HPV in the development of cervical cancer, and the introduction of an HPV vaccine that is now administered to girls and boys under the National Immunisation Program, led to the NCSP being reviewed, to ensure that the NCSP continued to provide Australians with safe and effective cervical screening. As a result of this, a 'renewed' NCSP was introduced on 1 December 2017.

The renewed NCSP meant a change from 2-yearly Pap tests for the target age group 20–69 to 5-yearly HPV tests, followed by a liquid-based cytology (LBC) test if oncogenic (cancer-causing) HPV is found, for the target age group 25–74.

Another change is the collection of cervical screening data by the National Cancer Screening Register (NCSR), which is now the source of these data for the NCSP.

2.1 Screening pathway

Box 2.1: Key terminology used in the screening pathway

Significant cervical abnormality: changes to cells in the cervix that have a higher likelihood of progression to cervical cancer, or cervical cancer itself.

Oncogenic: cancer-causing.

Oncogenic HPV types used to be known as 'high-risk HPV types'. Terminology for these HPV types that cause cervical cancer has been changed from 'high-risk' to 'oncogenic' so as to avoid confusion with the risk levels of the cervical screening pathway, in which participants are allocated a risk of significant cervical abnormality of 'low risk', 'intermediate risk' or 'higher risk'.

Genotyping: in the context of cervical screening, this is a process to determine the type of oncogenic HPV detected by an HPV test.

Cytology: in the context of cervical screening, this is the process of examining cells that have been collected from the cervix for abnormalities (usually under a microscope).

A new screening pathway (Figure 2.1) was developed for the renewed NCSP, and was updated on 1 February 2021, based on a participant's risk of significant cervical abnormality. This risk is categorised as 'low risk', 'intermediate risk', or 'higher risk'.

The screening pathway starts with the first step – an HPV test with partial genotyping.

A positive HPV test means that one or more oncogenic types of HPV have been detected. There are 14 oncogenic HPV types: 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 66, and 68, with types 16 and 18 causing 70%–80% of cervical cancers in Australia (Brotherton 2008). The HPV test used in cervical screening incorporates partial genotyping of the HPV detected. This means it not only can detect oncogenic HPV, but also can determine whether the oncogenic HPV type detected is 16 or 18, or neither of these.

The 4 possible results of the HPV test are:

- oncogenic HPV not detected
- oncogenic HPV 16/18 detected
- oncogenic HPV (not 16/18) detected
- unsatisfactory HPV test.

The result of the HPV test determines whether cytology is also performed. This cytology test is called a 'reflex LBC', to reflect that it occurs automatically on the same cervical sample if an HPV test result indicates that it is required. Note that if the screening sample is a self-collected vaginal swab, then a second sample from the cervix is required if cytology will alter the risk category assigned (see *Self-collected samples in the screening pathway* below).

This cytology test is used to provide further information to allow a risk to be allocated. This can be referred to as triage.

- 'Oncogenic HPV not detected' means that the participant is considered **low risk**, and reflex LBC is not required.
- 'Oncogenic HPV 16/18 detected' means that the participant is considered **higher risk**. Reflex LBC is performed on this sample, but the result does not affect the risk.
- 'Oncogenic HPV (not 16/18) detected' means that reflex LBC is required to determine the participant's risk.
  - If the reflex LBC result indicates there is a high-grade abnormality present (including cervical cancer or a glandular abnormality), the participant is considered **higher risk**.

    If the reflex LBC result indicates there is either no abnormality present or a low-grade abnormality present, the participant is considered **intermediate risk** and will need to have a follow-up HPV test in 12 months. At their follow-up HPV test:
    - If there is no oncogenic HPV detected, their risk changes to **low risk.**
    - If oncogenic HPV 16/18 is detected or oncogenic HPV not 16/18 is detected with a reflex LBC result of high-grade abnormality (including cervical cancer or a glandular abnormality), their risk changes to **higher risk**.
    - If oncogenic HPV not 16/18 is detected and the reflex LBC result indicates there is either no abnormality present or a low-grade abnormality AND the participant is 2 or more years overdue for screening at the time of the initial screen, an Aboriginal and/or Torres Strait Islander participant, or aged 50+ years, their risk changes to **higher risk.**
    - If oncogenic HPV not 16/18 is detected and the reflex LBC result indicates there is either no abnormality present or a low-grade abnormality, their risk remains as **intermediate risk** and will need to have a further follow-up HPV test in another 12 months. At their second follow-up HPV test:
      - If there is no oncogenic HPV detected, their risk changes to **low risk**.
      - If any oncogenic HPV is detected (oncogenic HPV 16/18 or oncogenic HPV (not 16/18)), their risk changes to **higher risk**.

  - If the reflex LBC is unsatisfactory, a new sample will need to be collected and the LBC test repeated in 6 weeks.
- 'Unsatisfactory HPV test' means that a new sample will need to be collected and tested in 6 weeks. No risk is allocated.

The risk allocated to the participant then determines what recommendation they will receive at the conclusion of the screening episode.

At the completion of a primary screening episode, all participants are allocated a risk of **low risk**, **intermediate risk**, or **higher risk**:

- Participants considered **low risk** are recommended to rescreen in 5 years.
- Participants considered **intermediate risk** are recommended to have a follow-up HPV test in 12 months, after which their risk will be changed to:
  - **low risk** (recommended to rescreen in 5 years)
  - **higher risk** (referred for colposcopy),
  - or their risk will remain as **intermediate risk** (follow-up HPV test in 12 months), after which their risk will be changed to either **low risk** or **higher risk**.
- Participants considered **higher risk** are referred for colposcopy.

Self-collected samples in the screening pathway

There are some slight differences in the screening pathway for participants who self-collect a sample for their cervical screening test. Up until 30 June 2022, only those aged 30 or over who had never participated in cervical screening or were 2 or more years overdue for cervical screening, and who declined a practitioner-collected sample, were eligible to self-collect a vaginal sample that is tested for oncogenic HPV.

From 1 July 2022, everyone eligible to participate in cervical screening now have the choice to access self-collection as an alternative to practitioner-collection.

A self-collected vaginal sample is suitable for an HPV test, but is not suitable for reflex LBC.

This is not an issue if the HPV test result is 'Oncogenic HPV not detected' as the participant is considered low risk and recommended to rescreen in 5 years (no reflex LBC performed).

However, if the result is 'Oncogenic HPV (not 16/18) detected', the participant needs to have a separate sample collected by a practitioner for a reflex LBC test to determine their risk.

If the HPV test result is 'Oncogenic HPV 16/18 detected' the participant is considered higher risk and referred for colposcopy as per the standard screening pathway, with the reflex LBC then performed at colposcopy.

Screening pathway used in this report

This screening pathway includes changes that came into effect on 1 February 2021.

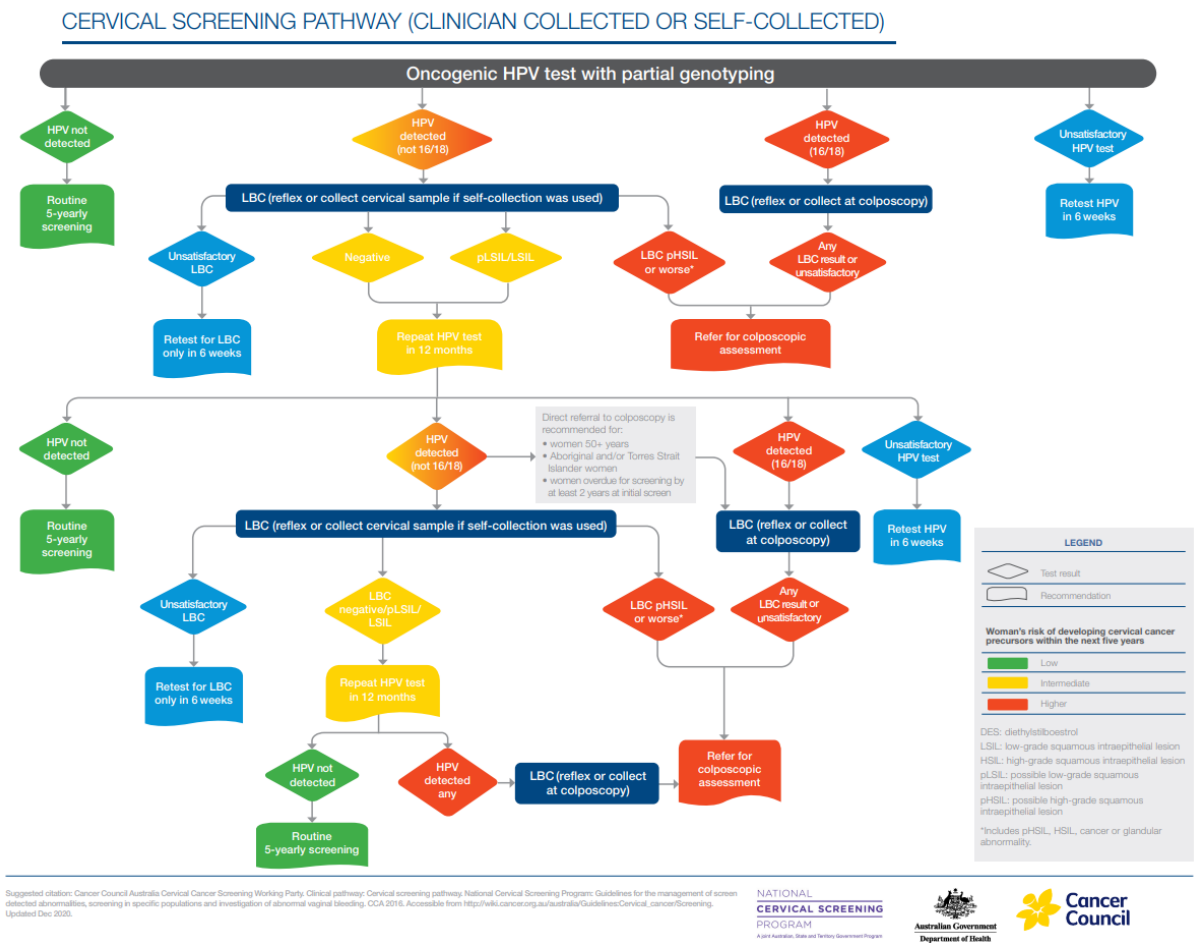
Prior to 1 February 2021, participants with a cervical screening result of **intermediate risk** were recommended to have a follow-up HPV test at 12 months and be managed as **higher risk** if any oncogenic HPV was detected in this follow-up HPV test and **low risk** if this follow-up HPV test did not detect oncogenic HPV.

Based on a review of program data (Smith 2022), from 1 February 2021, participants with a follow-up HPV test result of HPV (not 16/18) detected and an LBC result that indicates there is either no abnormality present or a low-grade abnormality present, instead remain at **intermediate risk** and undertake a second HPV follow-up test in a further 12 months. The

exceptions to this are participants who are 2 or more years overdue for screening at the time of the initial screen, Aboriginal and/or Torres Strait Islander participants, and participants aged 50+ years, who are managed as **higher risk**.

This report uses the current screening pathway for data reported for 2022 and 2023.

Figure 2.1: Cervical screening pathway



Note: The National Cervical Screening Program screening pathway changed for participants at intermediate risk, effective from 1 February 2021.

Prior to 1 February 2021, participants with a cervical screening result of intermediate risk were recommended to have a follow-up HPV test at 12 months and be managed as higher risk if any oncogenic HPV was detected in their follow-up HPV test and low risk if their follow-up HPV test did not detect oncogenic HPV.

From 1 February 2021, participants with a follow-up HPV test result of HPV (not-16/18) detected and an LBC prediction of negative, pLSIL or LSIL instead remain at intermediate risk and undertake a second HPV follow-up test in a further 12 months. The exceptions to this are participants who are 2 or more years overdue for screening at the time of the initial screen, Aboriginal and/or Torres Strait Islander participants, and participants aged 50+ years.

More information is available at https://www.health.gov.au/news/important-changes-to-the-national-cervical-screening-programs-clinical-guidelines-pathway-for-women-at-intermediate-risk

As some data in this report pre-date the change to the screening pathway, this report will use the previous screening pathway for data from 1 January 2018 to 31 January 2021, and the current screening pathway for data from 1 February 2021 to 31 December 2022.

Source: Cancer Council Australia Cervical Cancer Screening Guidelines Working Party. National Cervical Screening Program: Guidelines for the management of screen-detected abnormalities, screening in specific populations and investigation of abnormal vaginal bleeding. Sydney: Cancer Council Australia. [Version URL: https://wiki.cancer.org.au/australiawiki/index.php?oldid=214429, cited 2023 Nov 14]. Available from: https://wiki.cancer.org.au/australia/Guidelines:Cervical_cancer/Screening.

A larger view of the screening pathway is available at https://www.cancer.org.au/assets/pdf/cervical-screening-pathway-flowchart-6.1-July-2022

2.2 Monitoring key aspects of the National Cervical Screening Program

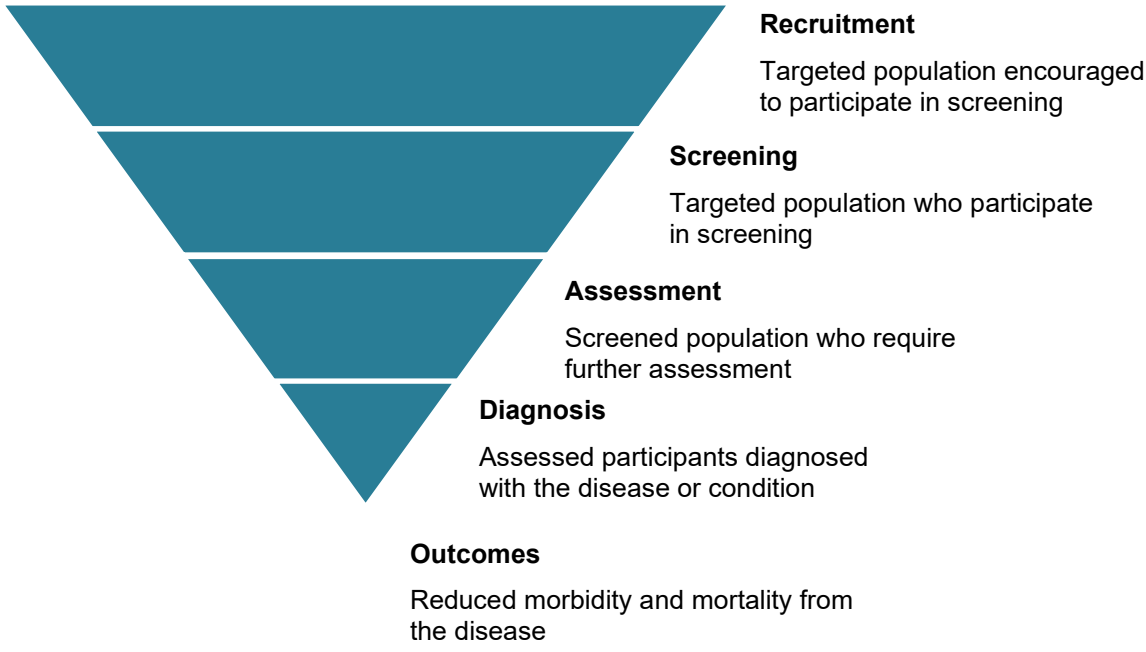
Population-based cancer screening programs require monitoring of their performance, quality, and safety. To facilitate this, the NCSP has performance indicators, quality standards and measures, and safety monitoring protocols. This report presents the latest data for the performance indicators of the NCSP; these measure key aspects of the screening pathway.

These performance indicators are structured within the five incremental stages of a population screening pathway, as described in the Population Based Screening Framework (Standing Committee on Screening 2016). These stages are recruitment, screening, assessment, diagnosis, and outcome. Each incremental stage includes fewer individuals, represented diagrammatically in Figure 2.2 by an inverted triangle.

The largest section (recruitment) represents the target population of the screening program, followed by a smaller screening section, which represents the individuals who participate. The next section (assessment) is smaller again; it represents the subset of screening individuals who have diagnostic assessment, since a screening test is not intended to be diagnostic but rather aims to identify individuals more likely to have the disease and therefore require further investigation from diagnostic tests. A subset of individuals assessed will be found to have the disease, represented by the smallest section of the triangle.

Outcomes sits below the triangle and refers to morbidity and mortality. Screening programs aim to reduce morbidity and mortality.

Figure 2.2: Population screening pathway stages



Throughout the performance indicator section of this report, a small version of this inverted triangle is used as a ‘signpost’ in the top right corner of the page to indicate where in the screening pathway the performance indicator sits.

2.3 National Cervical Screening Program data

The National Cancer Screening Register (NCSR) is the source of cervical screening data for the NCSP in Australia, following the migration and consolidation of state and territory cervical screening register data in 2017. This change may impact comparisons with previous NCSP reporting, which used state and territory cervical screening register data.

The NCSR is intended to be a near-complete record of all cervical tests, including HPV, cytology, colposcopy, and histology. However, while pathology labs and colposcopists are required to notify all cervical test data to the NCSR within 14 days, any tests not notified will not be included in the NCSR, which affects the completeness of the NCSR (and in turn the data in this report). There are also some cervical screening tests performed in Australia that are for Compass participants which are not included in the NCSR (see Box 2.2).

Box 2.2: Compass participants

Compass is a clinical trial comparing 2.5-yearly Pap test screening with 5-yearly HPV screening led by the Australian Centre for the Prevention of Cervical Cancer in collaboration with the Daffodil Centre. More information about the Compass trial can be found here https://www.compasstrial.org.au/. There are over 76,000 participants in the Compass trial.

Cervical tests for Compass participants are not recorded in the NCSR, because, as a clinical trial, notification of Compass data is an exemption under the NCSR Rules 2017.

Compass participants enter the NCSR upon exit from the Compass trial.

The NCSR is a live database, which means that data are continually updated. As such, data extracted at varying times differ, with later data likely to have a greater level of completeness.

NCSR data in this report were sourced from the July 2024 release of version 4.8 of the raw data extract (RDE) (NCSR RDE 4.8 06/07/2024). See Box 2.3 for terminology for these data.

Box 2.3: The term ‘participants’ or ‘invitees’ used for NCSR data

This report uses the term ‘participants’ or ‘invitees’ when referring to NCSR data.

In this context, ‘participant’ and ‘invitee’ is defined as any person with a cervix. This may include women, transgender men, intersex people, and non-binary people.

Data on cervical cancer cases and deaths in Australia are sourced from AIHW databases – the Australian Cancer Database and the AIHW National Mortality Database. See Box 2.4 for terminology for these data.

Box 2.4: The term ‘women’ used for incidence and mortality data

This report uses the term 'women' to mean ‘female' when referring to incidence and mortality data as these data sources are based on sex assigned at birth. However, it should be noted that some people may not identify with this term.

Population data are used for the calculation of participation, incidence, and mortality, with hysterectomy fractions additionally used for the calculation of participation.

All data sources used in this report are detailed more fully in Appendix C.

2.4 Impact of COVID-19

Coronaviruses are common viruses that cause respiratory diseases, ranging from the common cold to more severe illnesses (Department of Health 2020a). COVID-19, caused by the novel coronavirus SARS-CoV-2, was first reported to the World Health Organization (WHO) in December 2019 and declared an international pandemic on 11 March 2020.

The COVID-19 pandemic disrupted many aspects of life, including access to health services like cancer screening programs. In Australia, COVID-19 restrictions introduced in March 2020 led to the suspension or modification of healthcare services. This likely influenced access to cervical screening.

Earlier *Cancer screening and COVID-19 in Australia* reports (AIHW 2020, 2021) examined the impact of COVID-19 on Australia's national cancer screening programs, revealing a drop in cervical screening tests in April and May 2020. Later reporting demonstrated that this was lower that what would be expected compared to the number of cervical screening tests in April and May 2021. This decrease aligns with the strict restrictions in place during that period, which began to ease in late April 2020.

Future research will assess the long-term effects of COVID-19 on cancer screening and outcomes. Additionally, the pandemic may have impacted the Estimated Resident Populations (ERPs) used for participation, incidence, and mortality calculations. This is outlined in more detail in Box 2.5, below.

Box 2.5: Impact of COVID-19 on Estimated Resident Populations.

The COVID-19 pandemic and the resulting Australian Government closure of the international border from 20 March 2020, caused significant disruptions to the usual Australian population trends. This report uses Australian Estimated Resident Population (ERP) estimates that reflect these disruptions.

In the 12-month period July 2020 to June 2021, the overall population growth was much smaller than the years prior, and in particular, there was a relatively large decline in the population of Victoria. ABS reporting indicates these were primarily due to net-negative international migration (ABS 2021).

This change in the usual population trends may complicate interpretation of statistics calculated from these ERPs. For example, rates and proportions may be greater than in previous years due to decreases in the denominator (population) of some sub-populations.

3 Performance indicator monitoring

Performance indicators allow key aspects of the renewed NCSP to be monitored. These are listed in Table 3.1 and follow the screening pathway of the NCSP. Data are reported against performance indicators in the following chapters. The data required to calculate some performance indicators are not yet available, either due to the program being new and so insufficient time has passed to allow their calculation, and/or because data linkage is required. This is documented in Table 3.1.

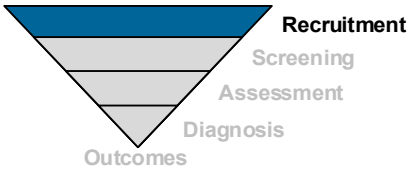
Performance indicators are grouped under each of the 5 population screening pathway stages of 'Recruitment', 'Screening', 'Assessment', 'Diagnosis', and 'Outcomes' (Figure 2.2). Note that in Table 3.1, the screening pathway entries 'Screening', 'Screening HPV test performance', 'Self-collection', and 'Follow-up' all fall within the broader screening pathway stage of 'Screening'.

Table 3.1: Performance indicators for the National Cervical Screening Program

Screening pathway	Performance indicator	Reported
Recruitment	1 Participation	✓
	2 Response to invitation	✓
	3 Rescreening	×
Screening		
Screening	4 Screening results	✓
	5 Correlation of screening results	✓
Screening HPV test performance	6 Screening HPV test positivity	✓
	7 Cervical cancer diagnosed after a low risk screening test result	×
Self-collection	8 LBC test in self-collection participants positive for oncogenic HPV (not 16/18)	✓
	9 Colposcopy in self-collection participants positive for oncogenic HPV 16/18	✓
Follow-up	10 Adherence to recommendation for follow-up	✓
	11 Follow-up results	✓
Assessment	12 Colposcopy rate	✓
	13 Time to colposcopy	✓
	14 Biopsy rate	✓
	15 Yield of high-grade abnormalities on biopsy among participants who attend colposcopy with higher risk screening results	✓
	16 Positive predictive value of colposcopy	✓
Diagnosis	17a High-grade cervical abnormality detection rate	✓
	17b Cervical cancer detection rate	✓
Outcomes	18 Cervical cancers diagnosed by time since last screen	×
	19 Incidence of cervical cancer	✓
	20 Mortality from cervical cancer	✓

✓ = reported; ×* = data not available and not reported.

Note: For all screening pathway groups apart from 'Outcomes', the reported target age group for the performance indicators of 25–74 includes participants aged from 24 years and 9 months. This is because 24 years and 9 months is the age at which those eligible to screen are invited to screen in the renewed NCSP; inclusion of invitees and participants aged 24 years and 9 months ensures they are captured in the data if they screen prior to their 25th birthday.



Recruitment

Performance Indicator 1: Participation

Summary of participation data

- 4,428,528 participants aged 25–74 had a screening HPV test in 2019–2023. This equates to participation of 63.5% of the target population.
- 5,099,974 participants aged 25–74 had an HPV or LBC test for any reason in 2019–2023. This equates to coverage of 73.1% of the target population.

Definition:

Number of participants aged 25–74 screened in a 5-year period as a percentage of eligible females in the population.

Rationale:

Higher participation in cervical screening means that more precancerous abnormalities can be detected and treated, which is necessary for achieving the overall aim of reducing incidence and mortality from cervical cancer.

Guide to interpretation:

A higher participation rate is better.

Data considerations:

Under the performance indicator of 'Participation', both participation and coverage are measured. Participation is restricted to only screening HPV tests, whereas coverage is not restricted in this way, and is a better indication of overall participation in cervical screening (see Box 3.1).

All data are reported for both participation and coverage. This provides the flexibility for end-users of these data to use either participation or coverage as the measure of participation to suit their requirements, either in Australia, or in international comparisons.

Box 3.1: Definition of participation and coverage in cervical screening

Participation is the number of participants aged 25–74 who had a screening HPV test (primary screening or follow-up HPV test) as a proportion of the number of eligible females aged 25–74 in the population.

Coverage is the number of participants aged 25–74 who had an HPV test or LBC test for any reason as a proportion of the number of eligible females aged 25–74 in the population.

Coverage is similar to the definition of participation for the previous NCSP, which was the proportion of females who had a Pap test for any reason. It is a better indication of overall participation in cervical screening and is therefore appropriate for international comparisons, as well as within Australia where overall involvement in cervical screening is the desired measure.

Results

Participation over the 5 years 2019–2023

The calculation of participation in cervical screening is restricted to participants who had an HPV test over the 5 years 2019 to 2023 for which the reason was primary screening HPV test or follow-up HPV test. This excludes participants who had an HPV test for reasons other than screening (such as investigation of symptoms or test of cure).

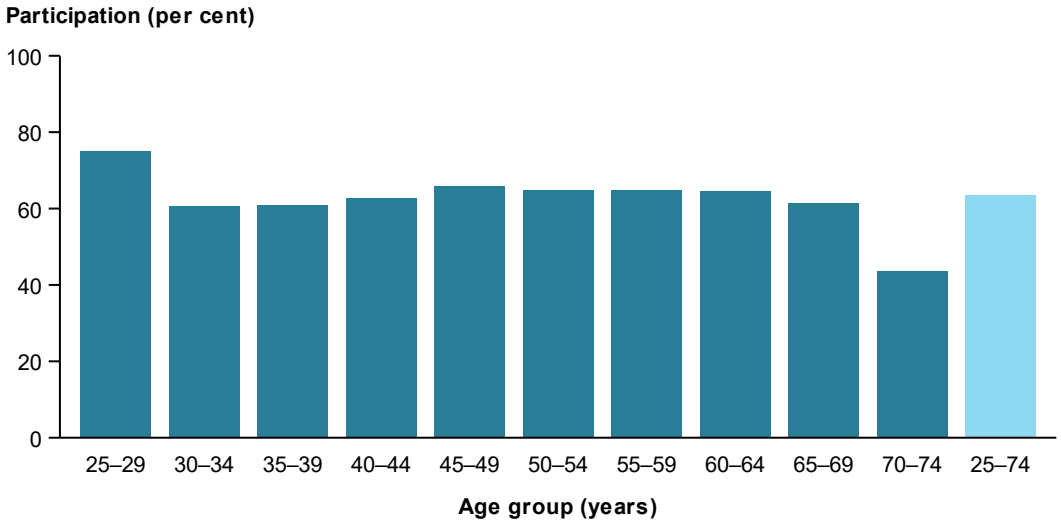
The denominator for 2019–2023 is the average number of females in the population aged 25–74 over the 5 years 2019 to 2023, adjusted to remove the estimated number who have had a hysterectomy. This is known as the eligible population for cervical screening (noting that this eligible population will include females who are not at risk of cervical cancer or who are not eligible to screen but are not practically able to be removed from the population).

In 2019–2023, there were 4,428,528 participants aged 25–74 who had a screening HPV test, which was 63.5% of the eligible population (also 63.5% after adjusting for age to allow comparison over time or across population groups).

Participation by age in 2019–2023

The highest participation in cervical screening of 75.1% was observed in participants aged 25–29. The lowest participation was observed in participants aged 70–74, with only 43.6% of this age group screening (Figure 3.1.1). Participants aged 70–74 have re-entered the target age group under the renewed NCSP after leaving the previous NCSP after age 69, so lower participation is expected in this age group. It is of note, however, that participation in this age group increased from 35.0% in 2018–2022 to 43.6% in 2019–2023, so is trending upwards.

Figure 3.1.1: Participation, by age, 2019–2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1..1

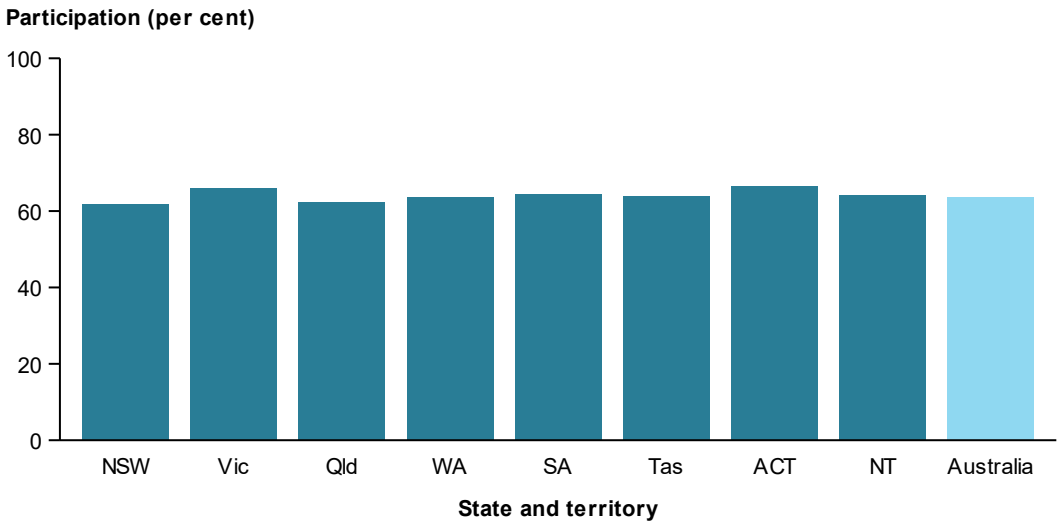
Participation by state and territory in 2019–2023

Participation in cervical screening across states and territories is shown in Figure 3.1.2.

Direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions, including population, area, geographical structure, policies, and other factors.

Even with these differences, participation was very similar across states and territories, ranging between 61.8% and 66.5% after adjusting for age.

Figure 3.1.2: Participation, by state and territory, participants aged 25–74, 2019–2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.2.

Participation by remoteness area in 2019–2023

Participation in cervical screening was similar across most remoteness areas, although with a gradual decrease with increasing remoteness (Figure 3.1.3).

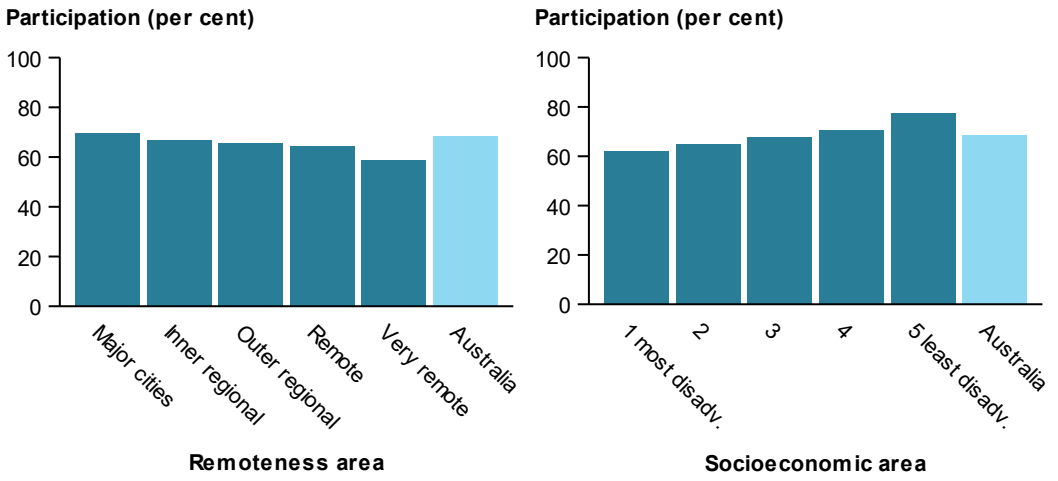
After adjusting for age, participation was highest for participants residing in *Major cities* at 64.3%, decreasing to 62.3% in *Inner regional*, 60.7% in *Outer regional* and 59.8% in *Remote* areas. Participation was lowest for participants residing in *Very remote* areas, at 55.5%.

Participation by socioeconomic area in 2019–2023

Participation in cervical screening increased with decreasing socioeconomic disadvantage (Figure 3.1.3).

After adjusting for age, participation was lowest for participants residing in areas with highest disadvantage at 56.8%; thereafter participation increased with decreasing disadvantage to be highest for participants residing in areas of lowest disadvantage at 71.9%.

Figure 3.1.3: Participation, by remoteness area and socioeconomic area, participants aged 25–74, 2019–2023



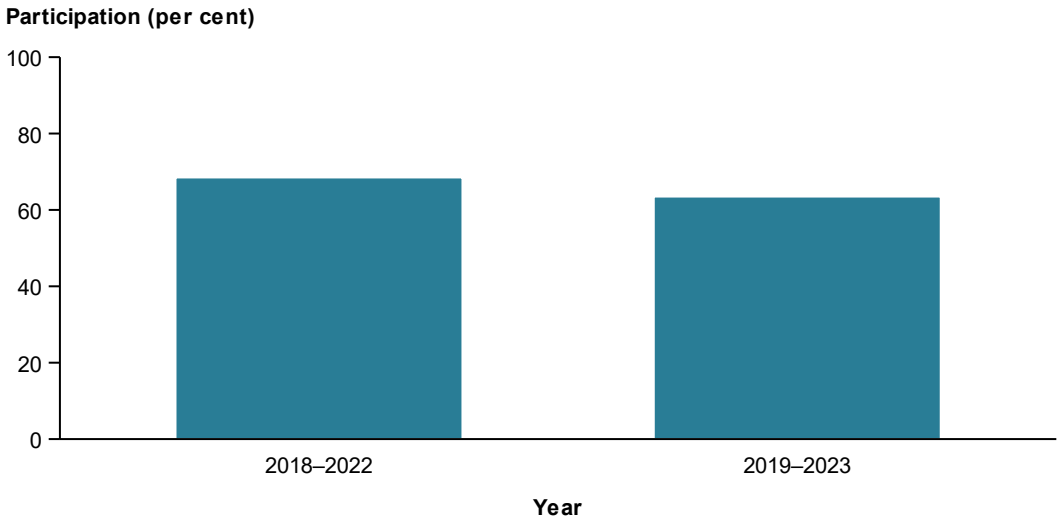
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in tables A1.3 and A1.4.

Participation trends

Age-adjusted participation was 68.6% in 2018–2022 and 63.5% in 2019–2023 (Figure 3.1.4).

Participation was lower in 2019–2023 for all age groups except for 70–74 which had higher participation, and 65–69 which had similar participation to 2018–2022.

Figure 3.1.4: Participation, by year, participants aged 25–74, 2018–2022 to 2019–2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.5.

Coverage over the 5 years 2019–2023

While both participation and coverage are valid indicators of participation in cervical screening in Australia, coverage is a better indication of overall involvement in cervical screening and is therefore appropriate for international comparisons, as well as within Australia where overall involvement in cervical screening is the desired measure.

While the calculation of participation is restricted to participants who had a primary screening HPV test or follow-up HPV test in the reporting period, coverage is the proportion of the population who are eligible to screen who have any cervical screening test, including participants who have an HPV or LBC test that are not performed for screening reasons because they are following another pathway under the NCSP.

The measure of coverage is calculated using the same methodology as participation but includes everyone who had an HPV or LBC test for any reason, including primary or follow-up screening, investigation of signs or symptoms, test of cure, as part of a colposcopy, or for any other reason as specified in the clinical guidelines for cervical screening.

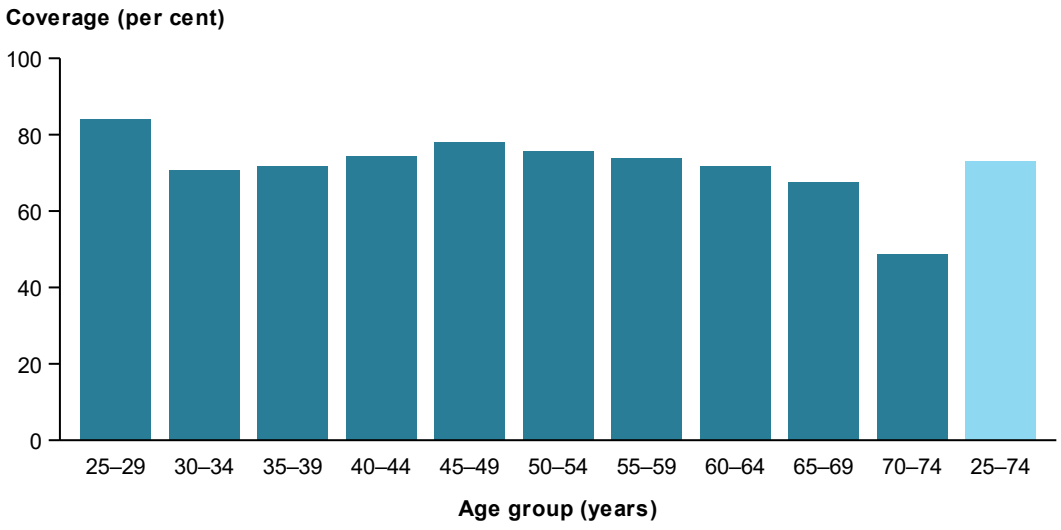
Coverage uses the same denominator as participation, which is the average number of females in the population aged 25–74 over the 5 years 2019 to 2023, adjusted to remove the estimated number who have had a hysterectomy (the eligible population for cervical screening).

In 2019–2023, there were 5,099,974 participants aged 25–74 who had an HPV or LBC test for any reason, which was 73.1% of the eligible population (73.3% after adjusting for age to allow comparison over time or across population groups).

Coverage by age in 2019–2023

The highest coverage was in participants aged 25–29, with 84.0% of this age group having an HPV or LBC test for any reason in 2019–2023. Coverage was lowest at 48.6% for participants aged 70–74 (Figure 3.1.5). As noted for participation, participants aged 70–74 have re-entered the target age group under the renewed NCSP after leaving the previous NCSP after age 69, so coverage is expected to be lower. However, coverage in this age group is trending upwards, from 38.9% in 2018–2022 to 48.6% in 2019–2023.

Figure 3.1.5: Coverage, by age, 2019–2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.6.

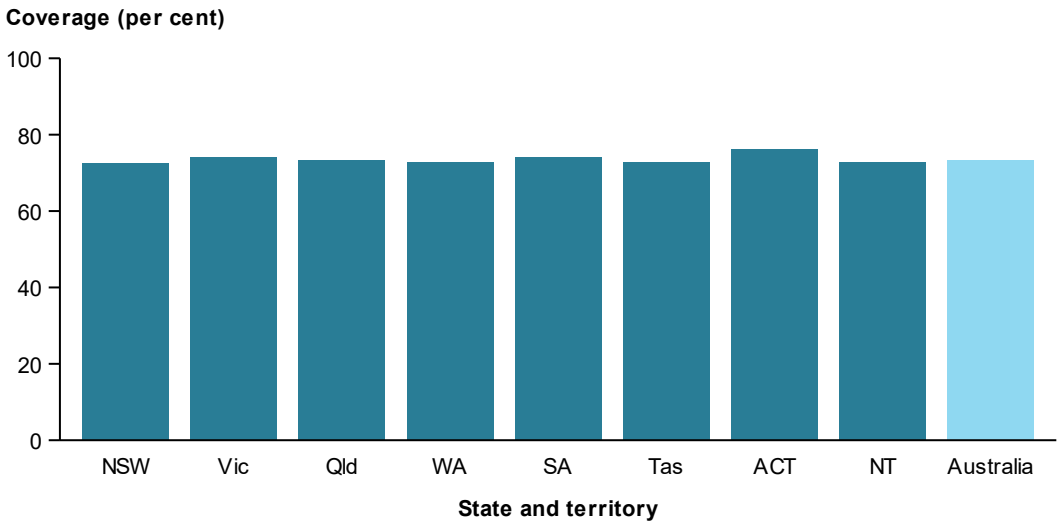
Coverage by state and territory in 2019–2023

Coverage across states and territories is shown in Figure 3.1.6.

Direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions, including population, area, geographical structure, policies, and other factors.

Even with these differences, coverage was very similar across states and territories, ranging between 72.5% and 76.3% after adjusting for age.

Figure 3.1.6: Coverage, by state and territory, participants aged 25–74, 2019–2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.7.

Coverage by remoteness area in 2019–2023

Coverage was similar across most remoteness areas, although with a gradual decrease with increasing remoteness (Figure 3.1.7).

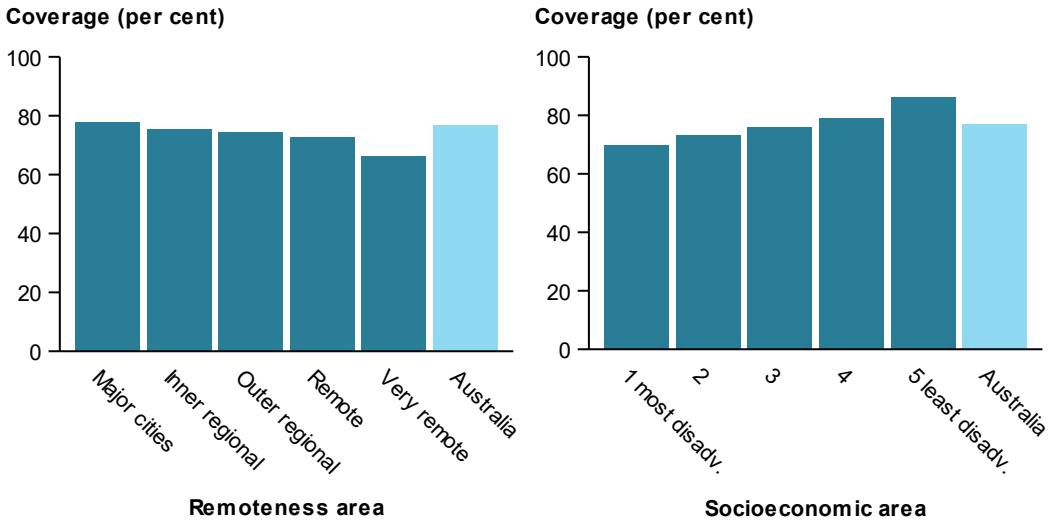
After adjusting for age, coverage was highest for participants residing in *Major cities* at 73.9%, decreasing to 72.6% in *Inner regional*, 70.9% in *Outer regional* and 69.2% in *Remote* areas. Coverage was lowest for participants residing in *Very remote* areas, at 64.3%.

Coverage by socioeconomic area in 2019–2023

Coverage increased with decreasing socioeconomic disadvantage (Figure 3.1.7).

After adjusting for age, coverage was lowest for participants residing in areas with highest disadvantage at 65.8%; thereafter, coverage increased with decreasing disadvantage to be highest for participants residing in areas of lowest disadvantage at 82.8%.

Figure 3.1.7: Coverage, by remoteness area and socioeconomic area, participants aged 25–74, 2019–2023



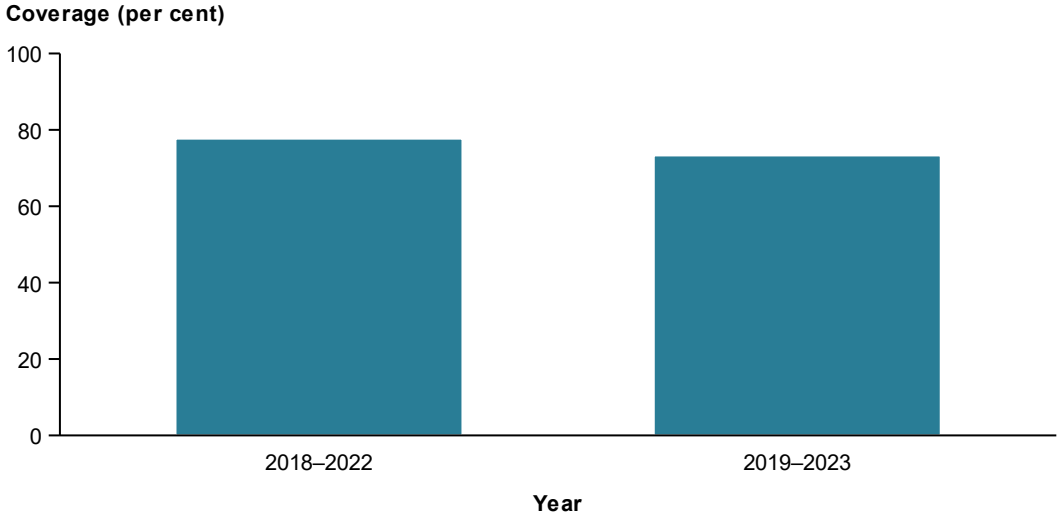
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in tables A1.8 and A1.9.

Coverage trends

Age-adjusted coverage was 77.1% in 2018–2022 and 73.3% in 2019–2023 (Figure 3.1.8).

Coverage was lower in 2019–2023 for all age groups except for 70–74 which had higher coverage, and 65–69 which had similar coverage to 2018–2022.

Figure 3.1.8: Coverage, by year, participants aged 25–74, 2018–2022 to 2019–2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.10.

Coverage by reason for test in 2019–2023

The reason why an HPV test and/or an LBC test was performed for those participants who were included in the coverage measure is shown in Table A1.11.

These data show that, while screening was the most common reason an HPV test was performed (66.5%), a co-test (in which both an HPV test and LBC test are performed irrespective of the HPV test result) for either test of cure (5.5%) or investigation of signs or symptoms (8.9%) comprised the next largest proportions (Table A1.11).

Number of cervical screening tests over the years 2018 to 2023

Measures of participation and coverage are based on the number of participants who had a cervical screening test, not the number of tests. However, it is also useful to observe the number of cervical screening tests that are performed.

The number of cervical screening tests included in the definition of participation (primary screening and follow-up HPV tests) performed each month over the years 2018 to 2023 is shown in Figure 3.1.9, and the number of cervical screening tests included in the definition of coverage (all HPV and LBC tests) performed each month over the years 2018 to 2023 is shown in Figure 3.1.10.

Note that both are different to the formal measure of activity introduced when investigating the impact of COVID-19 on screening in 2020 (AIHW 2020; AIHW 2021), which was defined as the number of primary screening HPV tests performed. This definition of activity was chosen to restrict this measure to participants not at increased risk of a significant cervical abnormality, which may have influenced their decision to screen.

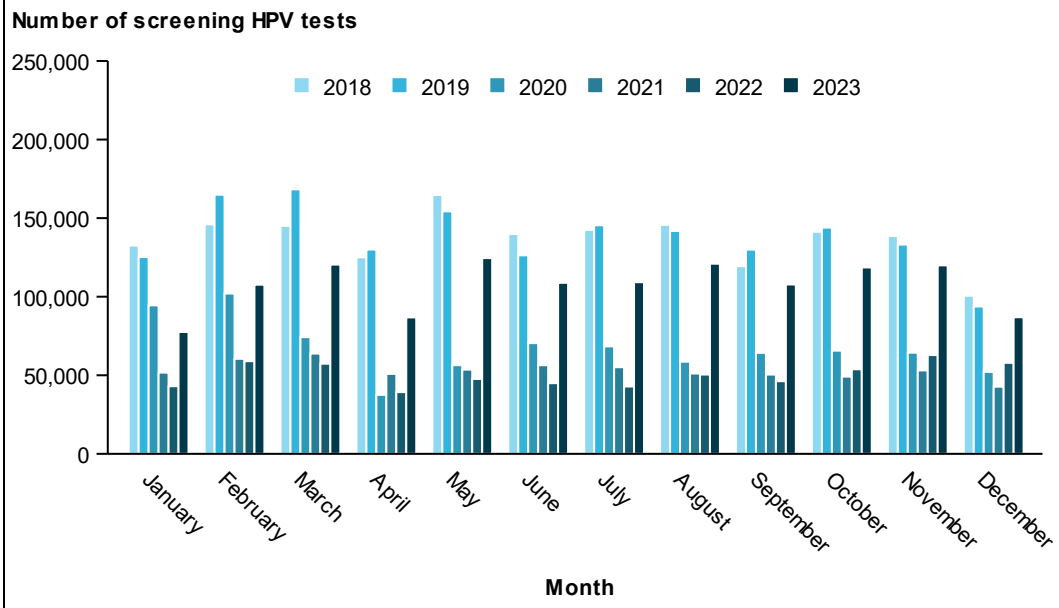
Most noticeable is the markedly lower number of cervical screening tests in 2020, 2021, and 2022 compared to 2018 and 2019. The number of cervical screening tests was expected to be lower from 2020 due to the change from 2-yearly to 5-yearly screening. This is because the first 2 years of the renewed NCSP was a transition period in which participants who had had a Pap test under the previous NCSP become due for their first screening HPV test, after which time they moved to a 5-yearly screening interval.

This means that screening HPV tests in 2020, 2021 and the majority of 2022 were comprised of tests performed for participants who were overdue for their first screening HPV test, and those who were newly eligible for cervical screening – mostly due to turning 25. This has the effect of a sharp decline in the number of screening HPV tests in 2020, 2021, and 2022 compared to 2018 and 2019, as illustrated in Figure 3.1.9.

The number of cervical screening tests then increased markedly in 2023, as this is the year in which participants who had a negative HPV test early in the renewed NCSP returned for their second HPV test. The number of cervical screening tests in 2023 was not as high as in 2018 and 2019, however, which has had the effect of slightly lowering participation and coverage in 2019–2023, as the year 2018 has been replaced with the year 2023 in these calculations.

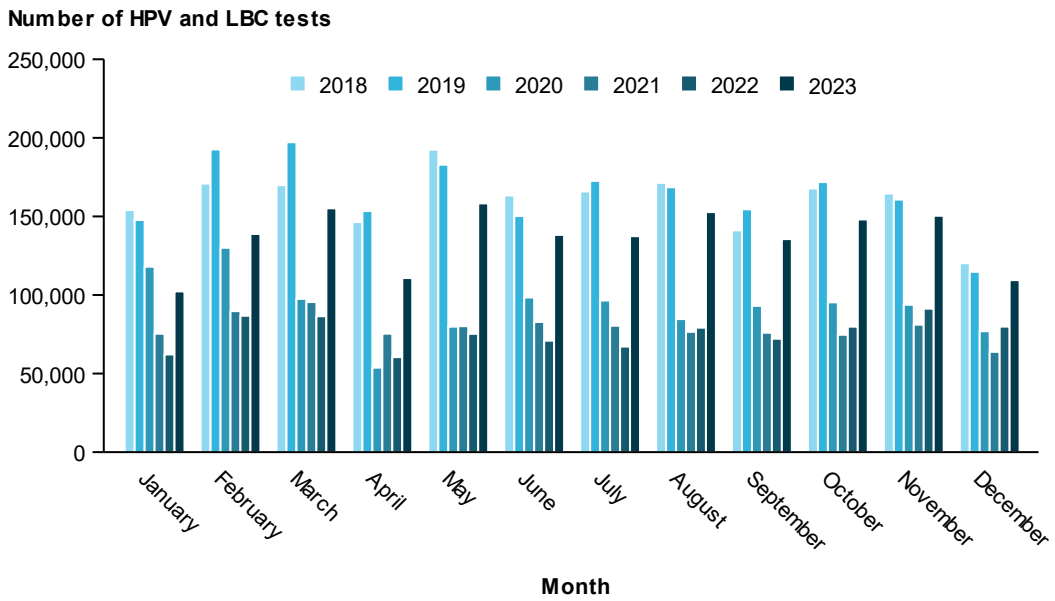
Irrespective of the number of cervical screening tests performed each year, all years had similar month-to-month trends, with fewer screening tests in April and December, aligning with the national holidays of Easter and Christmas.

Figure 3.1.9: Number of screening HPV tests per month, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.12.

Figure 3.1.10: Number of HPV and LBC tests per month, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.13.

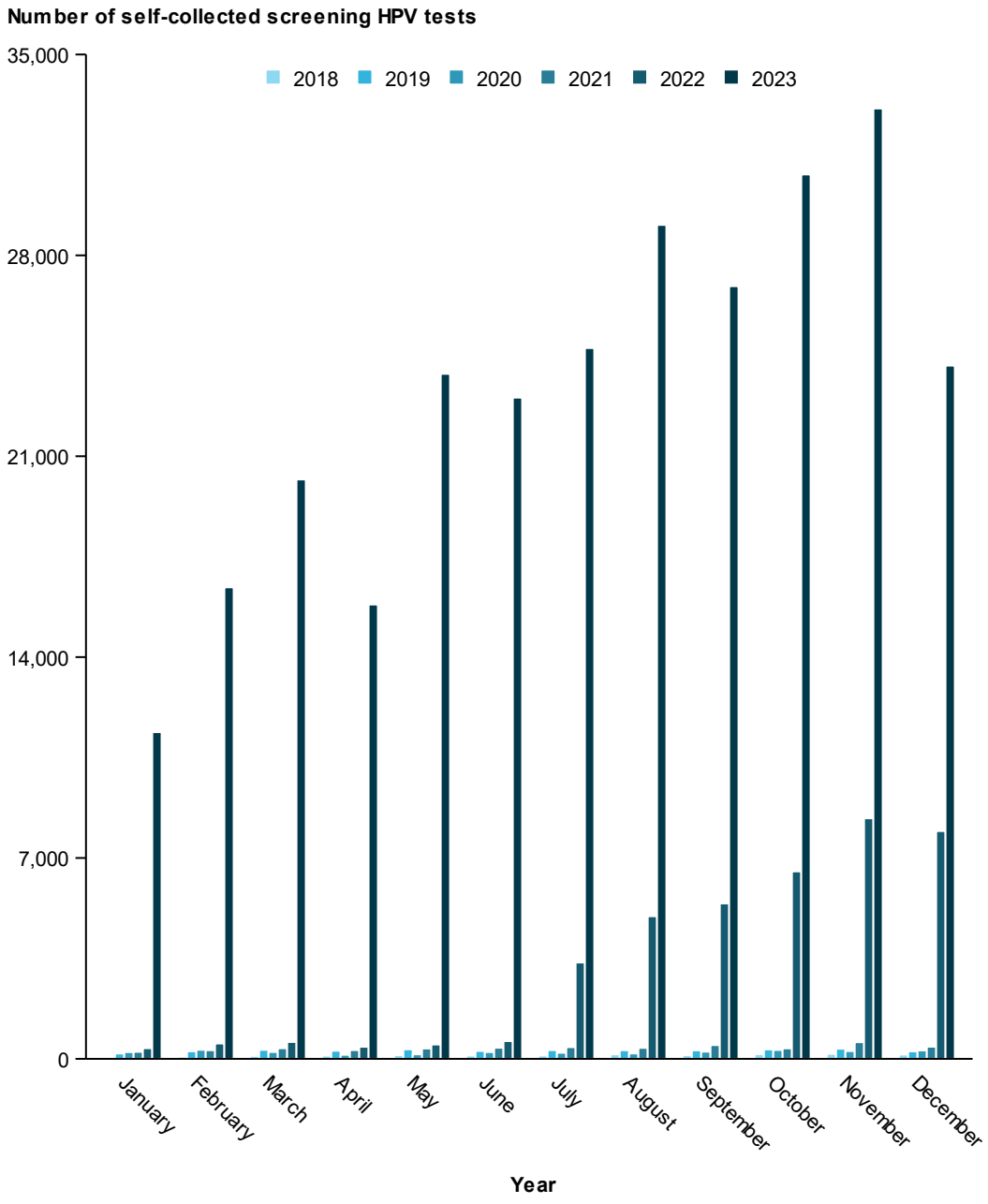
Number of self-collected cervical screening tests over the years 2018 to 2023

Self-collection is a strategy that was introduced along with the renewed NCSP to offer an alternative method of sample collection for those who are under-screened or who have never screened, to encourage their participation in cervical screening. However, from 1 July 2022, self-collection became an available method of sample collection for all participants in cervical screening aged 25–74, not only those who met the criteria for self-collection in place from 1 December 2017 to 30 June 2022.

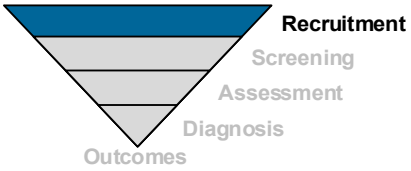
The number of self-collected cervical screening tests included in the definition of participation performed each month over the years 2018 to 2023 is shown in Figure 3.1.11.

As expected, the number of tests that were self-collected was very low when these were restricted to under-screeners or never-screeners. This number increased rapidly from July 2022 when restrictions were lifted and all participants became eligible, from several hundred per month prior to July 2022, to more than 8,000 in November 2022, and to more than 33,000 in November 2023.

Figure 3.1.11: Number of self-collected screening HPV tests per month, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A1.14.



Performance Indicator 2: Response to invitation

Summary of response to invitation data

Of the 3,031,285 invitees aged 25–74 sent an invitation to screen or rescreen in 2023, 24.2% had an HPV test within 6 months.

Definition:

Percentage of invitees aged 25–74 invited to screen or rescreen in a calendar year who screened within 6 months.

Rationale:

How many invitees screen in response to an invitation provides a measure of the effectiveness of sending invitations. Measuring this by mode of invitation will also provide useful information as to the most effective method of invitation (which may differ by age or other factors).

Guide to interpretation:

A higher response rate is better.

Data considerations:

Invitations are restricted to invitations to screen (letter types A1 and B1) and invitations to rescreen (letter types C1 and D1). Reminders to screen or rescreen are not included.

It is not possible to know how many invitees received an invitation to screen or rescreen, therefore these data are based on invitations sent, not invitations received.

For the years of data used in this report, invitations were only sent by letter, so response to invitation according to mode of invitation cannot yet be measured.

Results

In 2023, there were 3,031,285 invitees aged 25–74 sent an invitation to screen or rescreen. Of these, 733,591 had an HPV test within 6 months of the date the invitation was sent. This was 24.2% of invitees aged 25–74 who were sent an invitation in 2023.

Response to invitation by age

Number of invitees in 2023 are shown by age in Table 3.2.1, and response to invitation for 2023 is shown by age in Figure 3.2.1.

Table 3.2.1: Invitees, by age, 2023

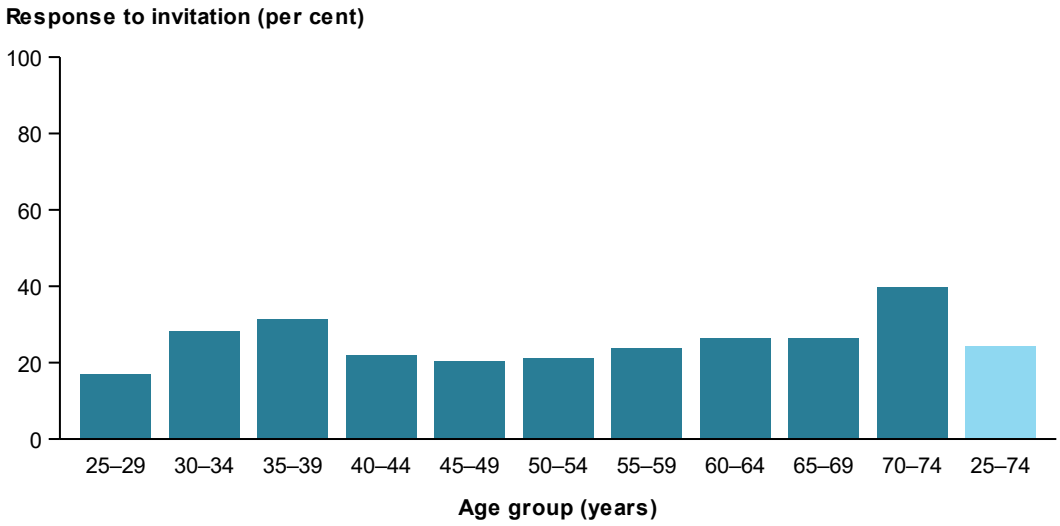
Age group	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74
Invitees	274,598	203,219	233,428	373,014	402,723	414,076	355,768	340,112	303,572	130,775

Note: Number of invitees sent an invitation to screen or rescreen.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

There were 274,598 invitees aged 25–29 invited to screen in 2023, of whom 46,321 had an HPV test, which is a response to invitation of 16.9%. For age groups between 30–34 and 65–69, the response to invitation ranged between 20.4% (for invitees aged 45–49) and 31.3% (for invitees aged 35–39) (Figure 3.2.1). Invitees aged 70–74 had the highest response to invitation, with 39.6% having an HPV test within 6 months, which aligns with the increase in participation in this age group.

Figure 3.2.1: Response to invitation to screen or rescreen within 6 months, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A2.1.

Response to invitation by letter type

The proportion of invitees aged 25–74 who screened within 6 months of an invitation to screen or rescreen is shown by letter type in Figure 3.2.2.

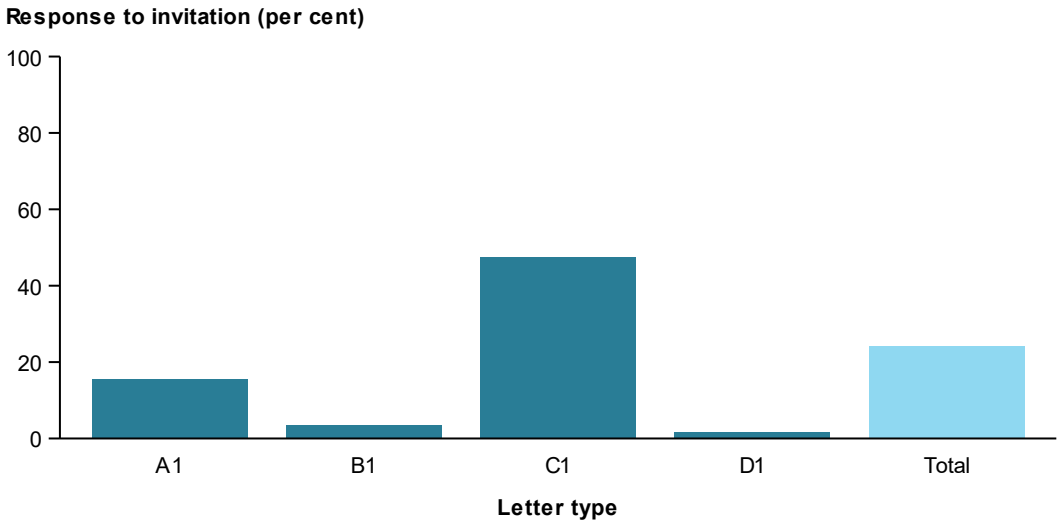
Letter type ‘C1 Invitation to rescreen’ had the highest response to invitation, with 47.6% of invitees sent an invitation to rescreen having an HPV test within 6 months. The next highest response to invitation was for letter type ‘A1 Invitation to screen’, with 15.6% of invitees sent an invitation to screen having an HPV test within 6 months.

The high response rate for letter type ‘C1 Invitation to rescreen’ in 2023 is likely related to participants that had previously only received a reminder to rescreen, now receiving an invitation to rescreen. During the transition from 2-yearly to 5-yearly screening over the years 2018 to 2022, participants aged 30–74 whose previous Pap test was normal were sent a reminder to rescreen after they were overdue, not an invitation to rescreen. As this indicator is restricted to invitations, these participants were not included in previous years. The response rate for letter type ‘C1 Invitation to rescreen’ is a reflection that these participants are included in the response to invitation data in 2023.

Response was lower for those invited to screen or rescreen who were eligible to self-collect, with 3.6% of invitees sent ‘B1 Invitation to screen eligible to self-collect’ and 1.6% of invitees sent ‘D1 Invitation to rescreen eligible to self-collect’, having an HPV test within 6 months.

Self-collection is a strategy that was introduced along with the renewed NCSP to offer an alternative method of sample collection for those who are under-screened or who have never screened, to encourage their participation in cervical screening. From 1 July 2022, self-collection became an available method of sample collection for all participants in cervical screening aged 25–74. Letter types B1 and D1 are related to the eligibility to self-collect in place from 1 December 2017 to 30 June 2022, not to eligibility from 1 July 2022.

Figure 3.2.2: Response to invitation to screen or rescreen within 6 months, by letter type, invitees aged 25–74, 2023



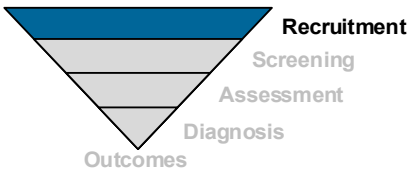
Note: A1 Invitation to screen; B1 Invitation to screen (self-collect eligible); C1 Invitation to rescreen; D1 Invitation to rescreen (self-collect eligible)

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A2.2.

Response to invitation trends

Response to invitation data during the transition from 2-yearly to 5-yearly screening over the years 2018 to 2022 are different to response to invitation data from 2023 onwards, due to the difference in invitations to screen and rescreen sent during transition compared to after transition. Specifically, participants that received a reminder to rescreen during the transition, and therefore were not included in these data, now receive an invitation to rescreen and are therefore now included. This represents a large proportion of participants invited.

Given this, trends from 2018 to 2022 are no longer shown for this performance indicator.



Performance Indicator 3: Rescreening

Summary of rescreening data

No data reported for this performance indicator.

Definition:

Percentage of participants aged 25–69 whose screening HPV test in the index calendar year did not detect oncogenic HPV who rescreened within a specified period of time.

Rationale:

The proportion of the target population screened within the recommended screening interval is a key determinant of the success of a screening program; screening more frequently increases costs with minimal or no gain in a reduction in incidence and mortality; screening less frequently results in a decrease in overall participation in screening and means that fewer precancerous abnormalities can be detected and treated, necessary for achieving the overall aim of reducing incidence and mortality from cervical cancer. This indicator measures the proportion of participants who rescreened early, appropriately, or late.

Note that although the National Cervical Screening Program target age group is 25–74, only participants aged 25–69 are reported for rescreening because participants aged 70–74 at the time of their screen would be outside the target age group of 25–74 when they are due for their 5-year rescreen.

Guide to interpretation:

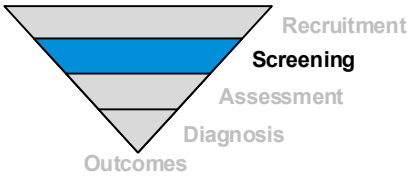
For those participants recommended to rescreen in 5 years, a higher rescreen rate within 4 years 9 months and 5 years 3 months (considered rescreening ‘on time’) is better.

Data considerations:

More than 5 years need to have passed since the inception of the renewed NCSP to allow this performance indicator to be measured as per the definition, since it is intended to measure rescreening:

- within 4 years 9 months
- between 4 years 9 months and 5 years 3 months
- between 5 years 3 months and 6 years
- more than 6 years.

Data are not yet available to support the reporting of this performance indicator



Screening

Performance Indicator 4: Screening results

Summary of screening results data

Of the 1,169,203 primary screening episodes in 2023 in participants aged 25–74:

- 92.5% were low risk
- 5.0% were intermediate risk
- 1.6% were higher risk
- 0.9% could not be assigned a risk

Definition:

Percentage of screening episodes in participants aged 25–74 in each risk category in a calendar year.

Rationale:

Distribution of screening episode results is a key measure for the screening program and any changes in these distributions over time will require investigation within the broader context of the screening program.

Guide to interpretation:

There are three risk categories (low, intermediate, and higher) for a primary screening episode that are determined by a combination of the primary screening HPV test result and, where indicated, the LBC test result. Risk is defined as the risk of a significant cervical abnormality. Determination of risk is illustrated in the screening pathway (Figure 2.1).

- A primary screening HPV test that does not detect oncogenic HPV indicates low risk, and no reflex LBC is performed.
- A primary screening HPV test that detects oncogenic HPV 16/18 indicates higher risk, and while reflex LBC is performed, the outcome of this test does not affect the risk.
- A primary screening HPV test that detects oncogenic HPV (not 16/18) does not indicate a risk on its own, but requires reflex LBC to be performed to determine whether the risk is intermediate or higher.

A reflex LBC is only indicated when the primary screening HPV test detects oncogenic HPV. LBC test results are the same as Pap test results from the previous NCSP. These are:

- negative (no abnormality detected)
- low-grade abnormality (possible or definite low-grade squamous intraepithelial lesion)
- high-grade abnormality (possible or definite high-grade squamous intraepithelial lesion or squamous cell carcinoma)
- glandular abnormality (possible or definite glandular abnormality or adenocarcinoma)

The reflex LBC can also be unsatisfactory for evaluation.

For primary screening episodes where the HPV test detected oncogenic HPV (not 16/18) (and therefore requires reflex LBC for a risk to be allocated):

- a reflex LBC test result of negative or low-grade abnormality indicates intermediate risk
- a reflex LBC test result of high-grade abnormality or glandular abnormality indicates higher risk.

The reflex LBC can occur on a later date than the primary screening HPV test if the HPV test is self-collected and oncogenic HPV is detected, or if the reflex LBC test is unsatisfactory and needs to be repeated. In the case that an unsatisfactory LBC test is repeated, the repeat LBC test result is reported in place of the initial unsatisfactory LBC test result. In both cases, a reflex LBC occurring on a later date is only included in the risk assessment if it occurs within 6 months of the primary screening HPV test.

In some cases, a primary screening HPV test that does not detect oncogenic HPV is followed by an LBC, despite this not being indicated. These episodes have been allocated a risk according to their LBC test result, which is intermediate or higher if the LBC is not negative.

There are also some primary screening episodes for which a risk cannot be allocated, usually due to unsatisfactory tests. Note that if a primary screening test is repeated due to an unsatisfactory test, the repeat test will also have a ‘reason for HPV test’ of primary screening HPV test. Unsatisfactory HPV tests that are followed by an LBC are only allocated a risk if the LBC indicates a high-grade abnormality, glandular abnormality, or cancer (higher risk).

Results

In 2023, there were 1,169,203 primary screening episodes in participants aged 25–74. These primary screening episodes were assigned to one of the three risk categories of low, intermediate, or higher (or were unable to be assigned) based on the combination of the HPV test result and, where indicated, the LBC test result. This is explained in the ‘Guide to interpretation’ for this performance indicator.

Overall, of the primary screening episodes in 2023 in participants aged 25–74:

- 92.5% were low risk
- 5.0% were intermediate risk
- 1.6% were higher risk
- 0.9% could not be assigned a risk because either they were unsatisfactory for evaluation, or there was no LBC test performed after an HPV test detected oncogenic HPV, likely because either a participant did not return for a subsequent LBC test, or an LBC test was not performed at colposcopy within 6 months of a self-collected sample.

Primary screening episode results

In Table 3.4.1, the combination of primary screening HPV test result and LBC test result is shown for each primary screening episode.

Each combination has been colour-coded in this table according to risk of significant cervical abnormality. Low risk is indicated by light blue shading, intermediate risk is indicated by medium blue shading, and higher risk by darker blue shading. Primary screening episodes for which a risk could not be assigned have no shading.

Table 3.4.1: Primary screening HPV ± LBC test results, participants aged 25–74, 2023

Reflex LBC test result	Primary screening HPV test result			
	Unsatisfactory	Oncogenic HPV not detected	Oncogenic HPV (not 16/18) detected	Oncogenic HPV 16/18 detected
LBC not performed*	5,356	1,078,808	4,489	3,374
LBC Unsatisfactory	n.p.	140	955	339
LBC Negative	51	3,176	41,868	8,271
LBC Squamous low-grade abnormality	n.p.	117	15,951	2,608
LBC Squamous high-grade abnormality or squamous cell carcinoma	n.p.	n.p.	2,277	1,215
LBC Glandular abnormality or adenocarcinoma	0	n.p.	83	99

* LBC is not indicated after an unsatisfactory HPV test or where oncogenic HPV is not detected; LBC not performed after oncogenic HPV detected can occur if a sample is self-collected and an LBC sample has not been collected (participant did not return or LBC not performed at colposcopy).

Note: Some primary screening HPV tests that did not detect oncogenic HPV were followed by an LBC test. These episodes have been allocated a risk according to their LBC test result. Unsatisfactory HPV tests followed by an LBC test are only allocated a risk if their LBC test result indicated a high-grade abnormality or cancer, as these screening episodes would be deemed higher risk irrespective of the primary screening HPV test result.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Primary screening episode risk

Low risk

All low risk screening results were in participants who had a primary screening HPV test that did not detect oncogenic HPV. Of the 1,081,984 of this type, 1,078,808 did not have a reflex LBC, and among the 3,445 that did have a reflex LBC, 3,176 had a negative LBC.

Intermediate risk

The majority of intermediate risk screening results were in participants who had a primary screening HPV test that detected oncogenic HPV (not 16/18) and had a reflex LBC that was negative or indicated a low-grade squamous abnormality (57,819 of the 57,936 intermediate risk screening results). There were also 117 screening episodes in which the primary screening HPV test did not detect oncogenic HPV but had a reflex LBC that indicated a low-grade squamous abnormality, that were deemed intermediate risk.

Higher risk

Higher risk screening results were in participants who had a primary screening HPV test that detected oncogenic HPV 16/18 and/or who had a reflex LBC that indicated a high-grade squamous abnormality, squamous cell carcinoma, or any glandular abnormality. There were 15,906 screening episodes in participants who had a primary screening HPV test that detected oncogenic HPV 16/18 irrespective of their reflex LBC result, with a further 2,373 determined to be higher risk due to a reflex LBC that indicated a high-grade squamous abnormality, squamous cell carcinoma, or any glandular abnormality, irrespective of the primary screening HPV test result.

No risk assigned

Some screening episodes could not be assigned a risk, most commonly due to an unsatisfactory primary screening HPV test or an unsatisfactory reflex LBC (a small number of screening episodes had both an unsatisfactory primary screening HPV test and an unsatisfactory reflex LBC).

In 2023, in participants aged 25–74, 0.5% of screening episodes had an HPV test that was unsatisfactory, and 0.1% of screening episodes had an LBC test that was unsatisfactory (noting there are far fewer LBC tests performed than primary screening HPV tests, as an LBC test will only be performed if indicated by the result of the primary screening HPV test).

There were also 4,489 screening episodes that could not be assigned a risk due to the absence of a reflex LBC following a primary screening HPV test that detected oncogenic HPV (not 16/18). This is largely due to self-collected HPV tests from July 2022 that saw a proportionate increase in the number of self-collected HPV tests that were not followed by a reflex LBC test, because participants need to return to their practitioner for a sample suitable for an LBC test following a self-collected HPV test that detected oncogenic HPV (not 16/18).

Primary screening episode risk by age

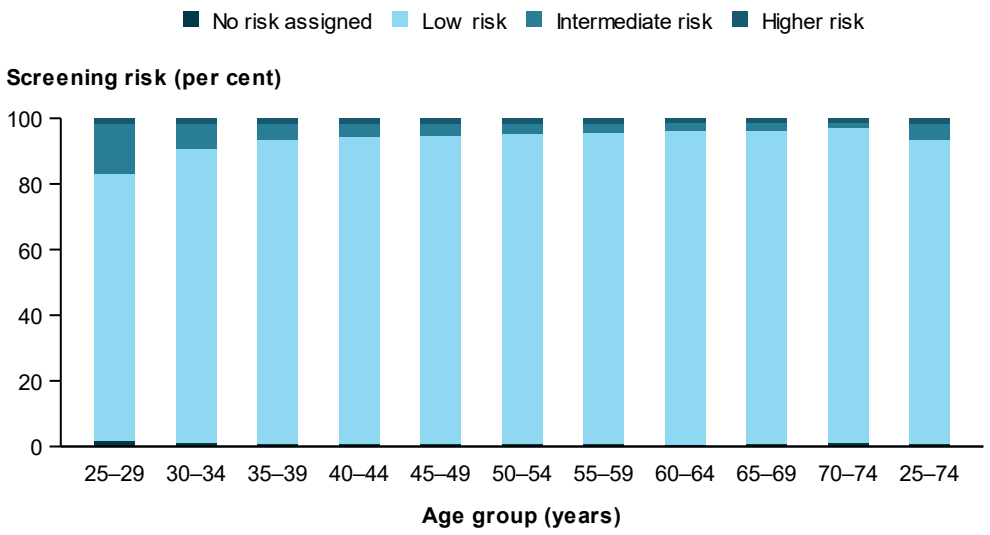
Risk categories for each age group are shown in Figure 3.4.1.

The proportion of primary screening episodes that were intermediate risk was higher for younger participants. This indicates that, in participants aged less than 35, it was more common that oncogenic HPV (not 16/18) was detected during the screening episode, and that the LBC test result was either negative or low-grade.

For all age groups, the majority of primary screening episodes were low risk. The proportion that were higher risk was consistently low across all age groups.

The proportion of primary screening episodes for which risk could not be assigned was too low to be visible in the figure.

Figure 3.4.1: Primary screening episode risk, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A4.1.

Primary screening episode risk trends

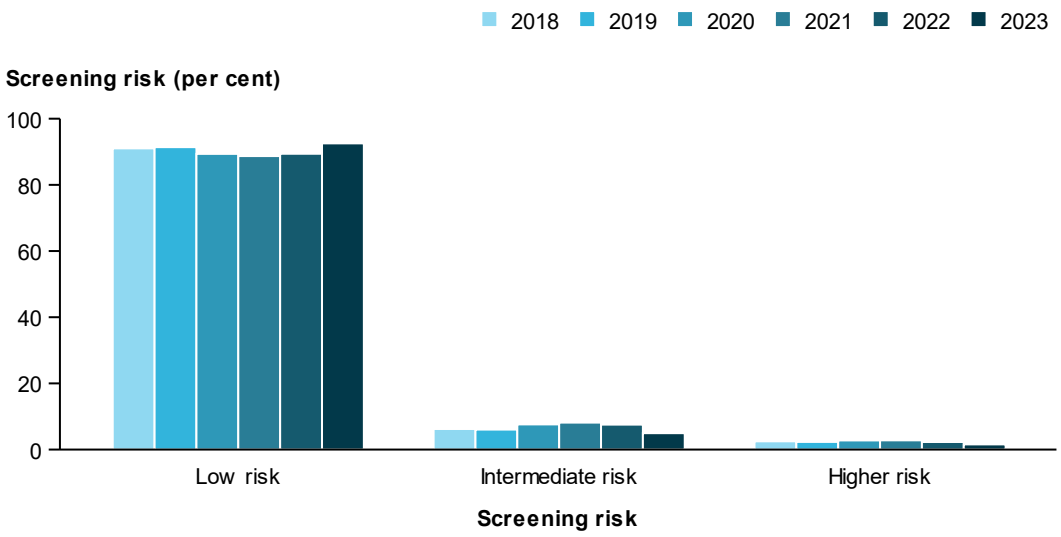
Between 2018 and 2023, there have been only small changes in the proportion of screening episodes that were low risk, intermediate risk, and higher risk.

Risk categories for each year are shown in Figure 3.4.2.

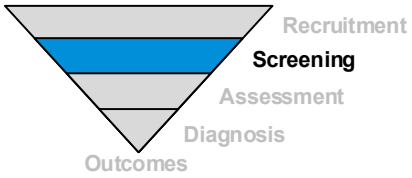
The proportion of screening episodes that were low risk decreased slightly from 91.0% in 2018 to 89.4% in 2022, before increasing slightly to 92.5% in 2023. The proportion that were intermediate increased slightly from 6.2% in 2018 to 7.5% in 2022, before decreasing to 5.0% in 2023. The proportion of screening episodes that were higher risk remained very low at between 2.3% and 2.8% over the years 2018 to 2022, decreasing even further to 1.6% in 2023.

This profile of more low risk screening episodes and fewer intermediate risk and higher risk screening episodes in 2023 is likely reflective of the majority of participants in 2023 being participants who are returning 5 years after a previous low risk HPV test, and so are less likely to have an abnormality than in the previous years where many participants were new screeners or under or never screeners who are more likely to have an abnormality detected.

Figure 3.4.2: Primary screening episode risk, by year, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A4.3.



Performance Indicator 5: Correlation of screening results

Summary of correlation of screening results data

In 2022, for participants aged 25–74, there were 3,367 primary screening episodes that had an LBC that predicted a high-grade or glandular abnormality or cervical cancer, of which 2,717 (80.7%) were followed by histology within 6 months. Of these 2,717 histology tests, 1,944 (71.5%) had a histology result of high-grade cervical abnormality or cervical cancer.

Definition:

Level of agreement between screening results in participants aged 25–74 in a calendar year and subsequent histology test results within 6 months.

Rationale:

The correlation between a positive screening test result and the histology test or 'truth' (where this is performed) is a key measure of the accuracy of the HPV test, LBC test, and overall risk assigned to a screening episode. A histology test involves examination of tissue from the cervix through a microscope and is the primary diagnostic tool of the NCSP.

Data considerations:

A complete assessment of the correlation between screening tests results and the 'truth' would have required all cervical screening tests (including negative) to be followed up by histology, but this is neither feasible nor desirable (as it would be unethical to require all participants who had an HPV test to also undergo a biopsy). Rather, this assessment is restricted to cervical screening tests and histology tests available on the NCSR, and is intended to provide measures that can be monitored annually to detect early indications of changes to the correlation between screening tests and histology tests.

These data are restricted to primary screening tests. Histology would usually only be performed following a primary screening test to confirm a suspected abnormality, according to the screening pathway and clinical guidelines. However, it is possible that some of the tests that have been included are not true primary screening tests, but may have been performed for another purpose, such as to investigate signs or symptoms of cervical cancer. In these cases, histology may be an outcome even in the absence of a positive screening test. It is also possible that some participants who have had a primary screening test may have a biopsy or surgical removal of tissue that includes cervical tissue for a benign condition (for example a hysterectomy), unrelated to a primary screening test result.

These data do not include primary screening tests not followed by histology, for which it is not possible to know the true disease state, or primary screening tests followed by histology more than 6 months after the screening test. Where there was more than one histology test within 6 months, the most serious histology result has been used. Risk refers to the risk of significant cervical abnormality for the primary screening test, irrespective of previous tests.

This performance indicator is restricted to histology tests notified by pathology laboratories. The NCSR supplements these data with MBS histology data, but as these do not include a result, they are not able to be included in these data.

In the case that an unsatisfactory LBC test is repeated, the repeat LBC test result is reported in place of the initial unsatisfactory LBC test result.

> This performance indicator is based on primary screening tests performed in 2022. This allows 6 months to 30 June 2023 to know whether a histology test occurred, and a further 6 months to 31 December 2023 to ensure that histology data to 30 June 2023 are complete.

Results

A screening test is not intended to be diagnostic, but aims to identify people who are more likely to have a disease and therefore require further investigation from diagnostic tests. These data examine how well the cervical screening test correlates with the histology finding or 'truth', where a histology test has been performed. Correlation between the primary screening test prediction and the histology finding provide valuable information about the accuracy of the screening test of the NCSP.

As stated in the data considerations, a complete assessment of the correlation between screening tests results and the 'truth' would have required all cervical screening tests (including negative tests) to be followed up by histology. This assessment is restricted to cervical screening tests and histology tests available on the NCSR, and is intended to provide measures that can be monitored annually to detect early indications of changes to the correlation between screening tests and histology results.

These data include primary screening tests performed for participants aged 25–74 in 2022 where the test was followed by histology within 6 months (either to confirm the presence or absence of disease, or for other reasons). These data do not include primary screening tests not followed by histology, for which it is not possible to know the true disease state, or primary screening tests followed by histology more than 6 months after the screening test.

In 2022 there were 483,834 primary screening HPV tests performed for participants aged 25–74. Of these, 10,124 (2.1%) were followed by a histology test within 6 months.

Key outcomes are shown in Tables 3.5.1 and Table A5.1 and described in the following text.

In these data, there were 432,738 primary screening tests that did not detect oncogenic HPV, 3,640 (0.8%) of which had histology performed within 6 months. Primary screening tests that did not detect oncogenic HPV would not usually be followed by histology, so these participants should not be considered indicative of all participants with a primary screening test that did not detect oncogenic HPV, who are primarily at low risk of significant cervical abnormality. Of the 3,640 histology tests performed within 6 months, 3,429 (94.2%) were negative (and thus were likely due to benign conditions unrelated to cervical screening), 101 (2.8%) were low-grade, 7 (0.2%) were high-grade, and 6 (0.2%) were cervical cancer.

There were 36,383 primary screening tests that detected oncogenic HPV (not 16/18) for which the reflex LBC result was negative or low-grade (intermediate risk of significant cervical abnormality), 716 (2.0%) of which had histology performed within 6 months. Again, these primary screening tests would not usually be followed by histology, so these should not be considered indicative of all participants with this screening test result. Of the 716 histology tests performed within 6 months, 359 (50.1%) were negative, 249 (34.8%) were low-grade, 91 (12.7%) were high-grade, and fewer than 6 were cervical cancer.

There were 2,051 primary screening tests that detected oncogenic HPV (not 16/18) for which the reflex LBC result was a high-grade or glandular abnormality or cervical cancer (higher risk of significant cervical abnormality), 1,644 (80.2%) of which had histology performed within 6 months. Of the 1,644 histology tests performed within 6 months, 215 (13.1%) were

negative, 302 (18.4%) were low-grade, 1,086 (66.1%) were high-grade, and 29 (1.8%) were cervical cancer.

There were 6,815 primary screening tests that detected oncogenic HPV 16/18 for which the reflex LBC result was negative or low-grade (higher risk of significant cervical abnormality), 2,603 (38.2%) of which had histology performed within 6 months. While participants with this primary screening test result are recommended to have a colposcopy, a biopsy will only be performed if an abnormality is visible at colposcopy. Of the 2,603 histology tests performed within 6 months, 1,115 (42.8%) were negative, 996 (38.3%) were low-grade, 441 (16.9%) were high-grade, and 15 (0.6%) were cervical cancer.

There were 1,309 primary screening tests that detected oncogenic HPV 16/18 for which the reflex LBC result was a high-grade or glandular abnormality or cervical cancer (higher risk of significant cervical abnormality), 1,084 (82.8%) of which had histology performed within 6 months. Of the 1,084 histology tests performed within 6 months, 115 (10.6%) were negative, 139 (12.8%) were low-grade, 719 (66.3%) were high-grade, and 109 (10.1%) were cervical cancer.

Table 3.5.1: Histology performed within 6 months of a primary screening test, participants aged 25–74, screened in 2022

Primary screening test result			Histology result				
HPV test	LBC test	Tests	Tests	Negative	Low-grade	High-grade	Cancer
Not detected	Any	432,738	3,640	3,429	101	7	6
Not 16/18	Negative or low-grade	36,383	716	359	249	91	n.p.
Not 16/18	High-grade or glandular	2,051	1,644	215	302	1,086	29
16/18	Negative or low-grade	6,815	2,603	1,115	996	441	15
16/18	High-grade or glandular	1,309	1,084	115	139	719	109

Note: Numbers do not sum due to the exclusion of histology tests for which there was no valid result.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

These findings demonstrate that the LBC result is a good predictor of the histology result.

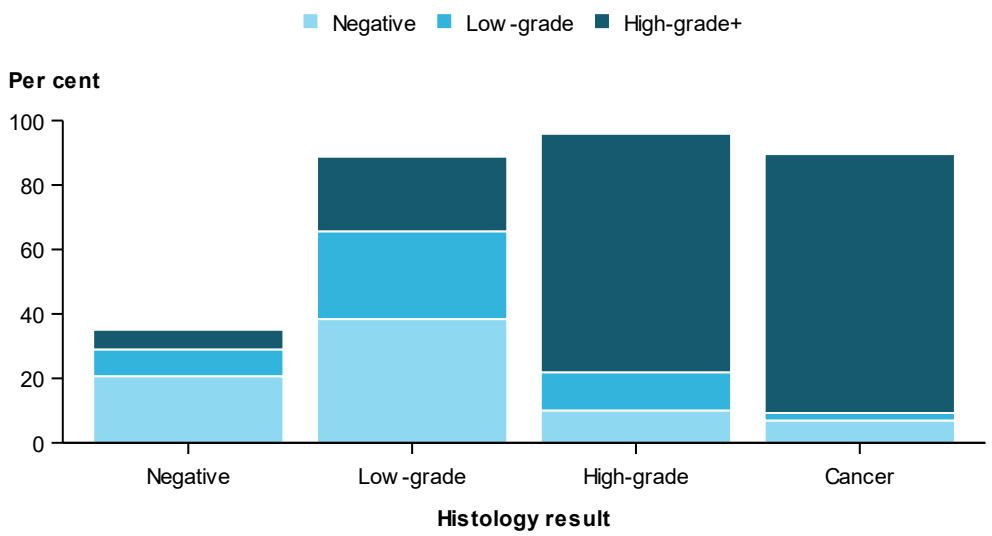
For primary screening tests performed in 2022, irrespective of HPV test result, 3,367 primary screening tests had an LBC that predicted a high-grade or glandular abnormality or cervical cancer, with 2,717 followed by histology within 6 months. Of these 2,717 histology tests, 1,944 (71.5%) had a histology result of high-grade cervical abnormality or cervical cancer.

Figure 3.5.1 shows the proportion of each of the histology results of ‘Negative’, ‘Low-grade’, ‘High-grade’ and ‘Cancer’ that were preceded by an LBC result of ‘Negative’, ‘Low-grade’, or ‘High-grade+’ (high-grade, cancer or glandular).

For the 9,954 histology tests that occurred within 6 months of a primary screening test:

- Negative histology was most frequently preceded by an HPV test that did not detect oncogenic HPV, and hence a reflex LBC was usually not performed. Where LBC was performed, negative histology was most frequently preceded by a negative LBC test.
- Low-grade histology was most frequently preceded by a negative LBC test (38.4%), followed by a low-grade LBC test (27.2%) and then a high-grade+ LBC test (23.2%).
- High-grade histology was most frequently preceded by a high-grade+ LBC test (74.0% of high-grade histology tests were preceded by a high-grade or higher LBC).
- Cervical cancer histology was most frequently preceded by a high-grade+ LBC test (80.3% of cervical cancer histology tests were preceded by a high-grade or higher LBC) (Figure 3.5.1).

Figure 3.5.1: Histology performed within 6 months of a primary screening test, by prior LBC test result, participants aged 25–74 screened in 2022



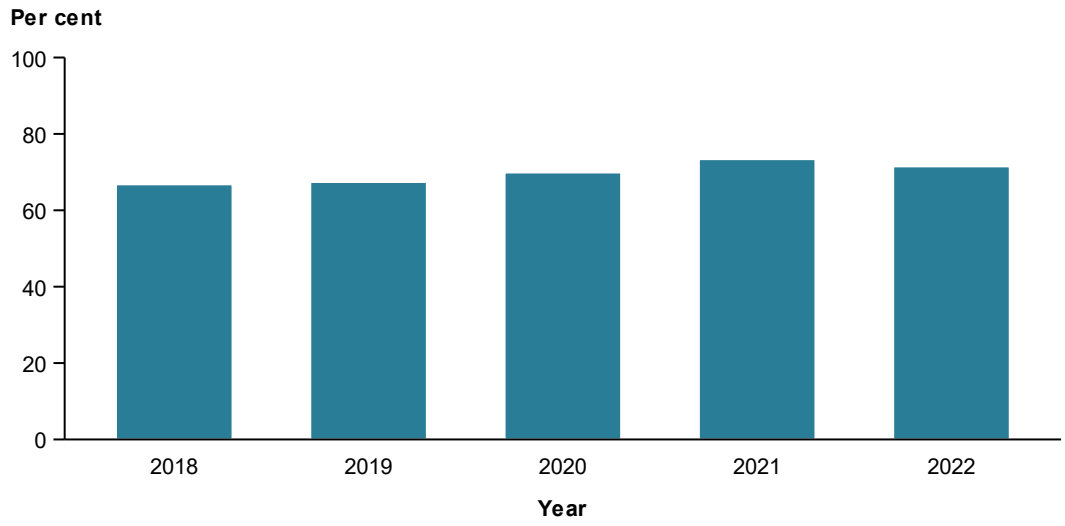
Note: Histology does not equal 100% as cases where LBC was not performed are included in calculations but excluded from this figure.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A5.1

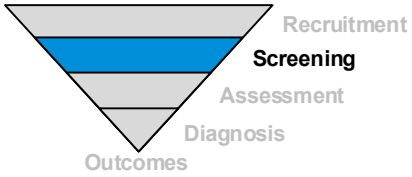
Correlation of screening results trends

The proportion of primary screening tests that had an LBC that predicted a high-grade or glandular abnormality or cervical cancer followed by histology within 6 months with a result of high-grade cervical abnormality or cervical cancer was 66.9% in 2018, increasing to 67.3% in 2019, to 69.8% in 2020, and to 73.4% in 2021, before decreasing slightly to 71.5% in 2022 (Figure 3.5.2).

Figure 3.5.2: Proportion of high-grade or glandular LBC tests followed by high-grade cervical abnormality or cervical cancer histology within 6 months, participants aged 25–74, 2018 to 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A5.2.



Performance Indicator 6: Screening HPV test positivity

Summary of screening HPV test positivity data

Of the 1,163,782 valid primary screening HPV tests performed in 2023 in participants aged 25–74:

- 1.4% were positive for oncogenic HPV 16/18
- 5.6% were positive for oncogenic HPV (not 16/18)
- 7.0% were positive for oncogenic HPV (any)

Definition:

Percentage of valid screening HPV tests that are positive for oncogenic HPV in participants aged 25–74 in a calendar year.

Rationale:

Monitoring the positivity rate provides important information about a screening test. There are three measures of positivity relevant to the NCSP:

- oncogenic HPV 16/18 positivity is the proportion of valid HPV tests that are positive for oncogenic HPV 16/18
- oncogenic HPV (not 16/18) positivity is the proportion of valid HPV tests that are positive for oncogenic HPV (not 16/18)
- any oncogenic HPV positivity is the proportion of valid HPV tests that are positive for any oncogenic HPV.

Screening HPV test positivity is calculated only for primary screening HPV tests. Follow-up HPV tests and HPV tests performed for other reasons are not included as these may be more likely to be positive than primary screening HPV tests. Unsatisfactory HPV tests are also excluded, as positivity is based only on valid primary screening HPV tests.

Data considerations:

HPV vaccination was introduced in Australia on 1 April 2007. As some HPV-vaccinated individuals are now at the age at which they are participating in cervical screening, it is necessary to consider the impact of HPV vaccination on screening HPV test positivity.

It is useful to distinguish between participants who were offered HPV vaccination (since these participants are more likely to be vaccinated against HPV), and those who were not. Date of birth was used to determine whether HPV vaccination had been offered. Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for HPV vaccination when the school program commenced in April 2007 and the primary care catch up program commenced in July 2007. Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

The oncogenic HPV types against which participants are likely to have been vaccinated is also a highly relevant consideration. Before 2018, the HPV vaccine used was against oncogenic HPV types 16 and 18, which means that the majority of HPV-vaccinated participants will be protected against only these two oncogenic HPV types, with some limited cross protection against closely related types.

From 2018, an HPV vaccine effective against oncogenic HPV types 16, 18, 31, 33, 45, 52 and 58 was introduced. The additional HPV types included are the next 5 most common HPV types that cause cervical cancer after types 16 and 18. However, it will be some time before individuals vaccinated against these oncogenic HPV types commence cervical screening.

Results

In 2023, there were 1,163,782 valid primary screening HPV tests in participants aged 25–74.

Screening HPV test positivity was determined for participants aged 25–74, as well as for participants who had been offered or not offered HPV vaccination, according to birth cohort.

Screening HPV test positivity was calculated separately for HPV tests that were positive for oncogenic HPV 16/18 and those that were positive for oncogenic HPV (not 16/18), as well as an overall positivity for any type of oncogenic HPV.

Screening HPV test positivity results for these 9 permutations are shown in Table 3.6.1.

The results indicate that screening HPV test positivity for oncogenic HPV 16/18 was low, irrespective of age, with oncogenic HPV 16/18 detected in fewer than 2% of primary screening HPV tests. This was 1.4% in participants aged 25–74, 1.2% in participants offered HPV vaccination, and 1.5% in participants not offered HPV vaccination) (Table 3.6.1).

In contrast, screening HPV test positivity for oncogenic HPV (not 16/18) varied considerably depending on whether participants were of an age at which HPV vaccination was offered or not offered. Screening HPV test positivity was 5.6% in participants aged 25–74, 9.7% in participants young enough to have been offered HPV vaccination and 3.2% in participants outside the eligible age for HPV vaccination (Table 3.6.1).

Table 3.6.1: Screening HPV test positivity, by oncogenic HPV type, by birth cohort, 2023

	Screening HPV test positivity (%)		
	Oncogenic HPV 16/18 detected	**Oncogenic HPV (not 16/18) detected**	**Oncogenic HPV (any type) detected**
Target age group 25–74	1.4	5.6	7.0
Birth cohort offered HPV vaccination	1.2	9.7	10.9
Birth cohort not offered vaccination	1.5	3.2	4.7

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Higher screening HPV test positivity in participants who had been offered HPV vaccination seems counterintuitive, but is an expected result for screening HPV test positivity for oncogenic HPV (not 16/18), since the higher infection rates of HPV in younger participants (that thereafter decline with increasing age) would not be affected by HPV vaccination for these oncogenic HPV types, as only HPV types 16 and 18 were included in the HPV vaccine that the majority of these participants would have received (Brotherton et al. 2019).

Screening HPV test positivity results by age

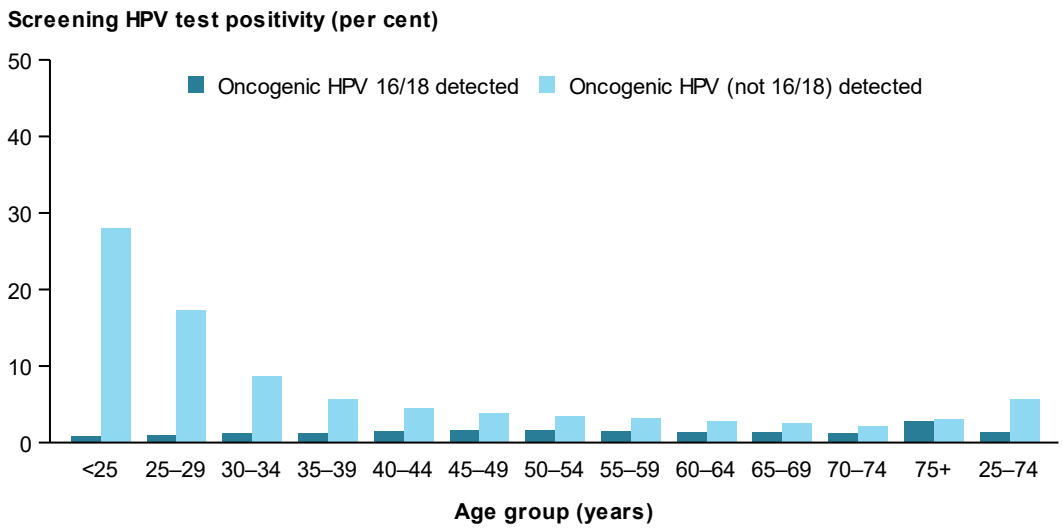
Positivity of oncogenic HPV (not 16/18) shows the typical pattern of HPV infection before HPV vaccination was introduced, with positivity of oncogenic (not 16/18) highest among the youngest participants, and decreasing with increasing age. Positivity was 28.0% in participants aged under 25, falling to 17.3% in participants aged 25–29 and 8.7% in those aged 30–34, continuing to fall to a low of 2.2% in participants aged 70–74 (Figure 3.6.1).

Oncogenic HPV types other than 16 and 18 were not included in the HPV vaccine administered prior to 2018.

In contrast, positivity of oncogenic HPV 16/18 was lowest in the youngest age groups, being 0.9% in participants aged under 25, 1.0% in participants aged 25–29 and 1.2% in those aged 30–34. Thereafter, positivity ranged between 1.3% and 1.6% for all age groups between 35–69 and 70–74 (Figure 3.6.1).

Oncogenic HPV types 16 and 18 have been included in the HPV vaccine administered since 2007. The lower positivity in the youngest participants likely reflects that participants now in their 20s were vaccinated in the school program at age 12–13 years, with higher coverage and effectiveness than HPV vaccine administered to those vaccinated at older ages.

Figure 3.6.1: Screening HPV test positivity, by oncogenic HPV type, by age, 2023



Note: Y-axis has changed from a maximum of 100% to a maximum of 50% to allow the "Oncogenic HPV 16/18 detected" columns to be visible.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A6.1.

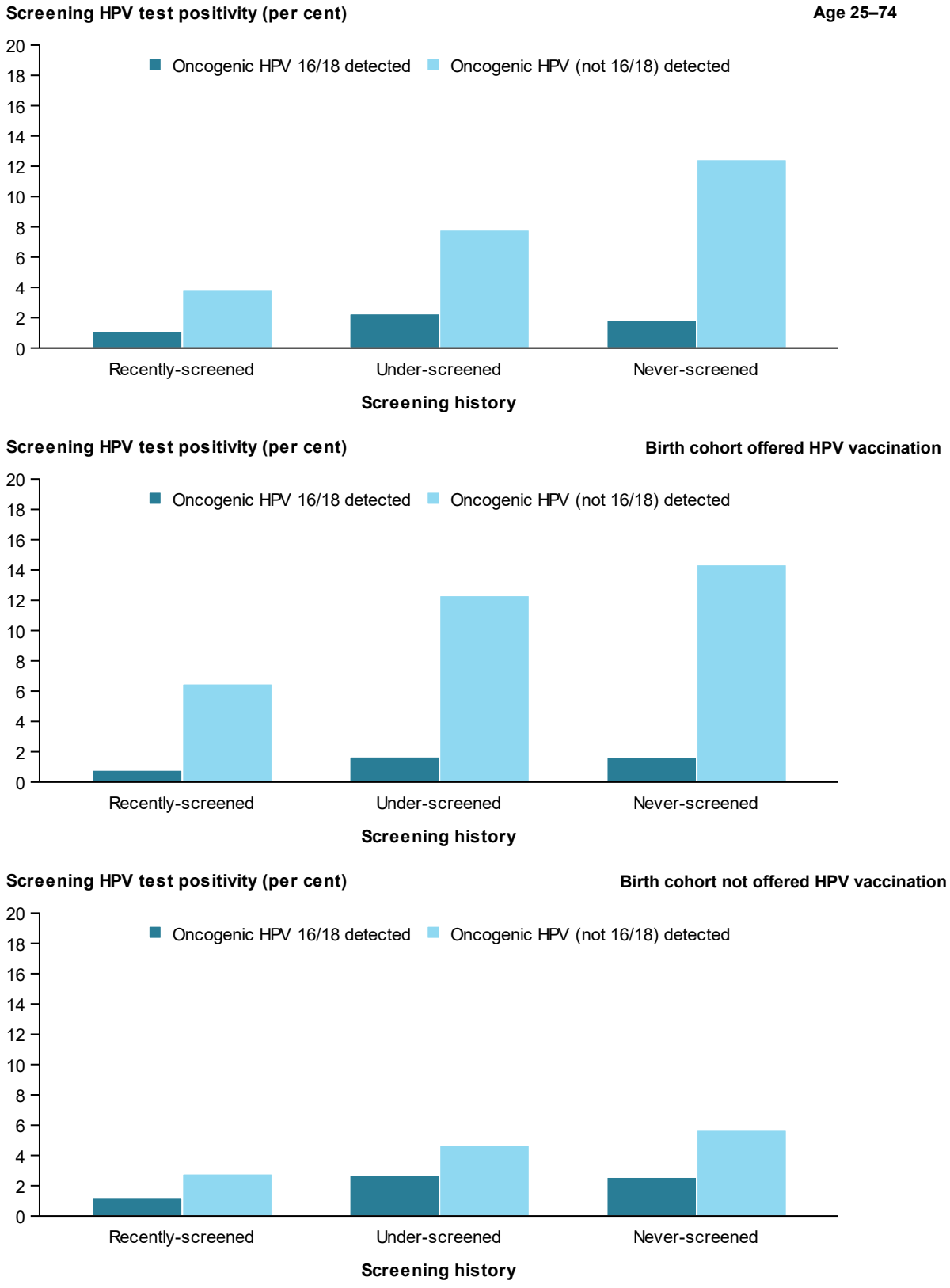
Screening HPV test positivity by screening history

To understand the impact of screening history, positivity is reported for participants who are recently-screened (previous screen was in the last 6 years), under-screened (previous screen was more than 6 years ago), and never-screened (no previous screen). For both oncogenic HPV 16/18 and oncogenic HPV (not 16/18), and for all birth cohorts, positivity was lowest for HPV tests in participants who were recently-screened (Figure 3.6.2).

For participants aged 25–74:

- oncogenic HPV 16/18 positivity was 1.1% for those who were recently-screened, 2.3% for those who were under-screened, and 1.8% for those who were never-screened
- oncogenic HPV (not 16/18) positivity was 3.9% for those who were recently-screened, 7.8% for those who were under-screened, and 12.5% for those never-screened.

Figure 3.6.2: Screening HPV test positivity by screening history, by birth cohort, 2023



Note: Recently-screened is defined as participants whose previous HPV, LBC, or Pap test was in the 6 years prior to their oncogenic HPV test; Under-screened is defined as participants whose previous HPV, LBC, or Pap test was more than 6 years prior to their oncogenic HPV test; Never-screened is defined as participants who had no previous HPV, LBC, or Pap test prior to their oncogenic HPV test.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A6.3.

Screening HPV test positivity trends

Trends in positivity over the years 2018 to 2023 for oncogenic HPV 16/18 and oncogenic HPV (not 16/18) are shown separately for participants aged 25–74, participants in the birth cohort offered HPV vaccination, and participants in the birth cohort not offered HPV vaccination in Figure 3.6.3.

Positivity for oncogenic HPV 16/18 for participants aged 25–74 increased from 2.0–2.1% of valid primary screening HPV tests in 2018 and 2019 to 2.2–2.3% in 2020 and 2021, before decreasing to 1.9% in 2022 and to a low of 1.4% in 2023.

The decreases in 2022 and 2023 were mirrored in participants who were offered HPV vaccination, for whom positivity decreased from 2.0% in 2021 to 1.6% in 2022 and to 1.2% in 2023, and in participants who were not offered HPV vaccination, for whom positivity decreased from 2.5% in 2021 to 2.2% in 2022 and to 1.5% in 2023 (Figure 3.6.3).

Positivity of oncogenic HPV (not 16/18) for participants aged 25–74 increased from 6.5–6.7% of valid primary screening HPV tests in 2018 and 2019 to 8.2% in 2020 and to 8.7% of valid primary screening HPV tests in 2021, then decreased to 8.4% in 2022 and to 5.6% in 2023.

The decreases in 2022 and 2023 were mirrored in participants who were offered HPV vaccination, for whom positivity decreased from 12.7% in 2021 to 12.2% in 2022 and to 9.7% in 2023, and in participants who were not offered HPV vaccination, for whom positivity decreased from 4.6% in 2021 to 4.4% in 2022 and to 3.2% in 2023 (Figure 3.6.3).

Many factors affect positivity, including screening history as noted earlier, with under- and never-screened participants experiencing higher rates of HPV infection and higher positivity.

Positivity for the birth cohort offered HPV vaccination is also affected by the proportion of participants that are of a younger age within this birth cohort, as some participants within this birth cohort – by virtue of their age – will experience higher rates of HPV infection than others, which will in turn impact the overall positivity for this cohort of participants.

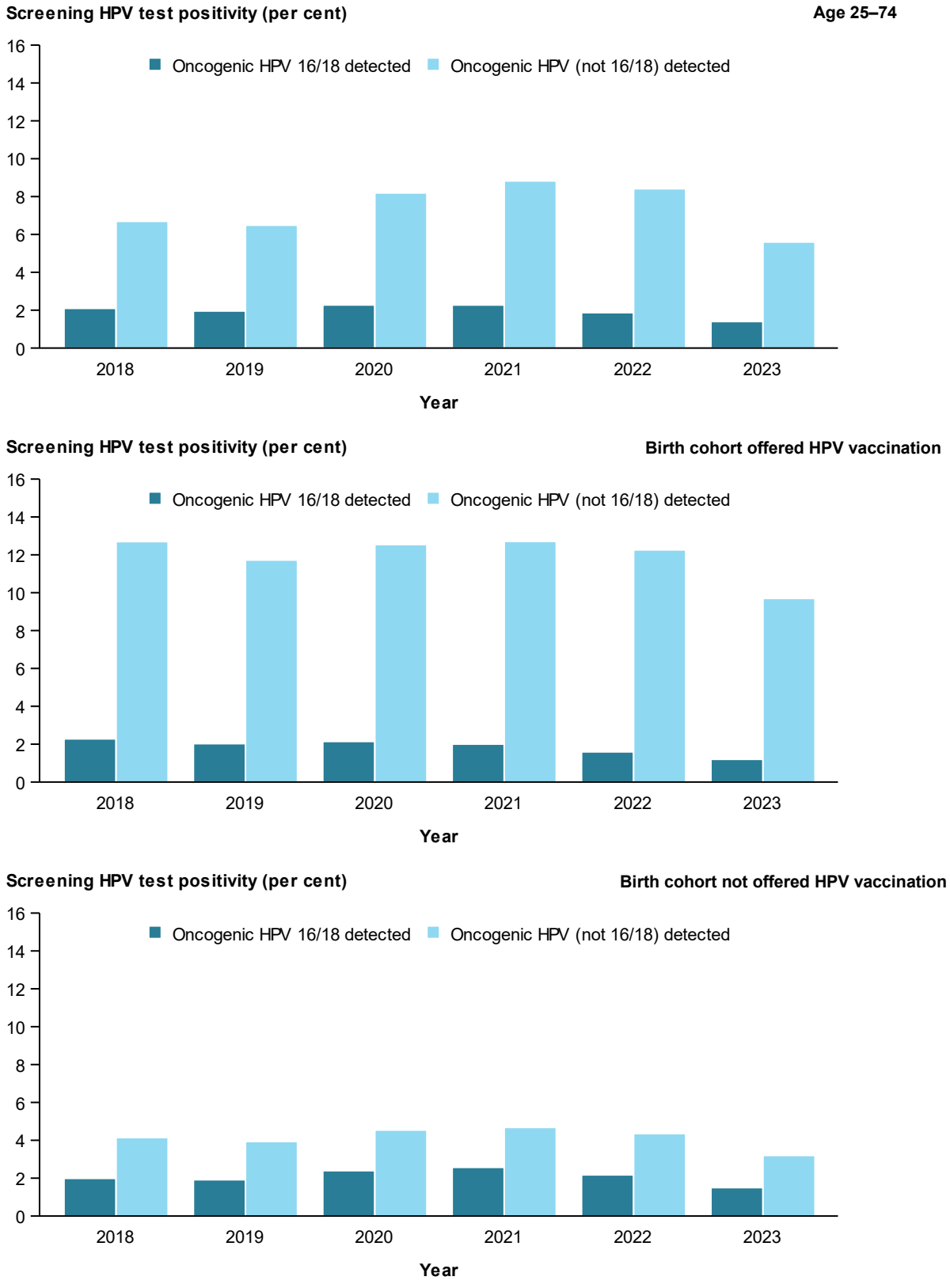
As introduced earlier in this report, the first 2 years of the renewed NCSP was a transition period during which participants who had had a Pap test under the previous NCSP became due for their first screening HPV test, after which time they moved to a 5-yearly screening interval. This means that screening HPV tests in 2020, 2021, and the majority of 2022, comprised tests performed for participants who were overdue for their first screening HPV test, and those who were newly eligible for cervical screening – mostly due to turning 25.

The higher screening HPV test positivity observed in 2020 and 2021 compared to 2018 and 2019 is due to 2020 and 2021 having a higher proportion of participants overdue for screening (or who have never previously screened), who have higher rates of HPV infection. The small decrease in positivity in 2022 may be due to the inclusion of participants rescreening for the first time in the last few months of 2022.

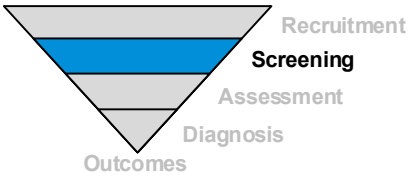
The further lowering of screening HPV positivity rates in 2023 reflects that participants in 2023 are primarily those who have returned for their second HPV test 5 years after their first negative HPV test in the renewed NCSP. Low positivity in 2023 is an expected outcome of the second round of HPV testing due to the ‘second round effect’ (Olthof and de Kok 2024). Positivity of first round HPV screens reflects that these tests detect existing infections (prevalent disease). In the second round of HPV screens, infection and disease has either mostly cleared or been treated, so positivity is lower, with positive HPV tests reflecting mostly new infections (incident disease) that commenced since the first screening round.

In addition, given the very low positivity of oncogenic HPV 16/18 in the birth cohort offered HPV vaccination in 2023, there is likely also an impact on positivity from recipients of HPV vaccination comprising a greater proportion of screening participants over time.

Figure 3.6.3: Screening HPV test positivity trends, by birth cohort, by year, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A6.4.



Performance Indicator 7: Cervical cancer diagnosed after a low risk screening test result

Summary false negative rate of the screening HPV test data

No data reported for this performance indicator.

Definition:

Percentage of participants aged 25–74 who are diagnosed with cervical carcinoma within 5 years of a screening HPV test that did not detect oncogenic HPV.

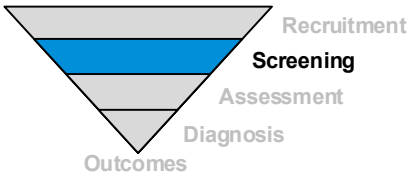
Rationale:

This measures the false negative rate of a low risk primary screening HPV test result.

Data considerations:

Calculation of this performance indicator requires linkage between data from the NCSR and data from the Australian Cancer Database (ACD) and more than 5 years to have passed since the inception of the renewed NCSP to allow this performance indicator to be measured as per the definition.

Data are not yet available to support the reporting of this performance indicator



Performance Indicator 8: LBC test in self-collection participants positive for oncogenic HPV (not 16/18)

Summary data for participants who have an LBC test after a self-collected sample in which oncogenic HPV (not 16/18) is detected

In 2023, of the 17,550 participants aged 25–74 who self-collected and whose HPV test was positive for oncogenic HPV (not 16/18), 75.5% had an LBC test within 3 months and 85.1% had an LBC test within 6 months.

Definition:

Percentage of participants aged 25–74 who have an LBC test after a self-collected screening HPV test positive for oncogenic HPV (not 16/18) in a calendar year.

Rationale:

Participants who self-collect their screening test and test positive for oncogenic HPV (not 16/18) are recommended to have a practitioner-collected sample within 6 weeks so that an LBC test can be performed. This indicator monitors compliance with this recommendation within 3 months, and within 6 months, by which time it is considered that most participants would have been able to attend an appointment with a practitioner.

Guide to interpretation:

A higher percentage is better.

Data considerations:

As a self-collected sample is not suitable for reflex LBC, if the HPV test detects oncogenic HPV (not 16/18), the participant needs to have a separate sample collected for a reflex LBC test to determine whether they are considered either intermediate risk or higher risk of significant cervical abnormality.

Under the renewed NCSP, prior to 1 July 2022, when all participants became eligible for self-collection, only those aged 30 or over who had never participated in cervical screening or were 2 years or more overdue for cervical screening were eligible to self-collect a vaginal sample for their HPV test. This means that the data for 2022 will comprise 6 months where self-collection was restricted and 6 months where self-collection was not restricted.

In earlier reports, this performance indicator only measured the proportion of participants who had an LBC test within 6 months. This is the second report in which this performance indicator measures both the proportion of participants who have an LBC test within 3 months and the proportion who have an LBC test within 6 months.

Time to LBC test is calculated from the date the self-collected HPV test was performed, not the date the participant received a referral to LBC. This means the reported rate is likely lower than if date of referral to LBC was used instead of date of self-collected HPV test.

Results

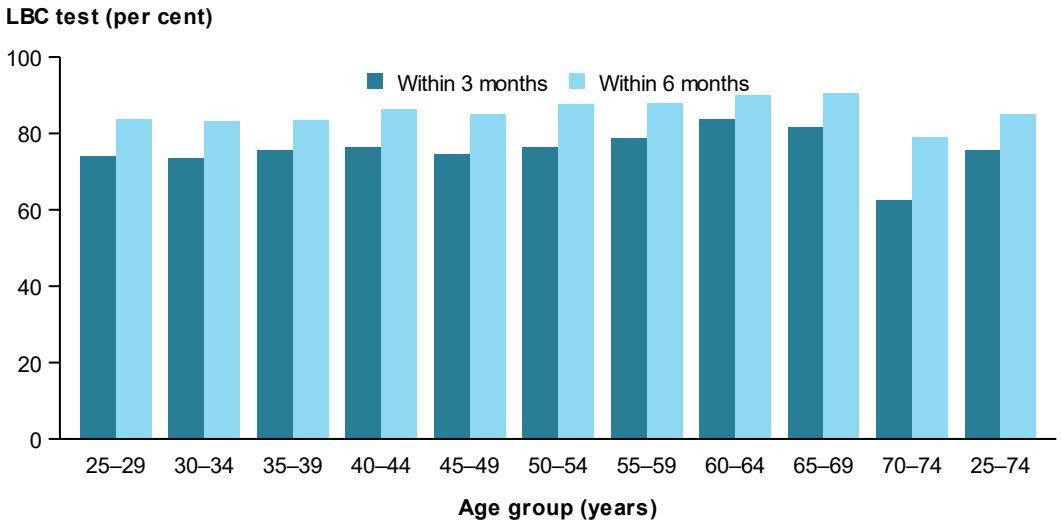
In 2023, there were 17,550 participants aged 25–74 who self-collected a sample for their primary screening HPV test and were found to be positive for oncogenic HPV (not 16/18). Of these participants, 75.5% had an LBC test within 3 months and 85.1% had an LBC test within 6 months of their primary screening HPV test.

LBC test in self-collection participants positive for oncogenic HPV (not 16/18) by age

The proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) who had an LBC test within 3 months was highest for participants aged 60–64 and 65–69 at 83.6% and 81.6%, respectively, and lowest for participants aged 70–74 at 62.5% (Figure 3.8.1).

The proportion who had an LBC test within 6 months was highest for participants aged 60–64 and 65–69 at 90.1% and 90.5%, respectively, and lowest for participants aged 70–74 at 78.8% (Figure 3.8.1).

Figure 3.8.1: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) who had an LBC test within 3 months and within 6 months, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A8.1

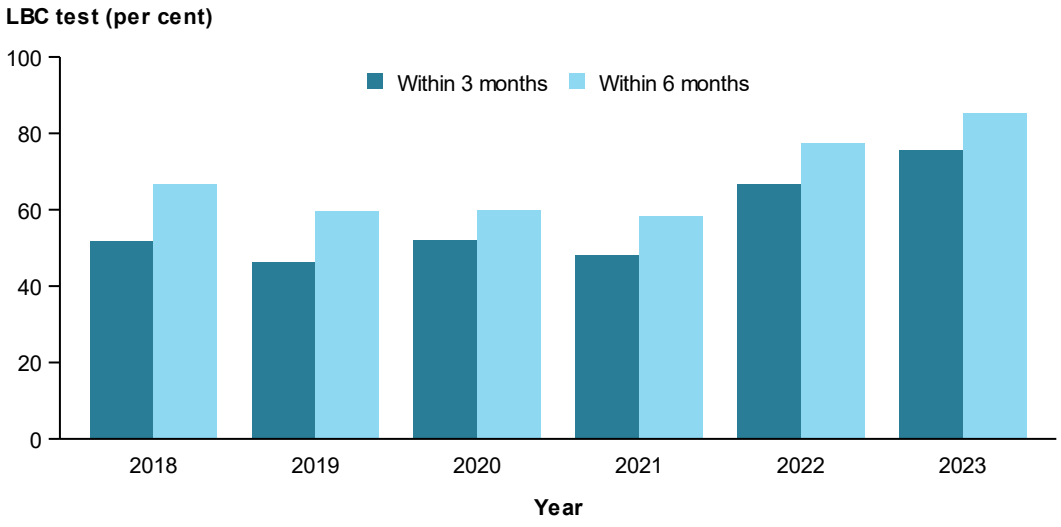
LBC test in self-collection participants positive for oncogenic HPV (not 16/18) trends

The proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) and who had an LBC test within 3 months and within 6 months was similar over the years 2018 to 2021, with an increase in 2022 and 2023 (note that the number of participants who self-collected a sample in 2018 was very low, so data for this year are not as robust as later years).

For participants who had an LBC test within 3 months, this was around 50% for the years 2018 to 2021, increasing to 66.7% in 2022, before increasing to 75.5% in 2023 (Figure 3.8.2).

For participants who had an LBC test within 6 months, this was around 60% for the years 2018 to 2021, increasing to 77.6% in 2022, before increasing to 85.1% in 2023 (Figure 3.8.2).

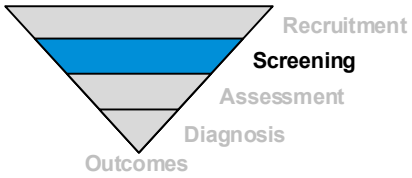
Figure 3.8.2: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) who had an LBC test within 3 months and within 6 months, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A8.2

The high proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) and who had an LBC test within 3 months and within 6 months in 2022 and 2023 may be a result of the change in the self-collection policy from July 2022, which allowed routine screeners to self-collect their sample.

These data suggest that routine screeners selecting a self-collected sample over practitioner-collected sample are more likely to return to their health practitioner for an LBC test when they have an intermediate risk HPV test result than under- or never-screened participants.



Performance Indicator 9: Colposcopy in self-collection participants positive for oncogenic HPV 16/18

Summary data for participants who have a colposcopy after a self-collected sample in which oncogenic HPV 16/18 is detected

In 2023, of the 5,317 participants aged 25–74 who self-collected and whose HPV test was positive for oncogenic HPV 16/18, 60.6% had a colposcopy within 3 months and 80.2% had a colposcopy within 6 months.

Definition:

Percentage of participants aged 25–74 who have a colposcopy after a self-collected screening HPV test positive for oncogenic HPV 16/18 in a calendar year.

Rationale:

Participants who self-collect and who test positive for oncogenic HPV 16/18 are recommended to have a colposcopy within 8 weeks. This indicator monitors compliance with this recommendation within 3 months, and within 6 months, by which time it is considered that most participants would have been able to attend an appointment with a colposcopist.

Guide to interpretation:

A higher percentage is better.

Data considerations:

If the HPV test result detects oncogenic HPV 16/18, the participant is considered higher risk and referred for colposcopy. Any colposcopy or histology test performed within 3 months or within 6 months is included, as a histology test is an indication of a colposcopy.

Under the renewed NCSP, prior to 1 July 2022, when all participants became eligible for self-collection, only those aged 30 or over who had never participated in cervical screening or were 2 years or more overdue for cervical screening were eligible to self-collect a vaginal sample for their HPV test. This means that the data for 2022 will comprise 6 months where self-collection was restricted and 6 months where self-collection was not restricted.

In earlier reports, this performance indicator only measured the proportion of participants who had an LBC test within 6 months. This is the second report in which this performance indicator measures both the proportion of participants who have an LBC test within 3 months and the proportion who have an LBC test within 6 months.

Time to colposcopy is calculated from the date the self-collected HPV test was performed, not the date the participant received a referral to colposcopy. This means the reported rate is likely lower than if date of referral to colposcopy was used instead of date of self-collected HPV test.

This performance indicator is based on primary screening tests performed in 2023. This allows 6 months to 30 June 2024 to know whether a colposcopy or histology occurred. However, the further 6 months to 31 December 2024 to ensure that colposcopy and histology data to 30 June 2024 are complete has not been applied in the interest of reporting the most up-to-date self-collection data available. This means that the data for 2023 could be an underestimate, and the true proportion of these participants having colposcopy within 6 months may be higher than is reported here.

Results

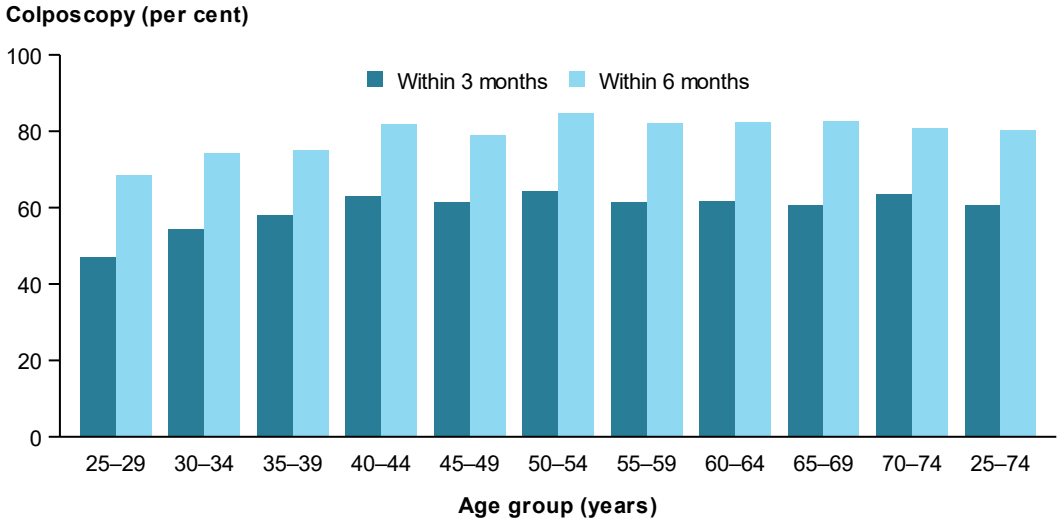
In 2023, there were 5,317 participants aged 25–74 who self-collected a sample for their primary screening HPV test and were found to be positive for oncogenic HPV 16/18. Of these 5,317 participants, 60.6% had a colposcopy within 3 months and 80.2% had a colposcopy within 6 months of their primary screening HPV test.

Colposcopy in self-collection participants positive for oncogenic HPV 16/18 by age

The proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 who had a colposcopy within 3 months was highest for participants aged 50–54 at 64.3%, and lowest for participants aged 25–29 at 47.0% (Figure 3.9.1).

The proportion who had a colposcopy within 6 months was highest for participants aged 50–54 at 84.7%, and lowest for participants aged 25–29 at 68.4% (Figure 3.9.1).

Figure 3.9.1: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 who had a colposcopy within 3 months and within 6 months, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A9.1

Colposcopy in self-collection participants positive for oncogenic HPV 16/18 trends

The proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 and who had a colposcopy within 3 months and within 6 months increased in 2022 and increased again in 2023 (note that the number of participants who self-collected a sample in 2018 was very low, so data for this year are not as robust as later years).

For participants who had a colposcopy within 3 months, this increase was from 50.0% in 2021 to 57.8% in 2022 and to 60.6% in 2023 (Figure 3.9.2).

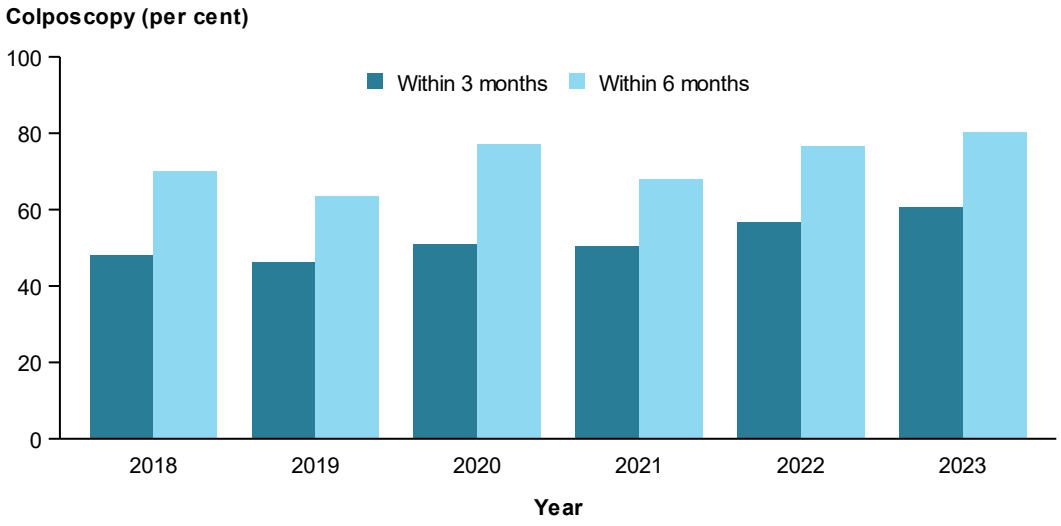
For participants who had a colposcopy within 6 months, this increase was from 68.2% in 2021 to 78.1% in 2022 and to 80.2% in 2023 (Figure 3.9.2).

The high proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 and who had a colposcopy within 3 months and within 6 months in 2022 and 2023 may be a result of the change in the self-collection policy from July 2022, which allowed routine screeners to self-collect their sample.

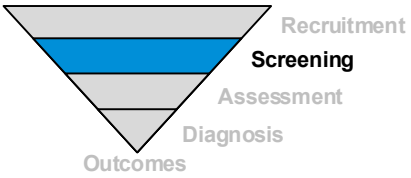
These data suggest that routine screeners selecting a self-collected sample over practitioner-collected sample are more likely to have a colposcopy when they have a higher risk HPV test result than under- or never-screened participants.

There may also be factors related to availability of colposcopy appointments that facilitate participants accessing colposcopy within 3 or 6 months after a higher risk HPV test result.

Figure 3.9.2: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 who had a colposcopy within 3 months and within 6 months, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A9.2



Performance Indicator 10: Adherence to recommendation for follow-up

Summary adherence to recommendation for follow-up data

55.4% of participants aged 25–74 who had a primary screening episode in 2022 that indicated they were of intermediate risk had a follow-up HPV test between 9 and 15 months, indicating adherence with the recommendation for follow-up.

58.7% of participants aged 25–74 who had a follow-up episode in 2022 that indicated they were of intermediate risk had a follow-up HPV test between 9 and 15 months, indicating adherence with the recommendation for follow-up.

Definition:

Percentage of participants aged 25–74 who have an intermediate risk screening episode in a calendar year who have a follow-up HPV test between 9 and 15 months.

Percentage of participants aged 25–74 who have an intermediate risk follow-up episode in a calendar year who have a follow-up HPV test between 9 and 15 months.

Rationale:

Participants who test positive for oncogenic HPV (not 16/18) and have a negative or pLSIL/LSIL reflex LBC test result are considered to be of intermediate risk for this primary screening episode and are recommended to have a follow-up HPV test in 12 months. This indicator monitors compliance with this recommendation for a participant's first follow-up HPV test 12 months after their intermediate risk primary screening episode (allowing 3 months either side of the recommended 12 months).

Participants who test positive for oncogenic HPV (not 16/18) and have a negative or pLSIL/LSIL reflex LBC test result at their first follow-up HPV test are considered to be of intermediate risk for this first follow-up episode and are recommended to have a second follow-up HPV test in another 12 months. This indicator monitors compliance with this recommendation for a participant's second follow-up HPV test 12 months after their intermediate risk follow-up episode (allowing 3 months either side of the recommended 12 months).

Guide to interpretation:

A higher percentage is better.

Data considerations:

Participants who have a primary screening test that indicates they are at intermediate risk of a significant cervical abnormality require a follow-up HPV test 12 months after their primary screening test to determine whether they have cleared the HPV infection and have become low risk, or if the infection has persisted.

Prior to 1 February 2021, only one follow-up HPV test was performed 12 months following an intermediate risk primary screening episode, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected). Since 1 February

2021, if the first follow-up HPV test detects oncogenic HPV (not 16/18) and the reflex LBC is negative or low-grade, then the participant remains at intermediate risk, and a second follow-up HPV test is performed 12 months after the first, with the participant then deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected).

These data measure compliance with the:

- first follow-up HPV test 12 months after an intermediate risk screening episode
- second follow-up HPV test 12 months after an intermediate risk follow-up episode.

The change in the screening pathway for intermediate risk participants from 1 February 2021 means comparisons with previous years should not be made.

Calculation of this performance indicator requires 15 months to have passed after the end of the reporting period to know if participants had their follow-up HPV test between 9 and 15 months after their screening episode.

> This performance indicator is based on primary screening episodes and follow-up episodes performed in 2022. This allows 15 months to 31 March 2024 to know whether a follow-up HPV test occurred as recommended.

Results

Adherence to recommendation for follow-up after intermediate risk screening episode

There were 33,395 participants aged 25–74 who had a primary screening episode in 2022 that indicated they were at intermediate risk of a significant cervical abnormality.

Of these intermediate risk participants, 55.4% had a follow-up HPV test between 9 and 15 months, indicating adherence with the recommendation for follow-up. This range allows 3 months either side of 12 months for participants who may have their follow-up HPV test before or after 12 months, but still within an appropriate length of time.

Figure 3.10.1 shows the distribution of follow-up HPV tests after a primary screening episode of intermediate risk. Compliance with the 12-month recommendation was highest at 12–13 months after the screening episode, with 12.2% of intermediate risk participants having a follow-up HPV test at 12 months and 17.4% of intermediate risk participants having a follow-up HPV test at 13 months after an intermediate risk screening episode.

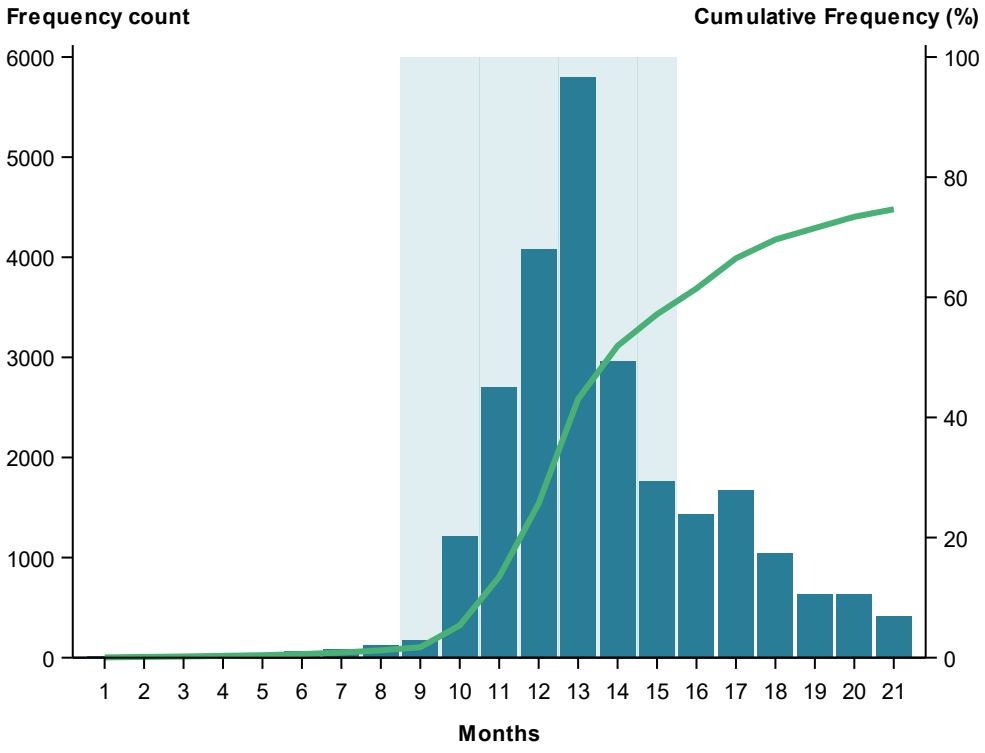
At 21 months after an intermediate risk primary screening episode, 25.4% of participants had not had a follow-up HPV test (Figure 3.10.1).

Adherence to recommendation for follow-up after intermediate risk screening episode by age

The proportion of participants who had a follow-up HPV test between 9 and 15 months after their intermediate risk primary screening episode is shown by age in Figure 3.10.2.

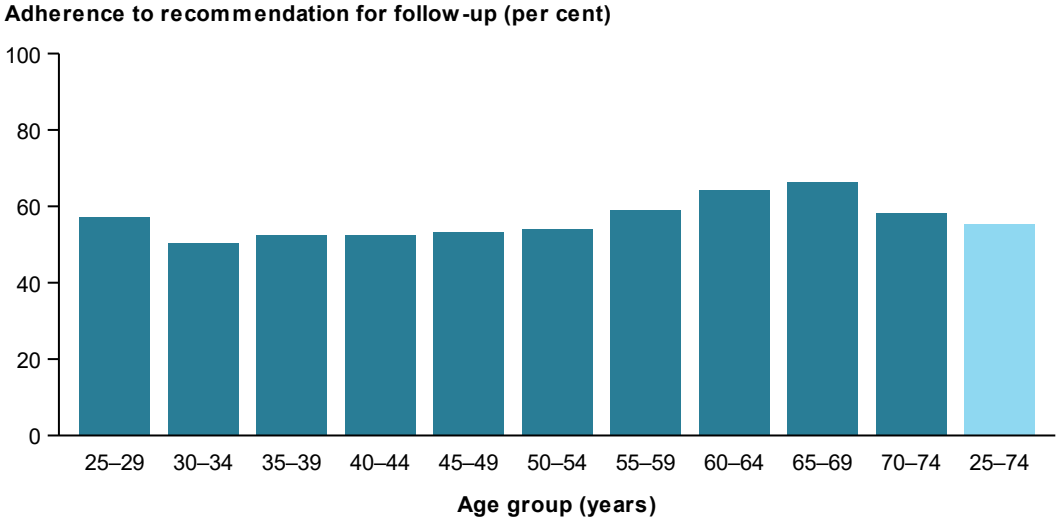
Adherence to recommendation for follow-up was 57.2% of participants aged 25–29, decreasing to 50.3% for participants aged 30–34. Adherence thereafter increased with increasing age, to a high of 66.4% for participants aged 65–69 (Figure 3.10.2).

Figure 3.10.1: Distribution of follow-up HPV tests after intermediate risk screening episode, participants aged 25–74, 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A10.1.

Figure 3.10.2: Adherence to recommendation for follow-up after intermediate risk screening episode, by age, 2022

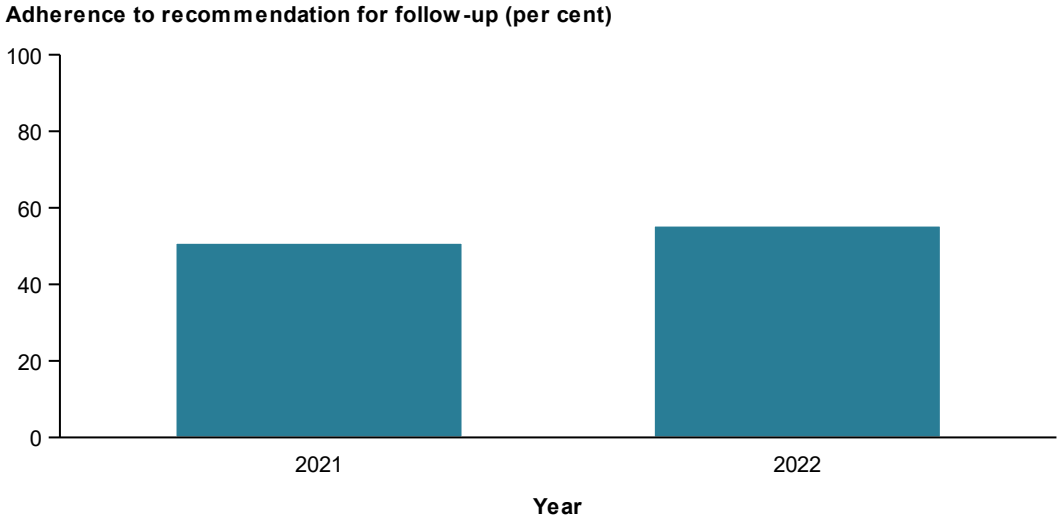


Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A10.2.

Adherence to recommendation for follow-up after intermediate risk screening episode trends

The proportion of participants who had a follow-up HPV test between 9 and 15 months after their intermediate risk primary screening episode increased from 50.9% in 2021 to 55.4% in 2022 (Figure 3.10.3).

Figure 3.10.3: Adherence to recommendation for follow-up after intermediate risk screening episode, by year, 2021 to 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A10.4.

Adherence to recommendation for follow-up after intermediate risk follow-up episode

> Prior to 2021, follow-up screening episodes were defined as those with a reason for HPV test of 'Follow-up HPV test'. From 2021, to accommodate the introduction of first follow-up episodes and second follow-up episodes, first follow-up episodes are defined as those with a reason for HPV test of 'Follow-up HPV test' and an intermediate risk screening episode with a recommendation of 'Repeat HPV test in 12 months' within the last 6 to 21 months.

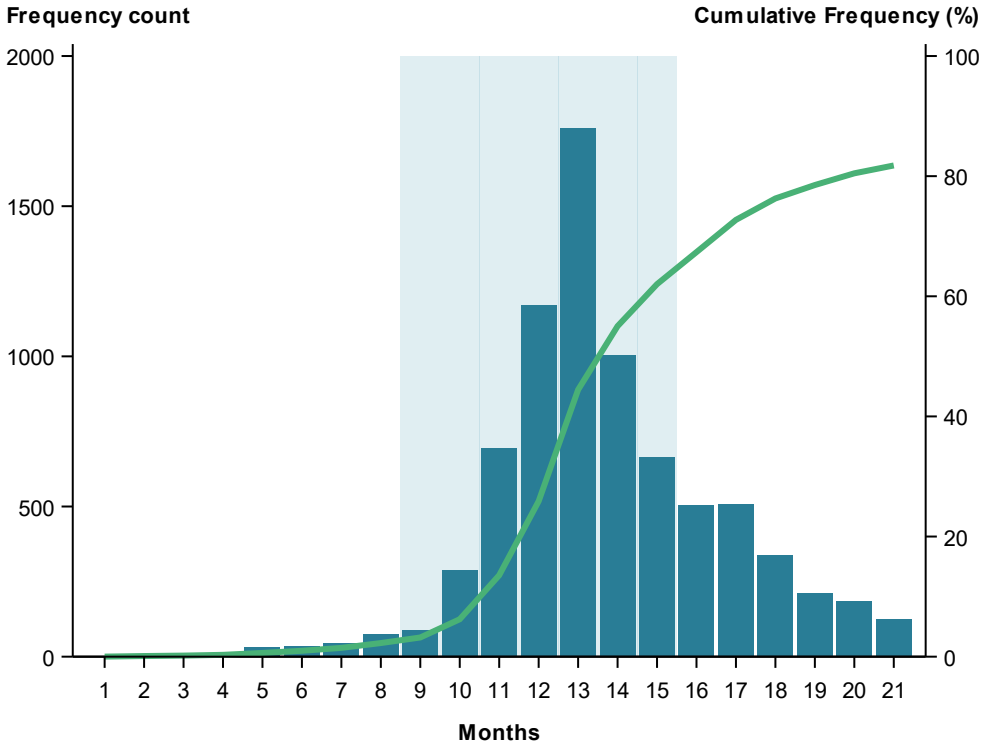
There were 9,484 participants aged 25–74 who had a follow-up episode in 2022 that indicated they were at intermediate risk of a significant cervical abnormality.

Of these intermediate risk participants, 58.7% had a follow-up HPV test between 9 and 15 months, indicating adherence with the recommendation for follow-up. This range allows 3 months either side of 12 months for participants who may have their follow-up HPV test before or after 12 months, but still within an appropriate length of time.

Figure 3.10.4 shows the distribution of follow-up HPV tests after a follow-up episode of intermediate risk. Compliance with the 12-month recommendation was highest at 12–14 months after the follow-up episode, with 12.3% of intermediate risk participants having a follow-up HPV test at 12 months, 18.6% having a follow-up HPV test at 13 months, and 10.6% having a follow-up HPV test at 14 months after their follow-up episode.

At 21 months after an intermediate risk follow-up episode, 18.2% of participants had not had a follow-up HPV test (Figure 3.10.4).

Figure 3.10.4: Distribution of follow-up HPV tests after intermediate risk follow-up episode, participants aged 25–74, 2022

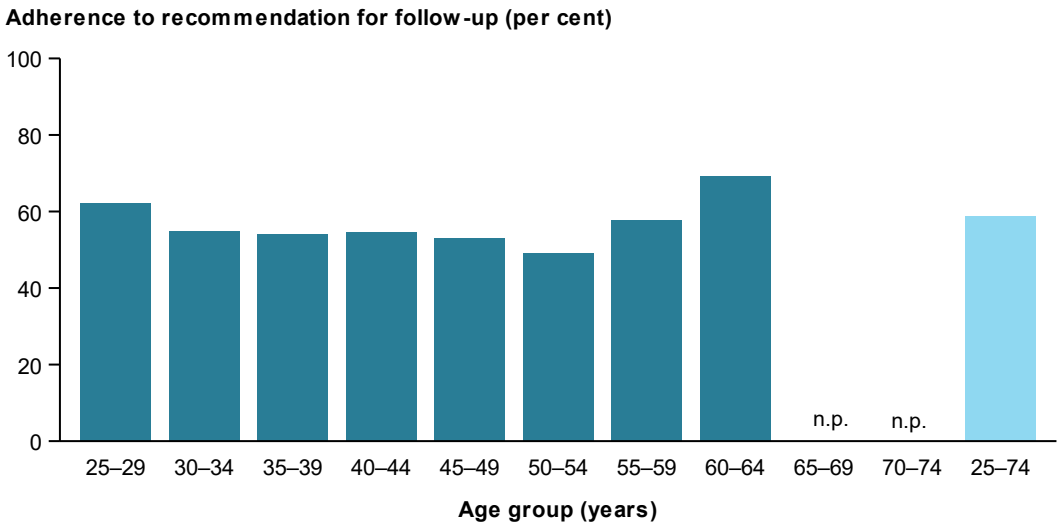


Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A10.5.

Adherence to recommendation for follow-up after intermediate risk follow-up episode by age

The proportion of participants at intermediate risk who had a follow-up HPV test between 9 and 15 months after their follow-up episode is shown by age in Figure 3.10.5. Adherence to recommendation for follow-up ranged between 53.1% and 62.1% for participants aged under 50 (Figure 3.10.5).

Figure 3.10.5: Adherence to recommendation for follow-up after intermediate risk follow-up episode, by age, 2022

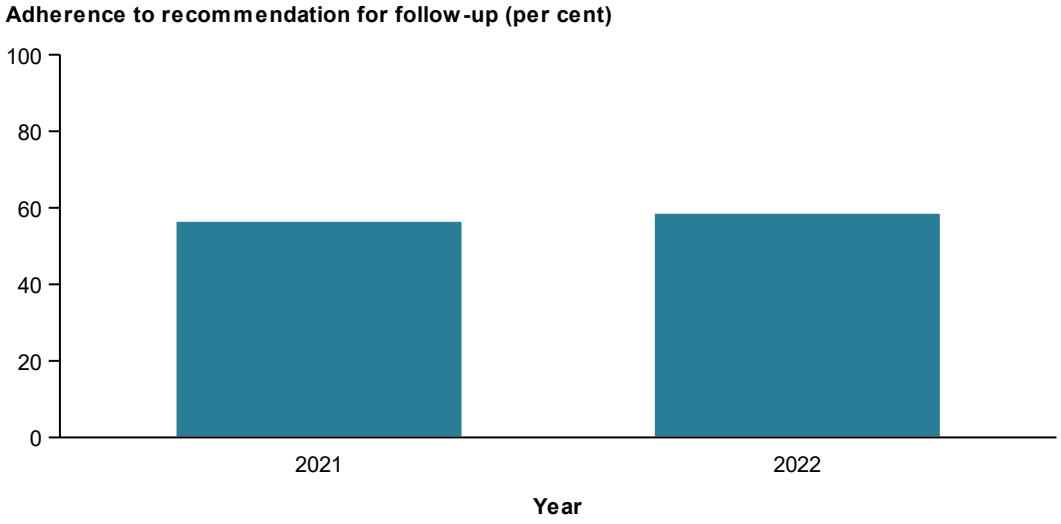


Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A10.6.

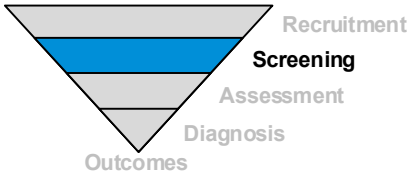
Adherence to recommendation for follow-up after intermediate risk follow-up episode trends

The proportion of participants who had a follow-up HPV test between 9 and 15 months after their intermediate risk follow-up episode increased from 56.6% in 2021 to 58.7% in 2022 (Figure 3.10.6).

Figure 3.10.6: Adherence to recommendation for follow-up after intermediate risk follow-up episode, by year, 2021 to 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A10.8.



Performance Indicator 11: Follow-up results

Summary follow-up results data

Of the 22,591 first follow-up episodes in 2023 in participants aged 25–74:

- 39.1% were low risk
- 55.0% were intermediate risk
- 4.2% were higher risk
- 1.7% could not be assigned a risk

Of the 16,534 second follow-up episodes in 2023 in participants aged 25–74:

- 36.0% were low risk
- 63.8% were higher risk
- 0.2% could not be assigned a risk

Definition:

Percentage of follow-up episodes in participants aged 25–74 in each risk category in a calendar year.

Rationale:

Follow-up results are the follow-up HPV test result and reflex LBC (where indicated) that occur 12 months after an intermediate risk screening episode result, or 12 months after an intermediate risk follow-up episode result. Distribution of follow-up episode results is a key measure for the screening program and any changes in these distributions over time will require investigation within the broader context of the screening program. For this reason, follow-up results are based on test risk, not participant risk.

This indicator is reported separately for first follow-up episodes and second follow-up episodes.

The change in the screening pathway for intermediate risk participants from 1 February 2021 means comparisons with previous years should not be made.

Data considerations:

Prior to 1 February 2021, only one follow-up HPV test was performed 12 months following an intermediate risk primary screening episode, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected). Since 1 February 2021, if the first follow-up HPV test detects oncogenic HPV (not 16/18) and the reflex LBC is negative or low-grade, then the participant remains at intermediate risk, and a second follow-up HPV test is performed 12 months after the first, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected).

In the screening pathway, characteristics of participants including age, screening history, and Indigenous status can result in a participant with an intermediate risk follow-up episode being managed as higher risk instead of intermediate risk.

However, this indicator looks only at the risk of the follow-up episode based on the follow-up HPV test result and, where indicated, the LBC test result, without considering characteristics of the participants. The result of this is that there are a number of intermediate risk follow-up episodes where the participant will instead be managed as higher risk due to their age, screening history, or Indigenous status.

This report includes a breakdown of the risk of both first and second follow-up episodes.

Guide to interpretation:

From 1 February 2021, there are three risk categories (low, intermediate, and higher) for the first follow-up episode 12 months after an intermediate risk primary screening episode. The assigned risk category is determined by a combination of the follow-up HPV test result and, where indicated, the LBC test result. Risk is defined as the risk of a significant cervical abnormality. Determination of risk is illustrated in the screening pathway (Figure 2.1).

- A first follow-up HPV test that does not detect oncogenic HPV indicates low risk, and no reflex LBC is performed.
- A first follow-up HPV test that detects oncogenic HPV 16/18 indicates higher risk, and while reflex LBC is performed, the outcome of this test does not affect the risk.
- A first follow-up HPV test that detects oncogenic HPV (not 16/18) does not indicate a risk on its own, but requires reflex LBC to be performed to determine whether risk remains as intermediate or becomes higher risk.

A reflex LBC is only indicated when the first follow-up HPV test detects oncogenic HPV. LBC test results are the same as Pap test results from the previous NCSP. These are:

- negative (no abnormality detected)
- low-grade abnormality (possible or definite low-grade squamous intraepithelial lesion)
- high-grade abnormality (possible or definite high-grade squamous intraepithelial lesion or squamous cell carcinoma)
- glandular abnormality (possible or definite glandular abnormality or adenocarcinoma)

The reflex LBC can also be unsatisfactory for evaluation.

In some cases, a first follow-up HPV test that does not detect oncogenic HPV is followed by an LBC, despite this not being indicated. These episodes have been allocated a risk according to their LBC test result, which is intermediate or higher if the LBC is not negative.

There are also some first follow-up episodes for which a risk cannot be allocated, usually due to unsatisfactory tests. Unsatisfactory HPV tests that are followed by an LBC are only allocated a risk if the LBC indicates a high-grade abnormality, glandular abnormality, or cancer (higher risk).

From 1 February 2021, there are two risk categories (low and higher) for the second follow-up episode 12 months after an intermediate risk follow-up episode that are determined by the second follow-up HPV test result. Risk is defined as the risk of a significant cervical abnormality. Determination of risk is illustrated in the screening pathway (Figure 2.1).

- A second follow-up HPV test that does not detect oncogenic HPV indicates low risk, and no reflex LBC is performed.
- A second follow-up HPV test that detects any oncogenic HPV indicates higher risk, and while reflex LBC is performed, the outcome of this test does not affect the risk.

Prior to 2021, follow-up screening episodes were defined as those with a reason for HPV test of 'Follow-up HPV test'. From 2021, to accommodate the introduction of first follow-up episodes and second follow-up episodes, first follow-up episodes are defined as those with a reason for HPV test of 'Follow-up HPV test' and an intermediate risk screening episode with a recommendation of 'Repeat HPV test in 12 months' within the last 6 to 21 months; second follow-up episodes are defined as those with a reason for HPV test of 'Follow-up HPV test' and an intermediate risk follow-up episode with a recommendation of 'Repeat HPV test in 12 months' within the last 6 to 21 months.

These additional restrictions result in the number of follow-up episodes being fewer than reported in earlier years, but are necessary to distinguish between the first and second follow-up episodes.

Results

First follow-up episodes

In 2023, there were 22,591 first follow-up episodes that occurred in participants aged 25–74. These episodes were assigned to one of the three risk categories of low, intermediate, or higher (or were unable to be assigned to a risk category) based on the combination of the first follow-up HPV test result and, where indicated, the LBC test result. This is explained in the 'Guide to interpretation' for this performance indicator.

Overall, of the 22,591 first follow-up episodes in 2023 in participants aged 25–74:

- 39.1% were low risk
- 55.0% were intermediate risk
- 4.2% were higher risk
- 1.7% could not be assigned a risk.

First follow-up episodes by HPV ± LBC test results

In Table 3.11.1, the combination of first follow-up HPV test result and LBC test result is shown for each first follow-up episode.

Each combination has been colour-coded in this table according to risk of significant cervical abnormality based on the first follow-up HPV test result and LBC test result only.

As outlined in the 'Data considerations' section, allocation of risk in this table does not consider the characteristics of intermediate risk participants (age, screening history, and Indigenous status) that indicate that the participant will instead be managed as higher risk.

Instead, this indicator looks only at the risk of the first follow-up episode based on the first follow-up HPV test result and, where indicated, the LBC test result, and not the risk of the participant, which may sometimes be higher risk instead of intermediate risk.

In Table 3.11.1, low risk is indicated by light blue shading, intermediate risk by medium blue shading, and higher risk by darker blue shading. First follow-up episodes for which a risk could not be assigned have no shading.

Table 3.11.1: First follow up HPV ± LBC test results, participants aged 25–74, 2023

Reflex LBC test result	First follow-up HPV test result			
	Unsatisfactory	Oncogenic HPV not detected	Oncogenic HPV (not 16/18) detected	Oncogenic HPV 16/18 detected
LBC not performed*	22	8,630	201	7
LBC Unsatisfactory	0	n.p.	160	n.p.
LBC Negative	n.p.	201	8,093	141
LBC Squamous low-grade abnormality	n.p.	38	4,293	91
LBC Squamous high-grade abnormality or squamous cell carcinoma	n.p.	n.p.	671	11
LBC Glandular abnormality or adenocarcinoma	0	n.p.	15	n.p.

* LBC is not indicated after an unsatisfactory HPV test or where oncogenic HPV is not detected; LBC not performed after oncogenic HPV detected can occur if a sample is self-collected and an LBC sample has not been collected (participant did not return or LBC not performed at colposcopy).

Notes

1. Each combination has been colour-coded in this table according to risk of significant cervical abnormality based on first follow-up HPV test and LBC test result only. There will be some participants with an intermediate risk first follow-up episode result that will be managed as higher risk due to their age, screening history, or Indigenous status.
2. Some first follow-up HPV tests that did not detect oncogenic HPV were followed by an LBC test. These episodes have been allocated a risk according to their LBC test result. Unsatisfactory HPV tests followed by an LBC test are only allocated a risk if their LBC test result indicated a high-grade abnormality or cancer, as these screening episodes would be deemed higher risk irrespective of the first follow-up HPV test result. Oncogenic HPV (not 16/18) detected HPV tests are only allocated a risk if there is a valid LBC test associated with this, as a valid LBC test result is required to determine if the first follow-up episode is intermediate risk or higher risk.

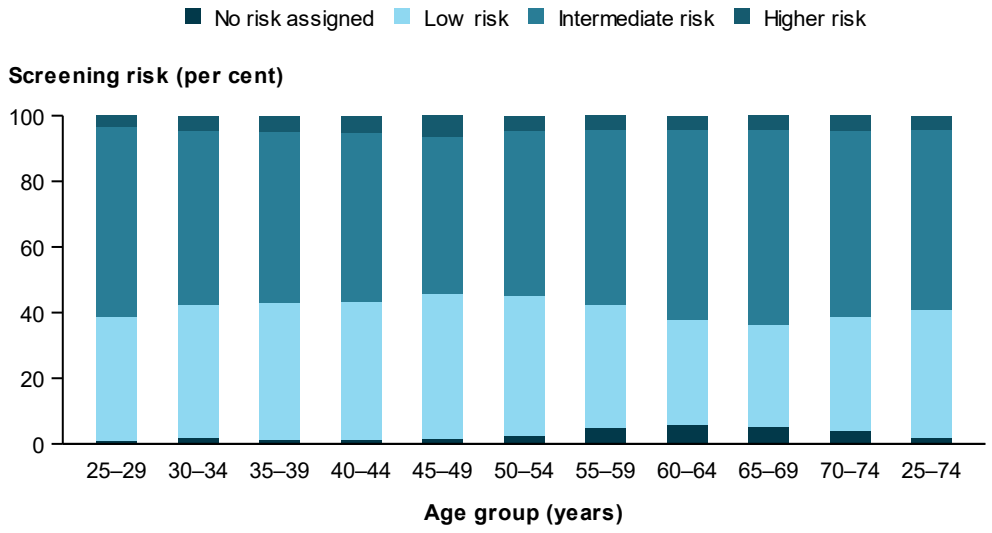
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

First follow-up episodes by age

Risk categories for each age group are shown in Figure 3.11.1.

The proportion of first follow-up episodes that were low risk was highest for ages 30–34 to 50–54, decreasing after this age. The proportion of first follow-up episodes that were intermediate risk was higher for the age group 25–29 and for ages 60 years and over, and lower for ages between 30 and 59. The proportion of first follow-up episodes that were higher risk was lowest in participants aged 25–29 and highest in participants aged 45–49 (Figure 3.11.1).

Figure 3.11.1: First follow-up episode risk categories, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A11.1.

Second follow-up episodes

In 2023, there were 16,534 second follow-up episodes that occurred in participants aged 25–74. These episodes were assigned to one of the two risk categories of low or higher (or were unable to be assigned to a risk category) based on the combination of the second follow-up HPV test result and, where indicated, the LBC test result. This is explained in the 'Guide to interpretation' for this performance indicator.

Overall, of the 16,534 second follow-up episodes in 2023 in participants aged 25–74:

- 36.0% were low risk
- 63.8% were higher risk
- 0.2% could not be assigned a risk.

Second follow-up episodes by HPV ± LBC test results

In Table 3.11.2, the combination of second follow-up HPV test result and LBC test result is shown for each second follow-up episode.

Each combination has been colour-coded in this table according to risk of significant cervical abnormality based on the second follow-up HPV test result and LBC test result only.

As outlined in the 'Data considerations' section, allocation of risk in this table does not consider the characteristics of intermediate risk participants (age, screening history, and Indigenous status) that indicate that the participant will instead be managed as higher risk.

Instead, this indicator looks only at the risk of the second follow-up episode based on the second follow-up HPV test result and, where indicated, the LBC test result, and not the risk of the participant, which may sometimes be higher risk instead of intermediate risk.

In Table 3.11.2, low risk is indicated by light blue shading and higher risk by darker blue shading. Second follow-up episodes for which a risk could not be assigned have no shading.

Table 3.11.2: Second follow-up HPV ± LBC test results, participants aged 25–74, 2023

	Second follow-up HPV test result			
Reflex LBC test result	Unsatisfactory	Oncogenic HPV not detected	Oncogenic HPV (not 16/18) detected	Oncogenic HPV 16/18 detected
LBC not performed*	n.p.	5,683	160	n.p.
LBC Unsatisfactory	n.p.	n.p.	156	n.p.
LBC Negative	n.p.	271	5,873	152
LBC Squamous low-grade abnormality	n.p.	27	3,351	67
LBC Squamous high-grade abnormality or squamous cell carcinoma	n.p.	n.p.	716	17
LBC Glandular abnormality or adenocarcinoma	0	0	21	0

* LBC is not indicated after an unsatisfactory HPV test or where oncogenic HPV is not detected; LBC not performed after oncogenic HPV detected can occur if a sample is self-collected and an LBC sample has not been collected (participant did not return or LBC not performed at colposcopy).

Notes

1. Each combination has been colour-coded in this table according to risk of significant cervical abnormality based on second follow-up HPV test and LBC test result only.
2. Some second follow-up HPV tests that did not detect oncogenic HPV were followed by an LBC test. These episodes have been allocated a risk according to their LBC test result. Unsatisfactory HPV tests followed by an LBC test are only allocated a risk if their LBC test result indicated a high-grade abnormality or cancer, as these second follow-up episodes would be deemed higher risk irrespective of the second follow-up HPV test result. Oncogenic HPV not detected followed low-grade LBC would usually be allocated intermediate risk, but has been allocated higher risk for second follow-up episodes for the purpose of reporting these episodes as either low risk or higher risk (or no risk allocated).

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

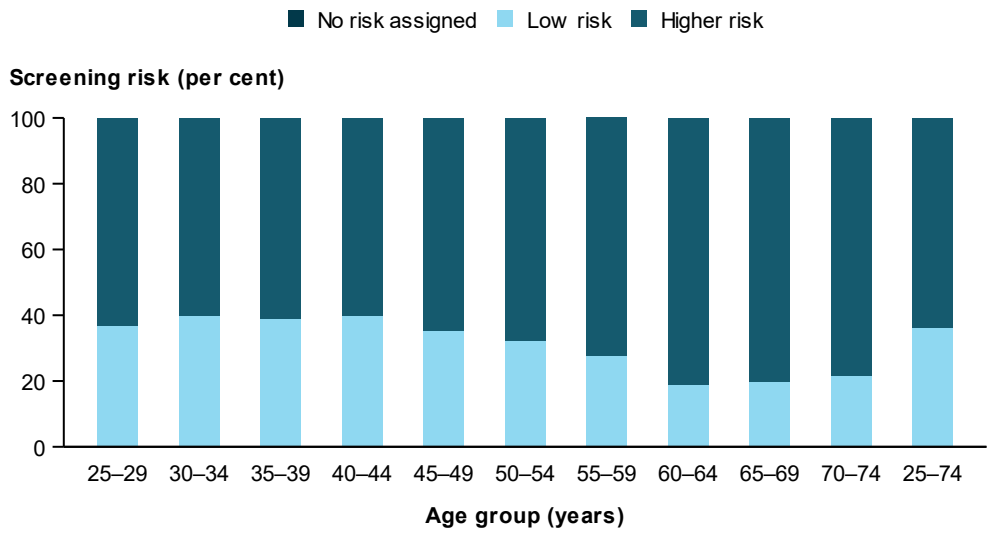
Second follow-up episodes by age

Risk categories for each age group are shown in Figure 3.11.2.

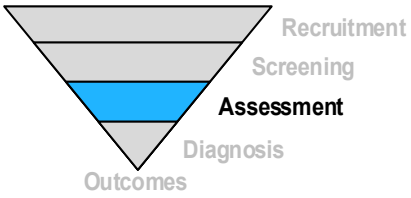
The proportion of second follow-up episodes that were low risk was higher for participants aged under 55 and lower for participants aged 55 and over. Conversely, the proportion of second follow-up episodes that were higher risk was lower for participants aged under 55 and higher for participants aged 55 and over (Figure 3.11.2).

The proportion of second follow-up episodes for which risk could not be assigned was too low to be visible in the figure.

Figure 3.11.2: Second follow-up episode risk categories, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A11.3.



Assessment

Performance Indicator 12: Colposcopy rate

Summary colposcopy rate data

Of the participants aged 25–74 who were referred for colposcopy in 2022, 59.4% had a colposcopy within 3 months.

Definition:

Percentage of participants aged 25–74 who have a screening or follow-up episode result that places them at higher risk of significant cervical abnormality in a calendar year who attend colposcopy within 3 months.

Rationale:

The success of a screening program is reliant on assessment being performed when required. This measures compliance with referral for colposcopy based on a screening episode result or follow-up episode result that places them at higher risk of significant cervical abnormality, and should be calculated for each screening episode result and follow-up episode result.

Data considerations:

Colposcopy is the examination of the cervix using a magnifying instrument called a colposcope, and is the first step in the assessment stage of the screening pathway.

Prior to 1 February 2021, only one follow-up HPV test was performed 12 months following an intermediate risk primary screening episode, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected). Since 1 February 2021, if the first follow-up HPV test detects oncogenic HPV (not 16/18) and the reflex LBC is negative or low-grade, then the participant remains at intermediate risk, and a second follow-up HPV test is performed 12 months after the first, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected).

This means that some participants who would have previously been considered higher risk and included in these data are now considered intermediate risk and not included.

In the screening pathway, characteristics of participants including age, screening history, and Indigenous status can result in a participant with an intermediate risk follow-up episode being managed as higher risk instead of intermediate risk.

However, this indicator looks only at colposcopy within 3 months of higher risk results based on the HPV test result and, where indicated, the LBC test result, without considering characteristics of the participants. The result of this is that there are a number of first follow-up screening episodes where the participant will instead be managed as higher risk due to their age, screening history, or Indigenous status that are not included in these data.

Time to colposcopy is calculated from the date the test was performed, not the date the participant received a referral to colposcopy. This means the reported colposcopy rate is likely lower than if date of referral to colposcopy was used instead of date of test.

Guide to interpretation:

A higher colposcopy rate is better.

The change in the screening pathway for intermediate risk participants from 1 February 2021 means comparisons with years prior to 2021 should not be made.

> This performance indicator is based on primary screening episodes performed in 2022. This allows 3 months to 31 March 2023 to know whether a colposcopy occurred, and a further 6 months to 30 September 2023 to ensure that colposcopy and histology data to 31 March 2023 are complete.

Results

Participants whose screening episode, first follow-up episode, or second follow-up episode indicates that they are at higher risk of significant cervical abnormality are referred for colposcopy.

In 2022, there were four groups of participants aged 25–74 who, as a result of their screening episode, first follow-up episode, or second follow-up episode result, were considered higher risk. These were:

- participants whose primary screening HPV test result was oncogenic HPV 16/18
- participants whose primary screening HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality
- participants whose first follow-up HPV test result was oncogenic HPV 16/18 or whose first follow-up HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality
- participants whose second follow-up HPV test result was any HPV.

The colposcopy rate of these four groups was calculated as the proportion of participants who had a colposcopy within 3 months (Table 3.12.1).

Table 3.12.1: Colposcopy rate, by screening or follow-up result, participants aged 25–74, 2022

Screening or follow-up result	Number of colposcopies	Colposcopy rate (%)
Primary screening test HPV 16/18 + any LBC	5,609	62.4
Primary screening test HPV (not 16/18) + high-grade/glandular LBC	1,534	74.9
First follow-up test HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/glandular LBC	909	74.1
Second follow-up test any HPV + any LBC	5,297	51.9
Total	**13,349**	**59.4**

Note: Participants whose first follow-up HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a negative or low-grade are managed as higher risk instead of intermediate risk if they are 2 or more years overdue for screening, identify as Aboriginal and/or Torres Strait Islander, or aged 50 or over, but as noted in the data considerations, higher risk is based on test results without considering characteristics of the participants, so these participants are not included in the first follow-up group.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Participants whose primary screening HPV test detected oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality had the highest colposcopy rate, with 74.9% of these participants having a colposcopy within 3 months.

This was closely followed by participants whose first follow-up HPV test detected oncogenic HPV 16/18 or whose first follow-up HPV test detected oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality, with 74.1% of these participants having a colposcopy within 3 months.

The next highest colposcopy rate was for participants whose primary screening HPV test detected oncogenic HPV 16/18, of whom 62.4% had a colposcopy within 3 months.

The lowest colposcopy rate was for participants whose second follow-up HPV test detected any oncogenic HPV, at 51.9%.

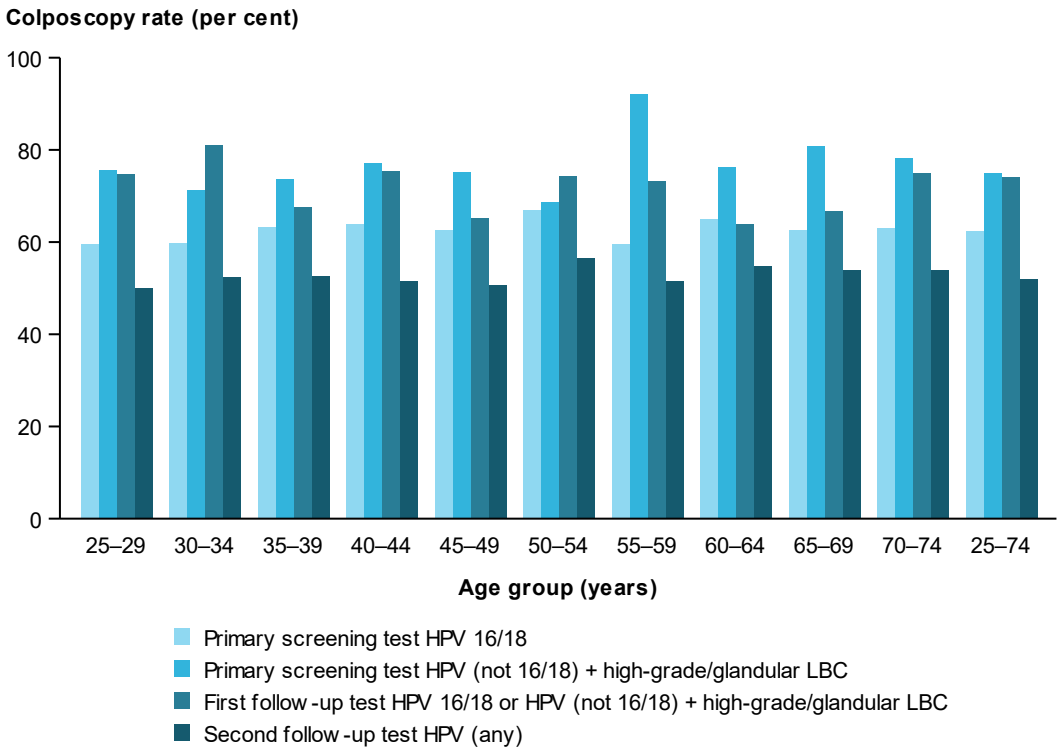
The total colposcopy rate for all participants referred for colposcopy combined was 59.4%.

Colposcopy rate by age

The colposcopy rate is shown by age for each of the four groups of participants referred for colposcopy in Figure 3.12.1.

There are no clear age trends in colposcopy rates across the four groups, with the colposcopy rate generally similar across age groups within each group of higher-risk participants.

Figure 3.12.1: Colposcopy rate, by screening or follow-up result, by age, 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A12.1.

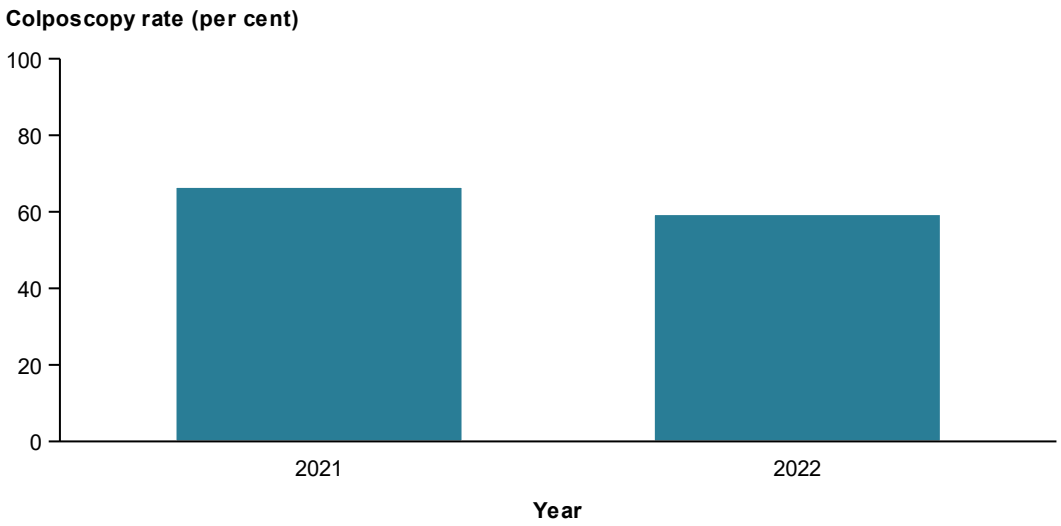
Colposcopy rate trends

The colposcopy rate for higher risk participants decreased from 66.5% in 2021 to 59.4% of participants having a colposcopy within 3 months in 2022 (Figure 3.12.2).

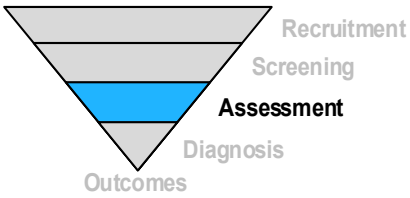
Between 2021 and 2022:

- the colposcopy rate decreased from 64.6% to 62.4% for participants whose primary screening HPV test result was oncogenic HPV 16/18
- the colposcopy rate decreased from 77.0% to 74.9% for participants whose primary screening HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality
- the colposcopy rate remained at 74% for participants whose first follow-up HPV test result was oncogenic HPV 16/18 or whose first follow-up HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality
- the colposcopy rate decreased from 57.4% to 51.9% for participants whose second follow-up HPV test result was any HPV.

Figure 3.12.2: Colposcopy rate, by year, participants aged 25–74, 2021 to 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A12.3.



Performance Indicator 13: Time to colposcopy

Summary time to colposcopy data

For participants aged 25–74 who were referred for colposcopy in 2022, the median time to colposcopy was 65 days.

Definition:

Participants aged 25–74 who have a screening or follow-up episode result that places them at higher risk of significant cervical abnormality, the time between the screening or follow-up result and colposcopy, measured as median and 90th percentile values, as well as within specified timeframes.

Rationale:

Participants who receive a screening episode result or follow-up episode result that places them at higher risk of significant cervical abnormality will be referred to colposcopy. The recommended timeframes in which they should undergo colposcopic assessment is as per the NCSP Guidelines (Cancer Council Australia and Cervical Cancer Screening Guidelines Working Party). Monitoring actual time between screening result or follow-up result and colposcopy provides important information as to whether participants are receiving timely assessment, as delay in assessment may lead to poorer outcomes.

Data considerations:

Colposcopy is the examination of the cervix using a magnifying instrument called a colposcope, and is the first step in the assessment stage of the screening pathway.

Prior to 1 February 2021, only one follow-up HPV test was performed 12 months following an intermediate risk primary screening episode, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected). Since 1 February 2021, if the first follow-up HPV test detects oncogenic HPV (not 16/18) and the reflex LBC is negative or low-grade, then the participant remains at intermediate risk, and a second follow-up HPV test is performed 12 months after the first, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected).

This means that some participants who would have previously been considered higher risk and included in these data are now considered intermediate risk and not included.

In the screening pathway, characteristics of participants including age, screening history, and Indigenous status can result in a participant with an intermediate risk follow-up episode being managed as higher risk instead of intermediate risk. However, this indicator looks only at time to colposcopy after higher risk results based on the HPV test result and, where indicated, the LBC test result, without considering characteristics of the participants. The result of this is that there are some first follow-up screening episodes where the participant will instead be managed as higher risk due to their age, screening history, or Indigenous status that are not included in these data.

Time to colposcopy is calculated from the date the test was performed, not the date the participant received a referral to colposcopy. This means the reported time to colposcopy is likely higher than if date of referral to colposcopy was used instead of date of test.

Guide to interpretation:

A shorter time to colposcopy is better.

The change in the screening pathway for intermediate risk participants from 1 February 2021 means comparisons with years prior to 2021 should not be made.

This performance indicator is based on primary screening tests performed in 2022. This allows 12 months to 31 December 2023 to calculate time to colposcopy, and a further 6 months to 30 June 2024 to ensure that colposcopy and histology data to 31 December 2023 are complete.

Results

Time to colposcopy was calculated for the same four groups of participants aged 25–74 for whom a colposcopy rate was calculated.

The median time to colposcopy for each group is shown in Table 3.13.1.

The median time to colposcopy was:

- 61 days for participants whose primary screening test detected oncogenic HPV 16/18
- 49 days for participants whose primary screening test detected oncogenic HPV (not 16/18) and whose LBC test result was a high-grade squamous or any glandular abnormality
- 48 days for participants whose first follow-up HPV test detected oncogenic HPV 16/18 or whose first follow-up HPV test detected oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality
- 79 days for participants whose second follow-up test detected any oncogenic HPV.

The lowest median time to colposcopy was observed in participants who had an LBC that confirmed a high-grade abnormality. This aligns with the clinical guidelines, in which the recommended time to colposcopy is driven by the LBC result (for example, within 2 weeks for an LBC test result that indicates that cancer is present, and within 8 weeks for an LBC test result that indicates that a high-grade squamous abnormality is present).

Table 3.13.1: Time to colposcopy, by screening or follow-up result, participants aged 25–74, 2022

Screening or follow-up result	Median (days)	90th percentile
Primary screening test HPV 16/18 + any LBC	61	222
Primary screening test HPV (not 16/18) + high-grade/glandular LBC	49	152
First follow-up test HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/glandular LBC	48	147
Second follow-up test any HPV + any LBC	79	290
Total	**65**	**241**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Time to colposcopy as proportion who had a colposcopy within 26 weeks

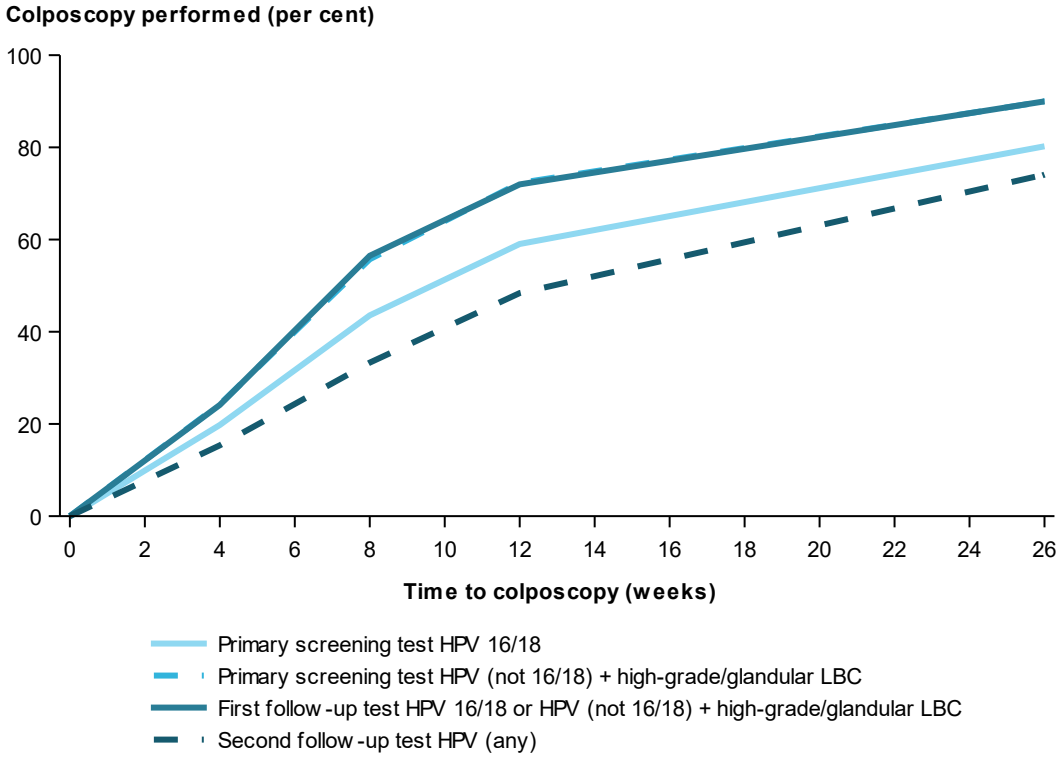
Time to colposcopy was also calculated as the proportion of participants who had a colposcopy within 4 weeks, 8 weeks, 12 weeks, and 26 weeks (Figure 3.13.1).

At 26 weeks after their higher risk screening episode or follow-up episode:

- 80.2% of participants whose primary screening test detected oncogenic HPV 16/18 had a colposcopy
- 89.9% of participants whose primary screening test detected oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality had a colposcopy
- 90.0% of participants whose first follow-up HPV test result was oncogenic HPV 16/18 or whose first follow-up HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality had a colposcopy
- 74.1% of participants whose second follow-up HPV test result was any HPV had a colposcopy.

Overall, 78.9% of participants aged 25–74 whose screening or follow-up test result in 2022 indicated that they should attend colposcopy had a colposcopy within 26 weeks of their screening or follow-up test.

Figure 3.13.1: Proportion of participants who had a colposcopy within 4 weeks, 8 weeks, 12 weeks, and 26 weeks, by screening or follow-up result, participants aged 25–74, 2022



Note: Data are almost identical for Primary screening test HPV (not 16/18) + high-grade/glandular LBC and First follow-up test HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/glandular LBC, so it is difficult to distinguish between these two lines in the figure.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure available in Table A13.1.

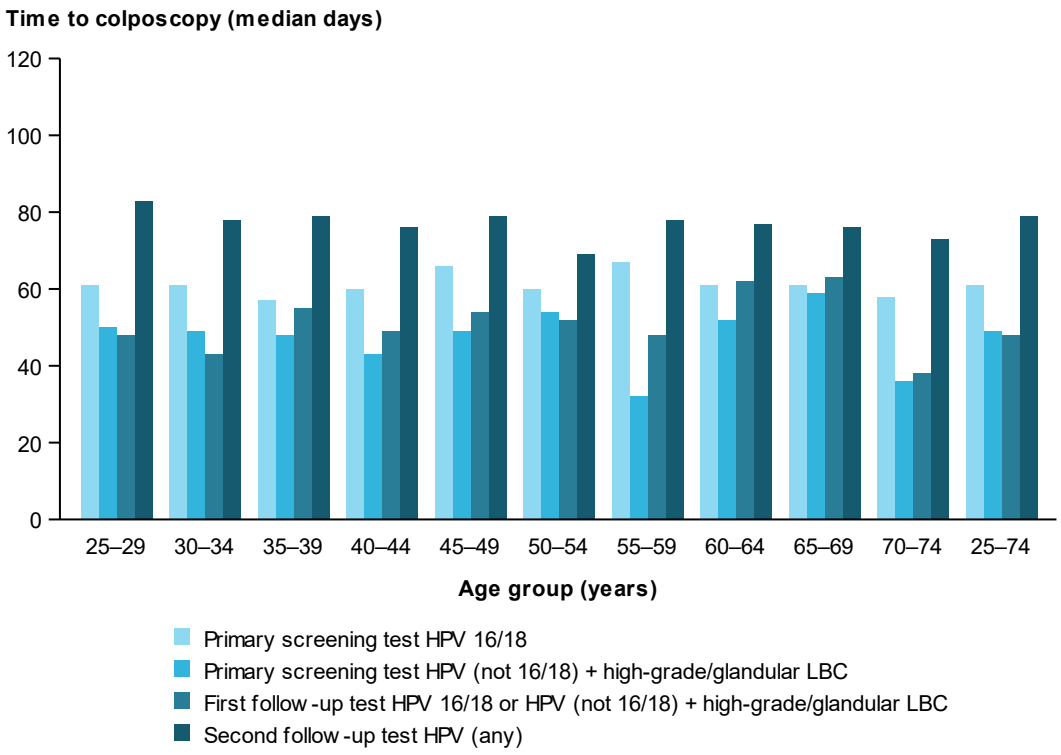
Time to colposcopy by age

The median number of days to colposcopy is shown by age for each of the four groups of participants referred for colposcopy in Figure 3.13.2.

Median number of days to colposcopy was highest for all age groups for participants whose second follow-up HPV test result was any HPV.

There are no clear age trends in the median number of days to colposcopy across the four groups of higher risk participants.

Figure 3.13.2: Time to colposcopy, by screening or follow-up result, by age, 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure available in Table A13.2.

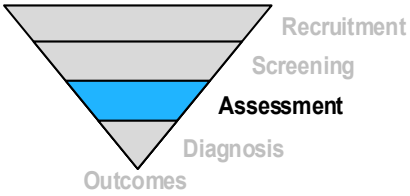
Time to colposcopy trends

The median time to colposcopy for higher risk participants increased from 55 days in 2021 to 65 days in 2022 (Table 3.13.2). This increase is in line with the decrease in colposcopy rate.

Table 3.13.2: Time to colposcopy, by screening or follow-up result, participants aged 25–74, 2021 and 2022

Screening or follow-up result	2021	2022
	Median (days)	
Primary screening test HPV 16/18 + any LBC	58	61
Primary screening test HPV (not 16/18) + high-grade/glandular LBC	43	49
First follow-up test HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/glandular LBC	49	48
Second follow-up test any HPV + any LBC	67	79
Total	55	65

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).



Performance Indicator 14: Biopsy rate

Summary biopsy rate data

A biopsy was reported to have been performed in 40.2% of reported colposcopies for participants aged 25–74 in 2023.

Definition:

Percentage of colposcopies in participants aged 25–74 in which a biopsy was performed in a calendar year.

Rationale:

Although there are reasons why a biopsy would not be performed at colposcopy, a lower than expected biopsy rate would require further investigation.

Data considerations:

Colposcopy data in the NCSR come from several sources. One source is the colposcopy form, which includes information on the colposcopy itself including whether a biopsy was performed, as well as treatment details. While colposcopy data are also sourced from MBS, this level of information is not available for colposcopies for which MBS is the only data source. Therefore, biopsy rate is calculated using only colposcopies for which the source of data is a colposcopy form. Consequently, the biopsy rate may not be an accurate reflection of the true biopsy rate for the NCSP.

Results

In 2023, there were 83,404 colposcopies performed for participants aged 25–74 as indicated by a completed colposcopy form. A biopsy was reported to have been performed at 33,564 (40.2%) of these colposcopies.

To better understand why a biopsy may or may not be performed, the biopsy rate is shown according to indication for colposcopy (reason why colposcopy performed) (Table 3.14.1) and colposcopy impression (impression of colposcopist at time of colposcopy) (Table 3.14.2).

From these tables it can be seen that the reason why a participant was referred to colposcopy had an influence on whether a biopsy was performed, with an indication for colposcopy of 'New patient with abnormal cervical screening result' having the highest biopsy rate of 48.6%, followed by an indication for colposcopy of 'Abnormal appearance of cervix' at 47.1% (Table 3.14.1).

The colposcopy impression also had a major influence, with a biopsy much more likely to be performed where the colposcopist identified an abnormality. The biopsy rate was 85.5% for LSIL (squamous low-grade abnormality), 73.6% for HSIL (squamous high-grade abnormality), 61.4% for a glandular abnormality, and 85.2% for cancer (Table 3.14.2).

Table 3.14.1: Biopsy rate, by indication for colposcopy, participants aged 25–74, 2023

Indication for colposcopy	Number	Biopsy rate (%)
Not performed	n.p.	n.p.
New patient with abnormal cervical screening result	19,815	48.6
Follow-up of patient with previous abnormal cervical screening result	8,238	33.3
Symptomatic	2,818	35.8
Abnormal appearance of cervix	878	47.1
At time of treatment	567	18.5
Other	611	18.4
Missing	n.p.	n.p.
Total	**33,564**	**40.2**

Note: There are a small number of colposcopies for which the Indication for colposcopy was incorrectly assigned to 'Not performed'.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 3.14.2: Biopsy rate, by colposcopy impression, participants aged 25–74, 2023

Colposcopy impression	Number	Biopsy rate (%)
Normal	2,599	9.5
No Visible Lesion	1,913	10.8
LSIL	18,671	85.5
HSIL	6,482	73.6
Glandular Abnormality (adenocarcinoma in situ)	97	61.4
Cancer	155	85.2
Other	2,624	52.0
Missing	1,023	43.0
Total	**33,564**	**40.2**

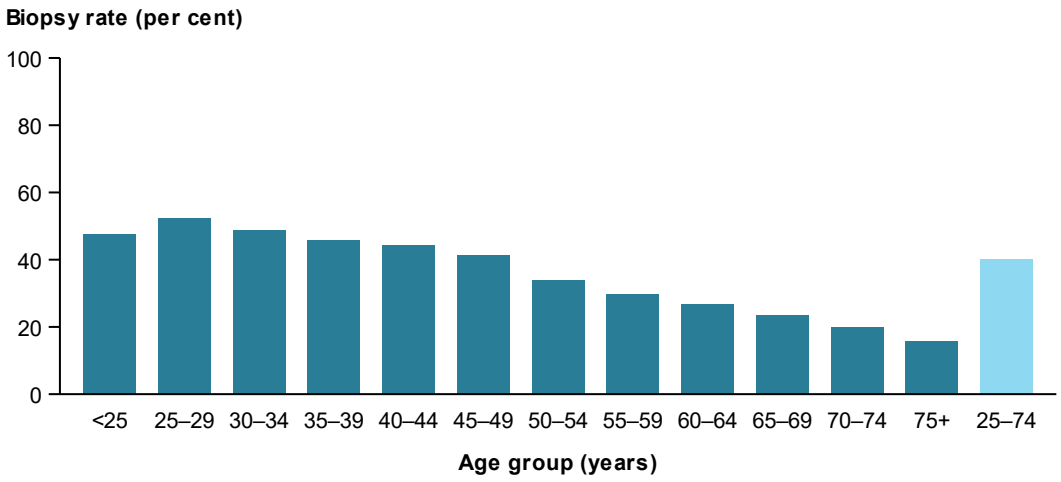
Note: LSIL = low-grade squamous intraepithelial lesion (low-grade abnormality); HSIL = high-grade squamous intraepithelial lesion (high-grade abnormality)

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Biopsy rate by age

Age also affected whether a biopsy was performed at colposcopy, with a biopsy more likely at colposcopies performed for younger participants (highest at 52.4% for participants aged 25–29), thereafter decreasing with increasing age (Figure 3.14.1).

Figure 3.14.1: Biopsy rate, by age, 2023

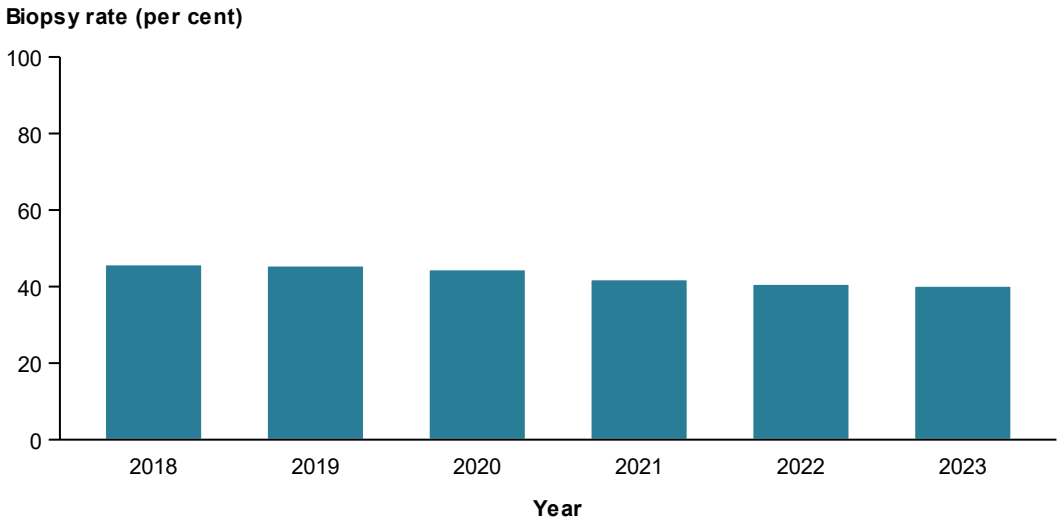


Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A14.1.

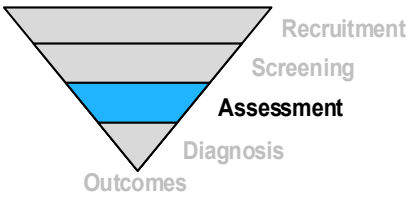
Biopsy rate trends

The proportion of colposcopies at which a biopsy was performed has decreased over time, from 45.8% in 2018, to 45.5% in 2019, to 44.5% in 2020, to 41.9% in 2021, to 40.7% in 2022, and to 40.2% in 2023 (Figure 3.14.2).

Figure 3.14.2: Biopsy rate, by year, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A14.3.



Performance Indicator 15: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results

Summary data on yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results

Of the participants aged 25–74 who had a colposcopy in 2022 following a higher risk screening or follow-up result, 25.6% had a high-grade abnormality or cervical cancer detected on histology within 6 months of the colposcopy.

Definition:

Percentage of participants aged 25–74 with a higher risk screening or follow-up episode result who had a colposcopy in a calendar year who were diagnosed with a high-grade abnormality or cervical cancer on histology within 6 months of colposcopy.

Rationale:

As participants who are referred to colposcopy are at higher risk of significant cervical abnormality, it is expected that a proportion of these will be diagnosed with a high-grade abnormality or cervical cancer. This indicator can be used as a measure of the accuracy of colposcopy in identifying and sampling a high-grade abnormality or cervical cancer that is present.

Data considerations:

Colposcopy data in the NCSR come from several sources. One source is the colposcopy form, which includes information on the colposcopy itself. While colposcopy data are also sourced from MBS, this level of information is not available for colposcopies for which MBS is the only data source. Therefore, the yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results is calculated using only colposcopies for which the source of data is a colposcopy form.

Prior to 1 February 2021, only one follow-up HPV test was performed 12 months following an intermediate risk primary screening episode, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected). Since 1 February 2021, if the follow-up HPV test detects oncogenic HPV (not 16/18) and the reflex LBC is negative or low-grade, then the participant remains at intermediate risk, and a second follow-up HPV test is performed 12 months after the first, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected).

This means that some participants who would have previously been considered higher risk and included in these data are now considered intermediate risk and not included.

In the screening pathway, characteristics of participants including age, screening history, and Indigenous status can result in a participant with an intermediate risk follow-up episode being

managed as higher risk instead of intermediate risk. However, this indicator looks only at yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk results based on the HPV test result and, where indicated, the LBC test result, without considering characteristics of the participants. The result of this is that there are some first follow-up screening episodes where the participant will instead be managed as higher risk due to their age, screening history, or Indigenous status that are not included in these data.

The change in the screening pathway for intermediate risk participants from 1 February 2021 means comparisons with years prior to 2021 should not be made.

> This performance indicator is based on colposcopies performed in 2022. This allows 6 months to 30 June 2023 to know if they were diagnosed with a high-grade abnormality or cervical cancer within 6 months, and a further 6 months to 31 December 2023 to ensure that histology data to 30 June 2023 are complete.

Results

The yield of high-grade abnormalities on biopsy includes all colposcopies performed after a higher risk screening or follow-up test. Of the participants aged 25–74 who had a colposcopy in 2022 following a higher risk screening or follow-up result, 25.6% had a high-grade abnormality or cervical cancer detected on histology within 6 months of the colposcopy.

This differed according to the higher risk screening or follow-up result that preceded the colposcopy. The yield of high-grade abnormalities on biopsy was highest for participants whose primary screening HPV test detected oncogenic HPV (not 16/18) and whose LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality at 62.8%.

The yield of high-grade abnormalities on biopsy was next highest for participants whose first follow-up HPV test detected oncogenic HPV 16/18 or whose first follow-up HPV test detected oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality at 48.0%.

The yield of high-grade abnormalities on biopsy was lower for participants whose primary screening HPV test detected HPV 16/18 at 22.2% and participants whose second follow-up HPV test detected any oncogenic HPV at 13.4% (Table 3.15.1).

Table 3.15.1: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results, by screening or follow-up result, participants aged 25–74, 2022

Screening or follow-up result	Number	Yield (%)
Primary screening test HPV 16/18 + any LBC	1,672	22.2
Primary screening test HPV (not 16/18) + high-grade/glandular LBC	1,289	62.8
First follow-up test HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/glandular LBC	569	48.0
Second follow-up test any HPV + any LBC	851	13.4
Total	**4,381**	**25.6**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

These results demonstrate that the LBC test result when oncogenic HPV is detected is likely to affect the yield of high-grade abnormalities on biopsy. This is shown in Table 3.15.2, with the yield of high-grade abnormalities on biopsy for each squamous and endocervical LBC result from the higher risk screening or follow-up test that preceded the colposcopy shown. Yield was found to increase with increasing severity of abnormality, and was highest at 87.9% for LBC results of squamous cell carcinoma, and 91.1% for LBC results of adenocarcinoma in situ or adenocarcinoma (Table 3.15.2).

Table 3.15.2: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results, by LBC result, participants aged 25–74, 2022

LBC test result	Number	Yield (%)
S1 negative	460	6.3
S2 possible low-grade squamous intraepithelial lesion	229	11.6
S3 low-grade squamous intraepithelial lesion	366	17.2
S4 possible high-grade squamous intraepithelial lesion	1,417	53.0
S5 high-grade squamous intraepithelial lesion	1,556	77.5
S6 or S7 high-grade squamous intraepithelial lesion with possible invasion or squamous cell carcinoma	102	87.9
E2 atypical endocervical cells of uncertain significance	57	51.4
E3 possible high-grade endocervical glandular lesion	37	74.0
E4, E5, or E6 adenocarcinoma in situ, adenocarcinoma in situ with possible invasion, or adenocarcinoma	51	91.1

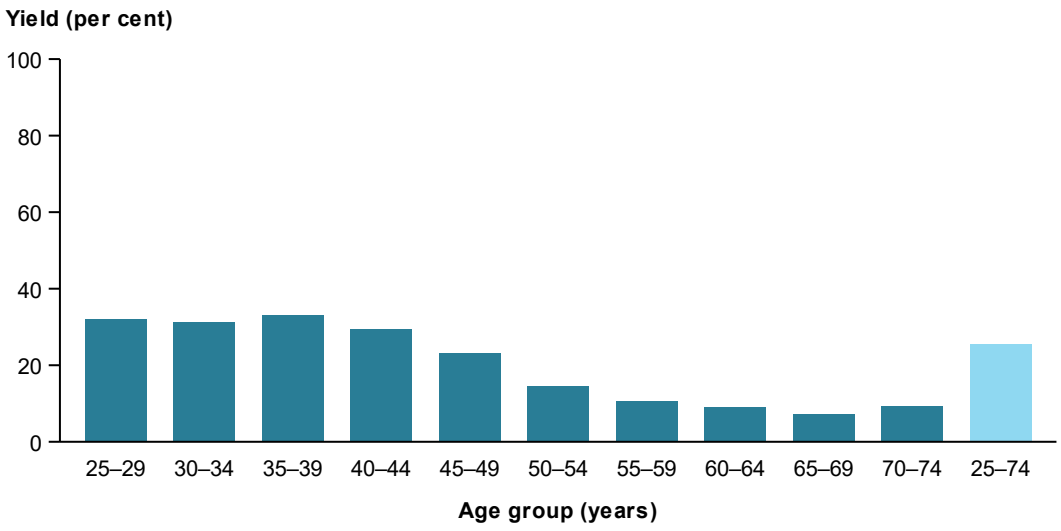
Note: This table includes each squamous and endocervical result in isolation, not as a pair, so where there is a high-grade abnormality or cervical cancer within 6 months of a negative squamous result, there may have been a glandular abnormality in the endocervical result.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Yield of high-grade abnormalities by age

The yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results is shown by age in Figure 3.15.1. This was above 30% for younger participants, dropping for participants aged 45 and over to reach a low of 7.2% for participants aged 65–69.

Figure 3.15.1: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results, by age, 2022

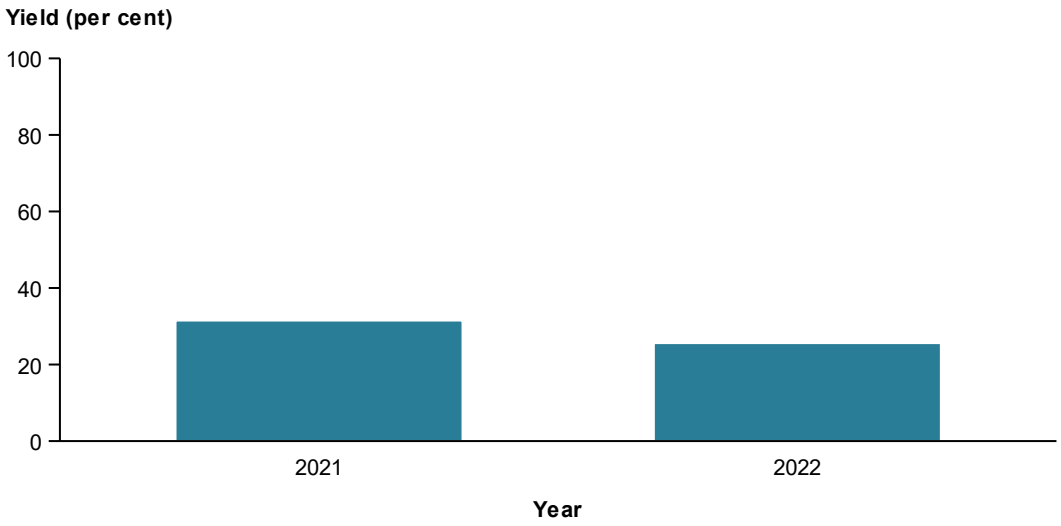


Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A15.1.

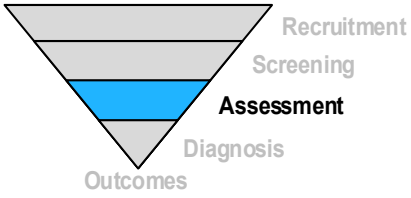
Yield of high-grade abnormalities trends

The yield of high-grade abnormalities on biopsy among participants aged 25–74 who attend colposcopy after higher risk screening results decreased from 31.5% in 2021 to 25.6% in 2022 (Figure 3.15.2).

Figure 3.15.2: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results, by year, participants aged 25–74, 2021 to 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A15.2.



Performance Indicator 16: Positive predictive value of colposcopy

Summary positive predictive value of colposcopy data

The positive predictive value of colposcopies performed in 2022 for participants aged 25–74 was 70.4%.

Definition:

Percentage of participants aged 25–74 with a higher risk screening or follow-up episode result who had a colposcopic impression of HSIL, glandular abnormality (adenocarcinoma in situ) or cancer in a calendar year who were diagnosed with a high-grade abnormality or cervical cancer on histology within 6 months of colposcopy.

Rationale:

This indicator correlates the colposcopic impression with histological findings to determine the predictive value of colposcopy for high-grade cervical abnormalities. This is an important measure of the quality of colposcopy.

Data considerations:

Colposcopy data in the NCSR come from several sources. One source is the colposcopy form, which includes information on the colposcopy itself and colposcopic impression. While colposcopy data are also sourced from MBS, this level of information is not available for colposcopies for which MBS is the only data source. Therefore, the positive predictive value of colposcopy is calculated using only colposcopies for which the source of data is a colposcopy form.

Prior to 1 February 2021, only one follow-up HPV test was performed 12 months following an intermediate risk primary screening episode, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected). Since 1 February 2021, if the first follow-up HPV test detects oncogenic HPV (not 16/18) and the reflex LBC is negative or low-grade, then the participant remains at intermediate risk, and a second follow-up HPV test is performed 12 months after the first, with the participant deemed to be either low risk (no oncogenic HPV detected) or higher risk (any oncogenic HPV detected).

This means that some participants who would have previously been considered higher risk and included in these data are now considered intermediate risk and not included.

In the screening pathway, characteristics of participants including age, screening history, and Indigenous status can result in a participant with an intermediate risk follow-up episode being managed as higher risk instead of intermediate risk. However, this indicator looks only at positive predictive value of colposcopy after higher risk results based on the HPV test result and, where indicated, the LBC test result, without considering characteristics of the participants. The result of this is that there are some first follow-up screening episodes where the participant will instead be managed as higher risk due to their age, screening history, or Indigenous status that are not included in these data.

The change in the screening pathway for intermediate risk participants from 1 February 2021 means comparisons with years prior to 2021 should not be made.

This performance indicator is based on colposcopies performed in 2022. This allows 6 months to 30 June 2023 to know if they were diagnosed with a high-grade abnormality or cervical cancer within 6 months, and a further 6 months to 31 December 2023 to ensure that histology data to 30 June 2023 are complete.

Results

The positive predictive value of colposcopy includes all colposcopies performed after a higher risk screening or follow-up test with a colposcopic impression of high-grade abnormality or cervical cancer.

Of the participants aged 25–74 who had a colposcopy in 2022 with a colposcopic impression of high-grade abnormality or cervical cancer following a higher risk screening or follow-up test, 70.4% had a high-grade abnormality or cervical cancer detected on histology within 6 months of the colposcopy. This is the positive predictive value of colposcopy.

This differed according to the higher risk screening or follow-up result that preceded the colposcopy. The positive predictive value of colposcopy was highest for participants whose primary screening HPV test detected oncogenic HPV (not 16/18) and whose LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality at 77.2%.

The positive predictive value of colposcopy was next highest for participants whose first follow-up HPV test detected oncogenic HPV 16/18 or whose first follow-up HPV test detected oncogenic HPV (not 16/18) and whose reflex LBC test result was a high-grade squamous abnormality, squamous cell carcinoma, or a glandular abnormality at 70.9% and participants whose primary screening HPV test detected HPV 16/18 at 70.8%.

The positive predictive value of colposcopy was lower for participants whose second follow-up HPV test detected any oncogenic HPV at 56.8% (Table 3.16.1).

Table 3.16.1: Positive predictive value of colposcopy, by screening or follow-up test result, participants aged 25–74, 2022

Screening or follow-up test result	Number	Positive predictive value (%)
Primary screening test HPV 16/18 + any LBC	758	70.8
Primary screening test HPV (not 16/18) + high-grade/glandular LBC	740	77.2
First follow-up test HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/glandular LBC	290	70.9
Second follow-up test any HPV + any LBC	290	56.8
Total	**2,078**	**70.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

The positive predictive value of colposcopy for each squamous and endocervical LBC result from the higher risk screening or follow-up test that preceded the colposcopy was also calculated. Positive predictive value of colposcopy was found to increase with increasing severity of abnormality, and was highest at 98.0% for LBC results of squamous cell carcinoma, and 88.9% for LBC results of adenocarcinoma in situ or adenocarcinoma (Table 3.16.2).

Table 3.16.2: Positive predictive value of colposcopy, by LBC result, participants aged 25–74, 2022

LBC test result	Number	Positive predictive value (%)
S1 negative	107	36.4
S2 possible low-grade squamous intraepithelial lesion	56	46.3
S3 low-grade squamous intraepithelial lesion	93	55.4
S4 possible high-grade squamous intraepithelial lesion	723	70.3
S5 high-grade squamous intraepithelial lesion	944	83.4
S6 or S7 high-grade squamous intraepithelial lesion with possible invasion or squamous cell carcinoma	49	98.0
E2 atypical endocervical cells of uncertain significance	25	69.4
E3 possible high-grade endocervical glandular lesion	17	77.3
E4, E5, or E6 adenocarcinoma in situ, adenocarcinoma in situ with possible invasion, or adenocarcinoma	24	88.9

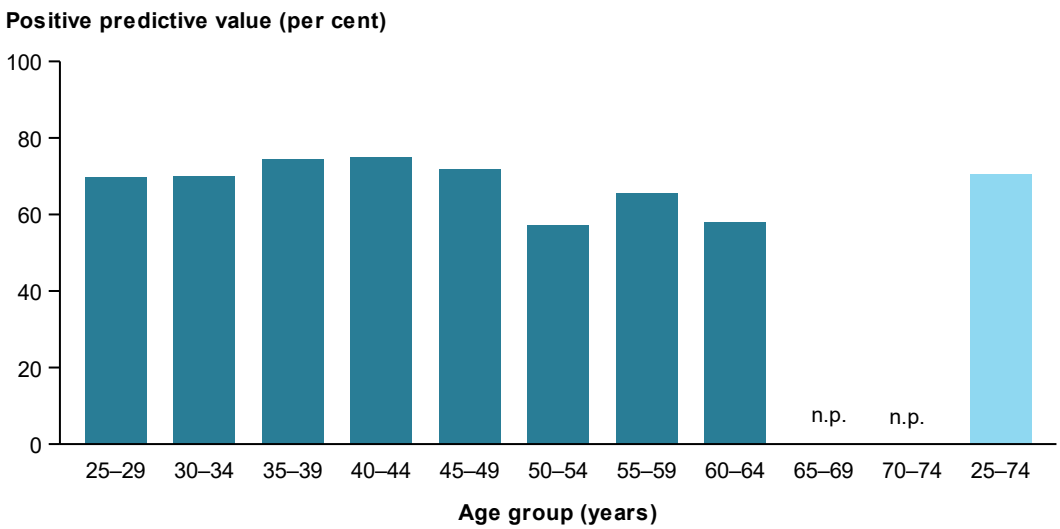
Note: This table includes each squamous and endocervical result in isolation, not as a pair, so where there is a high-grade abnormality or cervical cancer within 6 months of a negative squamous result, there may have been a glandular abnormality in the endocervical result.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Positive predictive value of colposcopy by age

The positive predictive value of colposcopy is shown by age in Figure 3.16.1. This tended to be higher in participants aged under 50 and lower for those aged 50 years and over.

Figure 3.16.1: Positive predictive value of colposcopy, by age, 2022

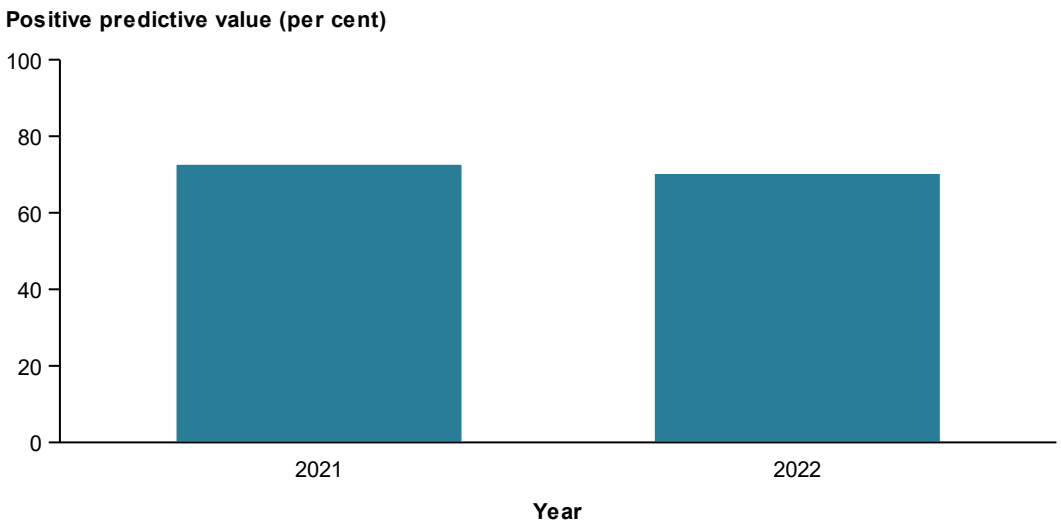


Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A16.1.

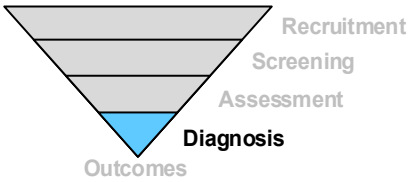
Positive predictive value of colposcopy trends

The positive predictive value of colposcopy decreased from 72.8% in 2021 to 70.4% in 2022 (Figure 3.16.2).

Figure 3.16.2: Positive predictive value of colposcopy, by year, participants aged 25–74, 2021 to 2022



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A16.2.



Diagnosis

Performance Indicator 17a: High-grade cervical abnormality detection rate

Summary high-grade cervical abnormality detection rate data

In 2023, there were 7.8 participants aged 25–74 with a high-grade abnormality detected by histology per 1,000 participants screened.

Definition:

Number of participants aged 25–74 with a high-grade abnormality detected on histology in a calendar year per 1,000 participants screened.

Rationale:

The detection of high-grade abnormalities is an indicator of program performance. High-grade abnormalities have a greater probability of progressing to invasive cancer than do low-grade lesions. Detection of high-grade abnormalities provides an opportunity for treatment before cancer can develop, thus the NCSP aims to detect high-grade abnormalities in line with its broader aim to reduce the incidence of cervical cancer.

Data considerations:

The high-grade cervical abnormality detection rate does not use a cohort method. The participants who have a high-grade abnormality detected on histology (numerator) and the participants who have screened (denominator) are not necessarily the same participants. This may differ from the high-grade abnormality rate calculated by others who may restrict data to screening tests and high-grade histology tests that occur as a result of these screening tests.

This performance indicator is restricted to histology tests notified by pathology laboratories. The NCSR also includes MBS histology data, but as these do not include a result, they are not included in these data.

This performance indicator is a count of participants, not tests. Where a participant has more than one high-grade abnormality detected, the most serious is counted. Where a participant has more than one high-grade abnormality of equal seriousness, the most recent is counted.

This performance indicator is based on histology performed in 2023. This allows 6 months to 30 June 2024 to ensure that histology data to 31 December 2023 are complete.

High-grade abnormalities are the result of persistent infection with an oncogenic HPV type. Oncogenic HPV types integrate their DNA into the host genome, which is why these are associated with oncogenic changes to the cells of the cervix (Chhieng & Hui 2011).

As they are potential precursors to cervical cancer, detection of high-grade abnormalities through cervical screening provides an opportunity for treatment before cancer can develop.

Detection of high-grade abnormalities is by histology, which is the primary diagnostic tool of the NCSP. Confirmation of disease is required before treatment is initiated, both to ensure treatment is appropriate and to avoid unnecessary treatment where disease is not present (in Australia it is considered best practice to confirm high-grade disease with histology before treatment (NHMRC 2005)).

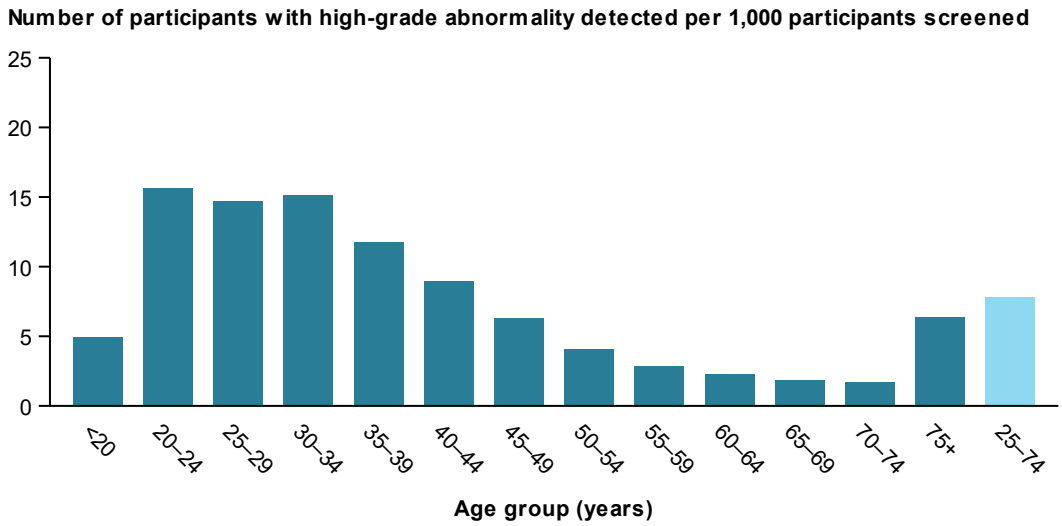
Results

In 2023, a high-grade cervical abnormality was detected by histology in 12,202 participants aged 25–74, which equates to 7.8 participants with a high-grade cervical abnormality detected per 1,000 participants screened. This means that for every 1,000 participants screened, 8 had a high-grade cervical abnormality detected, providing an opportunity for treatment before possible progression to cervical cancer.

High-grade cervical abnormality detection rate by age

The high-grade cervical abnormality detection rate was highest for participants aged 20–24, 25–29, and 30–34 at around 15 per 1,000 participants screened (15.6, 14.7, and 15.1 respectively). Thereafter the high-grade abnormality detection rate decreased with increasing age to reach a low of 1.7 participants with a high-grade cervical abnormality detected per 1,000 participants screened for those aged 70–74 (Figure 3.17.1).

Figure 3.17.1: High-grade cervical abnormality detection rate, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A17.1.

High-grade cervical abnormality detection by histological type

High-grade abnormalities of the cervix include squamous cell abnormalities of moderate grade (CIN 2) and severe grade (CIN 3), as well as cervical intraepithelial neoplasia (CIN) for which the grade has not been specified.

High-grade abnormalities of the cervix also include endocervical high-grade abnormalities. These are much rarer and include endocervical dysplasia and adenocarcinoma in situ (AIS).

The histological types of high-grade abnormalities included in the high-grade cervical abnormality detection rate were examined (noting that if a participant had more than one high-grade cervical abnormality detected, the most serious abnormality was included).

Data for the target age group 25–74 are summarised in Table 3.17.1.

CIN 3 was present in more than half (58.5%) of the participants in whom a high-grade cervical abnormality was detected, with CIN 2 the next most common abnormality, present in 31.7% of the participants in whom a high-grade cervical abnormality was detected.

As expected, endocervical abnormalities were rarer. The most common of these, adenocarcinoma in situ, was found in 3.4% of the participants in whom a high-grade cervical abnormality was detected.

Table 3.17.1: Number of participants with high-grade cervical abnormality detected, by histological type, participants aged 25–74, 2023

	CIN NOS	CIN2	CIN3	Endocervical dysplasia	AIS
Number	747	3,865	7,143	29	418
%	6.1	31.7	58.5	0.2	3.4

Note: CIN = cervical intraepithelial neoplasia; AIS = adenocarcinoma in situ; NOS = not otherwise specified.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data by 5-year age groups are available in Table A17.2.

High-grade cervical abnormality detection by screening history

To understand the impact of screening history, high-grade cervical abnormality detection is reported for participants who are recently-screened, under-screened, and never-screened.

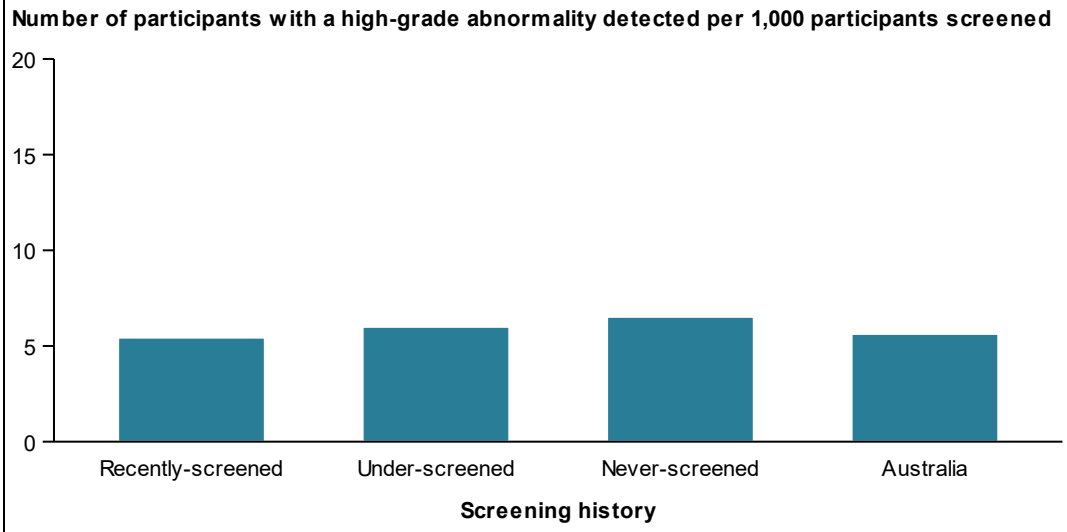
The usual methodology for calculating high-grade cervical abnormality detection cannot be used to look at screening history, because participants with a high-grade histology detected are not a subset of participants screened, and screening history is based on the date of screen. Therefore a cohort approach to calculate high-grade cervical abnormality detection is instead used so that the oncogenic HPV test that preceded the high-grade histology can be used to assign participants as recently-screened (previous screen was in the last 6 years), under-screened (previous screen was more than 6 years ago), or never-screened (no previous screen), at the time of the oncogenic HPV test.

When this cohort approach is used, the high-grade abnormality rate in 2023 for participants aged 25–74 was 5.6 participants with a high-grade cervical abnormality detected per 1,000 participants screened where the high-grade histology occurs within 6 months of the screen (note that it is expected that the cohort methodology would result in a different high-grade abnormality detection rate to the rate produced by the usual methodology).

High-grade cervical abnormality detection by screening history using this cohort approach is shown in Figure 3.17.2 for participants aged 25–74.

High-grade cervical abnormality detection using the cohort approach was lowest for recently-screened participants at 5.4 participants with a high-grade cervical abnormality detected per 1,000 participants screened. High-grade cervical abnormality detection was higher for under-screened participants at 6.0, and highest for never-screened participants at 6.5 participants with a high-grade cervical abnormality detected per 1,000 participants screened.

Figure 3.17.2: High-grade cervical abnormality detection rate, by screening history, participants aged 25–74, 2023



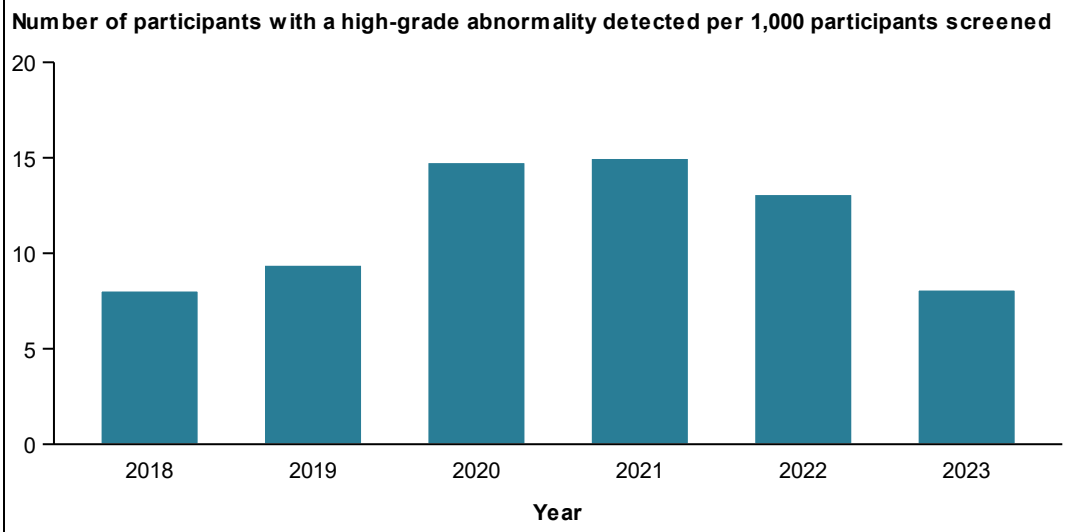
Note: The usual methodology for calculating high-grade cervical abnormality detection cannot be used to look at screening history, therefore a cohort approach to calculate high-grade cervical abnormality detection is instead used so that the oncogenic HPV test that preceded the high-grade histology can be used to assign participants as recently-screened, under-screened, or never-screened at the time of the oncogenic HPV test. Recently-screened is defined as participants whose previous HPV, LBC, or Pap test was in the 6 years prior to their oncogenic HPV test; Under-screened is defined as participants whose previous HPV, LBC, or Pap test was more than 6 years prior to their oncogenic HPV test; Never-screened is defined as participants who had no previous HPV, LBC, or Pap test prior to their oncogenic HPV test.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A17.4.

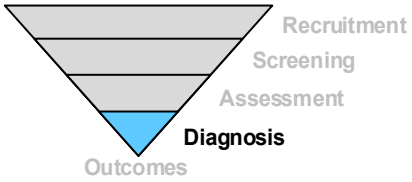
High-grade cervical abnormality detection rate trends

After adjusting for age, the high-grade abnormality rate increased from 8.1 participants with a high-grade cervical abnormality detected by histology per 1,000 participants screened in 2018, to 9.5 in 2019, to 14.8 in 2020, and to 14.9 in 2021. The high-grade cervical abnormality rate then decreased slightly to 13.1 in 2022, before decreasing further to 8.1 participants with a high-grade cervical abnormality detected by histology per 1,000 participants screened in 2023, similar to the high-grade abnormality rate in 2018 (Figure 3.17.3).

Figure 3.17.3: High-grade cervical abnormality detection rate, by year, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A17.5.



Performance Indicator 17b: Cervical cancer detection rate

Summary cervical cancer detection rate data

In 2023, there were 0.5 participants with a cervical cancer detected by histology per 1,000 screened, for participants aged 25–74.

Definition:

Number of participants aged 25–74 with cervical carcinoma detected on histology in a calendar year per 1,000 participants screened.

Rationale:

The cancer detection rate will be measured alongside the high-grade detection rate.

Data considerations:

The cancer detection rate measures cervical cancers detected on histology and included in the NCSR. This is different from cervical cancer incidence that uses data from the Australian Cancer Database, sourced from state and territory cancer registries.

The cervical cancer detection rate includes all cervical cancer histology, and is not restricted to histology that is performed after a primary screening test. Therefore, the denominator for this performance indicator is not restricted to the number of participants who have had a primary screening test, but includes all participants who had an HPV or LBC test for any reason.

This performance indicator is restricted to histology tests notified by pathology laboratories. The NCSR also includes MBS histology data, but as these do not include a result, they are not able to be included in these data.

This performance indicator is a count of participants, not tests. Where a participant has more than one cervical cancer detected, the most serious is counted. Where a participant has more than one cervical cancer of equal seriousness, the most recent is counted.

This performance indicator is based on histology performed in 2023. This allows 6 months to 30 June 2024 to ensure that histology data to 31 December 2023 are complete.

Results

The cervical cancer detection rate is the number of participants with a cervical cancer detected by histology per 1,000 participants screened.

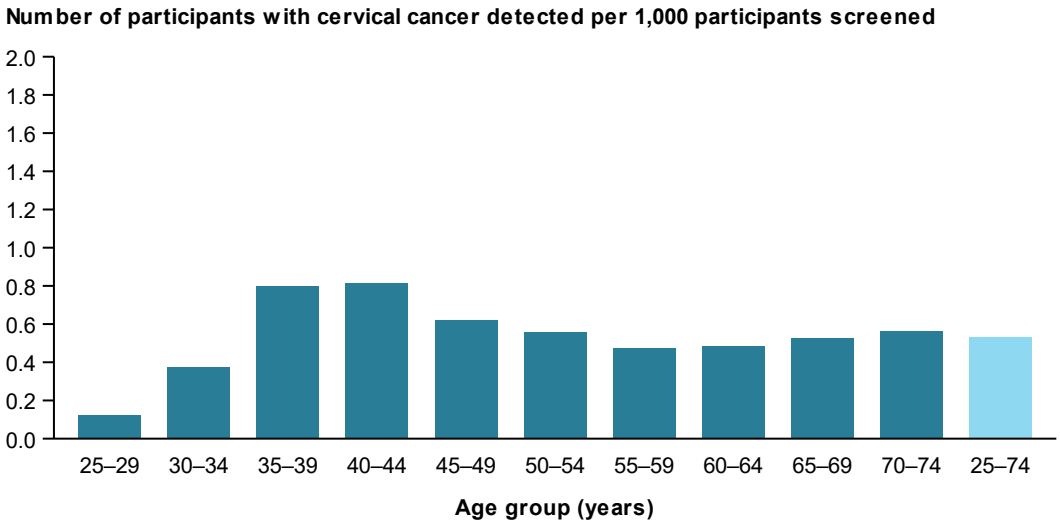
In 2023, a cervical cancer was detected by histology in 835 participants aged 25–74, which equates to 0.5 participants with a cervical cancer detected by histology per 1,000 participants screened. This means that, for every 1,000 participants screened, fewer than one participant had a cervical cancer detected.

The cervical cancer detection rate of 0.5 per 1,000 participants screened is far lower than the high-grade abnormality detection rate of 7.8 participants with a high-grade abnormality detected per 1,000 screened. This reflects that the aim of cervical screening is not to detect cervical cancer, but to prevent it through the detection of high-grade abnormalities.

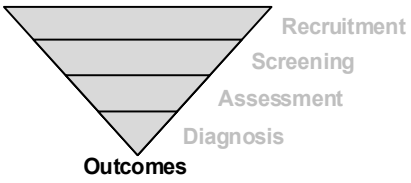
Cervical cancer detection rate by age

The cervical cancer detection rate was very low for participants aged 25–29 and 30–34, at 0.1 and 0.4 participants with cervical cancer detected by histology per 1,000 participants screened, respectively. Thereafter the cervical cancer detection rate was between 0.5 and 0.8 participants with cervical cancer detected by histology per 1,000 participants screened for participants aged between 35–39 and 70–74 (Figure 3.17.4).

Figure 3.17.4: Cervical cancer detection rate, by age, 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table A17.6.



Outcomes

Performance Indicator 18: Cervical cancers diagnosed by time since last screen

Summary data on cervical cancers diagnosed by time since last screen

No data reported for this performance indicator.

Definition:

Number of females aged 25–74 diagnosed with cervical carcinoma in a calendar year categorised into never screened, lapsed screening, and recently screened based on time since last screen.

Rationale:

This is a measure of the burden of disease from a lack of participation in the screening program. Time since last screen is used to categorise all females diagnosed with cervical carcinoma as never screened, lapsed screening, or recently screened. Most cervical carcinomas have historically been diagnosed in those who have never screened, which is evidence of the benefit of participation in cervical screening.

Only cervical carcinomas (cervical cancers of epithelial origin) are included, as cervical cancers not of epithelial origin are not expected to be detected through cervical screening.

Never screened is defined as no record of having had a screening test in Australia prior to cancer diagnosis.

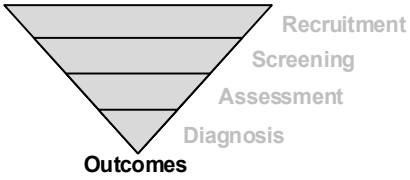
Lapsed screening is defined as last screening test >5.5 and ≤7.5 years, >7.5 and ≤10 years or >10 years prior to cancer diagnosis.

Recently screened is defined as last screening test ≤5.5 years prior to cancer diagnosis.

Data considerations:

Calculation of this performance indicator requires linkage between data from the NCSR and data from the Australian Cancer Database (ACD) and more than 5 years to have passed since the inception of the renewed NCSP to allow this performance indicator to be measured as per the definition.

Data are not yet available to support the reporting of this performance indicator



Performance Indicator 19: Incidence of cervical cancer

Summary cervical cancer incidence data

916 women aged 25–74 were diagnosed with cervical cancer in 2020, which is an incidence rate of 11.4 new cases per 100,000 women.

Definition:

Number of new cases of cervical cancer in females aged 25–74 in a calendar year per 100,000 estimated resident population.

Rationale:

Incidence data provide contextual information about the number of new cases of cervical cancer in the population that is an indicator of program performance against its aim to reduce cervical cancer through organised screening.

Data considerations:

Australia has high-quality and virtually complete cancer incidence data. Collected by state and territory cancer registries, clinical and demographic data for all cancer cases are provided to the AIHW and compiled in the Australian Cancer Database (ACD). Data in this section are sourced from the 2020 version of the ACD.

The 2020 version of the ACD currently contains data on all cases of cancer diagnosed from 1982 to 2020 for all states and territories.

Guide to interpretation:

Lower cervical cancer incidence is better.

Results

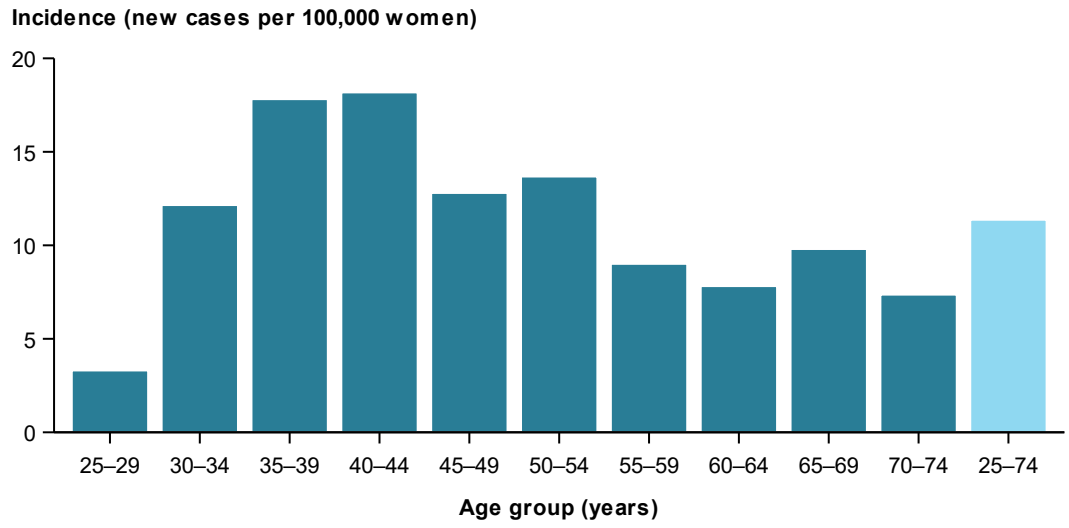
In 2020, there were 982 new cases of cervical cancer diagnosed in women of all ages, which is 7.6 new cases per 100,000 women in the population (7.5 new cases per 100,000 women after adjusting for age to allow comparison over time or across population groups). Of these, 916 new cases of cervical cancer were diagnosed in women aged 25–74 (the target age group of the NCSP), which is equivalent to 11.4 new cases per 100,000 women aged 25–74 (11.8 new cases per 100,000 women aged 25–74 after adjusting for age to allow comparison over time or across population groups).

Incidence by age

Cervical cancer incidence by age is shown in Figure 3.19.1.

In 2020, within the age group 25–74, cervical cancer incidence was lowest for women aged 25–29 at 3.3 new cases per 100,000 women. Incidence peaked for women aged 35–44 at around 18 new cases per 100,000 women, after which incidence fell to below 10 new cases per 100,000 women for women aged 55–74.

Figure 3.19.1: Cervical cancer incidence, by age, 2020



Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table A19.1.

Incidence by histological type

While all cervical cancers share the site code C53 under the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10), there are several histological subtypes within the category of cervical cancer, with clear differences in clinical behaviour (Blomfield and Saville 2008). Histology codes for cancers are collected in the ACD, which allows the analysis of trends in cervical cancer incidence for different histological types.

The histological types presented are based on the histological groupings for cervical cancer set out in Chapter 4 of Cancer incidence in five continents: vol. IX (Curado et al. 2007), with histological types marked by the type of cell in which the cancer originates. Thus, cervical cancer has been disaggregated into the following broad histological types:

- carcinoma (cancers of epithelial origin)
- sarcoma (cancers originating in connective tissue such as bone, muscle, and fat)

- other specified and unspecified malignant neoplasms (unusual cancers and cancers too poorly differentiated to be classified).

Carcinoma has been further split into:

- squamous cell carcinoma (which arises from the squamous cells that cover the outer surface of the cervix)
- adenocarcinoma (which arises from the glandular (columnar) cells in the endocervical canal)
- adenosquamous carcinoma (which contains malignant squamous and glandular cells)
- other carcinoma.

In 2020, of the 916 cervical cancers diagnosed in women aged 25–74, 891 (97.3%) were carcinomas, 2 (0.2%) were sarcomas and 23 (2.5%) were classified as 'Other specified and unspecified malignant neoplasms' (Table 3.19.1).

The proportion of each histological type of cervical carcinoma diagnosed in 2020 (the latest year) and 1982 (the first year of data, and before the commencement of the NCSP in 1991) are shown in Figure 3.19.2. In 2020, squamous cell carcinomas comprised 62.7% of all cervical carcinomas, followed by adenocarcinomas at 28.4% and adenosquamous carcinomas at 2.1%. Other specified and unspecified carcinomas were the remaining 6.7%.

This is in contrast to 1982, when squamous cell carcinomas comprised 81.2% of all cervical carcinomas, with adenocarcinomas far rarer at 11.4%.

Adenosquamous carcinomas in 1982 were similar to 2020 at 2.7%, and other specified and unspecified carcinomas were the remaining 4.7%.

Table 3.19.1: Cervical cancer incidence, by histological type, women aged 25–74, 2020

Type of cervical cancer	New cases	Crude rate	AS rate	% of cervical cancers	% of carcinomas
1: Carcinoma	891	11.1	11.6	97.3	100.0
1.1: Squamous cell carcinoma	559	6.9	7.2	61.0	62.7
1.2: Adenocarcinoma	253	3.1	3.3	27.6	28.4
1.3: Adenosquamous carcinoma	19	0.2	0.2	2.1	2.1
1.4: Other specified and unspecified carcinoma	60	0.7	0.8	6.6	6.7
2: Sarcoma	2	0.0	0.0	0.2	. .
3: Other specified and unspecified malignant neoplasm	23	0.3	0.3	2.5	. .
Total	**916**	**11.4**	**11.8**	**100.0**	**. .**

'Carcinoma' = International Classification of Diseases for Oncology, Third Edition (ICD-O-3) codes 8010–8380, 8382–8576.

'Squamous cell carcinoma' = ICD-O-3 codes 8050–8078, 8083–8084.

'Adenocarcinoma' = ICD-O-3 codes 8140–8141, 8190–8211, 8230–8231, 8260–8265, 8310, 8380, 8382–8384, 8440–8490, 8570–8574, 8576.

'Adenosquamous carcinoma' = ICD-O-3 code 8560.

'Other specified and unspecified carcinoma' = ICD-O-3 codes for carcinoma, excluding those for squamous cell carcinoma, adenocarcinoma and adenosquamous carcinoma.

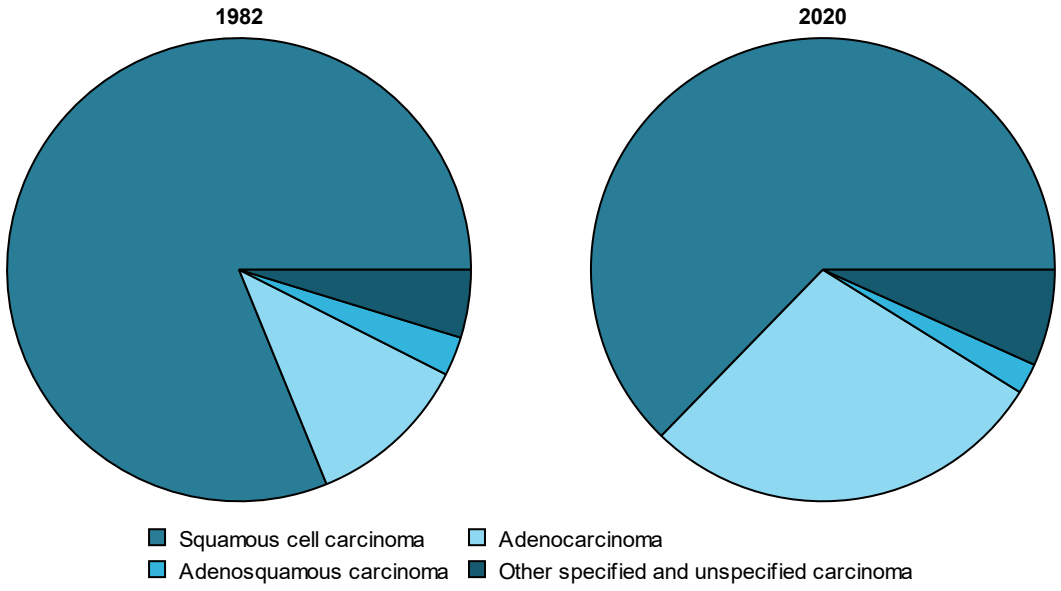
'Sarcoma' = ICD-O-3 codes 8800–8811, 8830, 8840–8921, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581.

'Other specified and unspecified malignant neoplasm' = ICD-O-3 codes for cervical cancer, excluding those for carcinoma and sarcoma.

Note: Crude rate is the number of new cases of cervical cancer per 100,000 women. Age-standardised (AS) rate is the number of new cases of cervical cancer per 100,000 women, age-standardised to the Australian population as at 30 June 2001. Rates based on fewer than 20 new cases should be interpreted with caution. Numbers may not add to total due to rounding.

Source: AIHW Australian Cancer Database 2020.

Figure 3.19.2: Cervical cancer incidence, by histological type, women aged 25–74, 1982 and 2020



Source: AIHW Australian Cancer Database 2020.

The NCSP has been successful in preventing squamous cell carcinomas by detecting high-grade squamous abnormalities, these being readily identified by repeated cervical cytology (Blomfield and Saville 2008). As a result, squamous cell carcinomas now comprise 61% of cervical cancers, which is much reduced from their historical proportion of 95% (Blomfield and Saville 2008). In contrast, adenocarcinomas have not been reduced by cervical screening to the same degree. These glandular carcinomas were proportionately a rarer disease, but now comprise 28% of all cervical cancers, not because there are more adenocarcinomas, but because there are fewer squamous cell carcinomas, which has had the effect of reducing the size of the 'pool' of cervical cancers.

Incidence by remoteness area

In 2016–2020, cervical cancer incidence for women aged 25–74 increased with increasing remoteness.

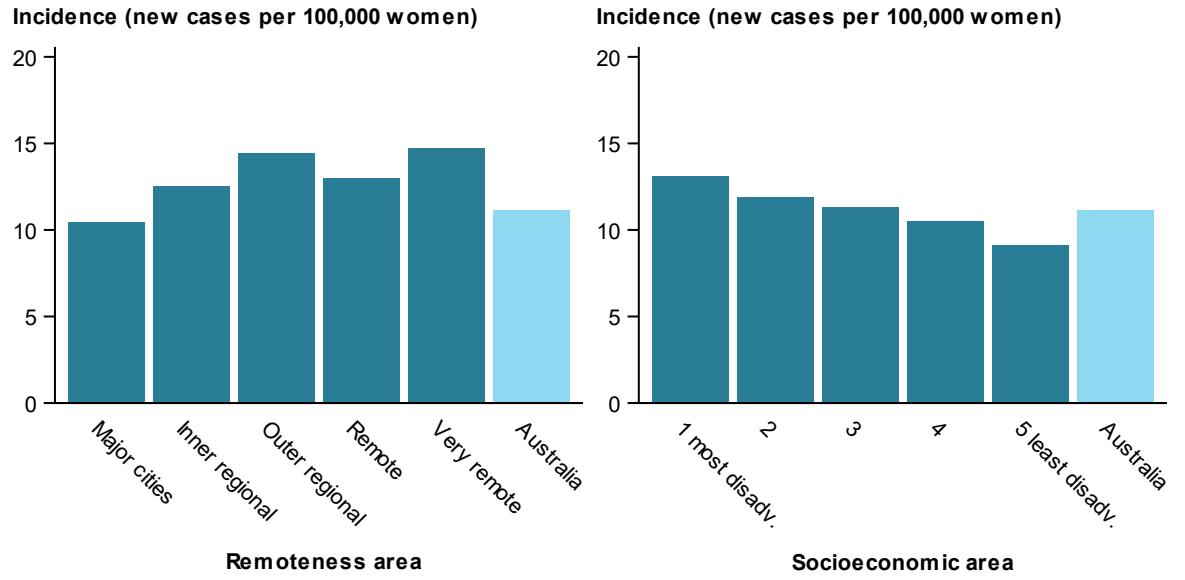
After adjusting for age, incidence of cervical cancer in women aged 25–74 in 2016–2020 was lowest for women residing in *Major cities* at 10.4 new cases per 100,000 women, followed by women residing in *Inner regional* areas at 12.5 new cases per 100,000. Incidence was highest for women residing in *Outer regional*, *Remote*, and *Very remote* areas, at 14.4, 13.0, and 14.7 new cases per 100,000 women, respectively (Figure 3.19.3).

Incidence by socioeconomic area

In 2016–2020, cervical cancer incidence for women aged 25–74 increased with increasing socioeconomic disadvantage.

After adjusting for age, cervical cancer incidence in women aged 25–74 was lowest for women residing in areas of lowest socioeconomic disadvantage at 9.1 new cases per 100,000 women; thereafter, it increased with increasing socioeconomic disadvantage and was highest for women residing in areas of highest socioeconomic disadvantage at 13.1 new cases per 100,000 women (Figure 3.19.3).

Figure 3.19.3: Cervical cancer incidence, by remoteness area and socioeconomic area, women aged 25–74, 2016–2020



Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table A19.3 and A19.4.

Incidence trends

After adjusting for age, there was a modest decrease in the incidence of cervical cancer for women aged 25–74 between 1982 and 1990, from 21.2 to 20.3 new cases per 100,000 women. This is likely to have been a result of the ad-hoc cervical screening that occurred in Australia from the 1960s to 1990. However, it was with the introduction of organised cervical screening through the NCSP in 1991 that the greatest decreases in incidence occurred, with a rapid decrease to 9.9 new cases per 100,000 women in 2002, just over a decade after the national program commenced (Figure 3.19.4).

The trend for women aged 20–69, the target age group for the NCSP from 1991 to 2017, mirrors this trend for women aged 25–74, the current target age group for the NCSP.

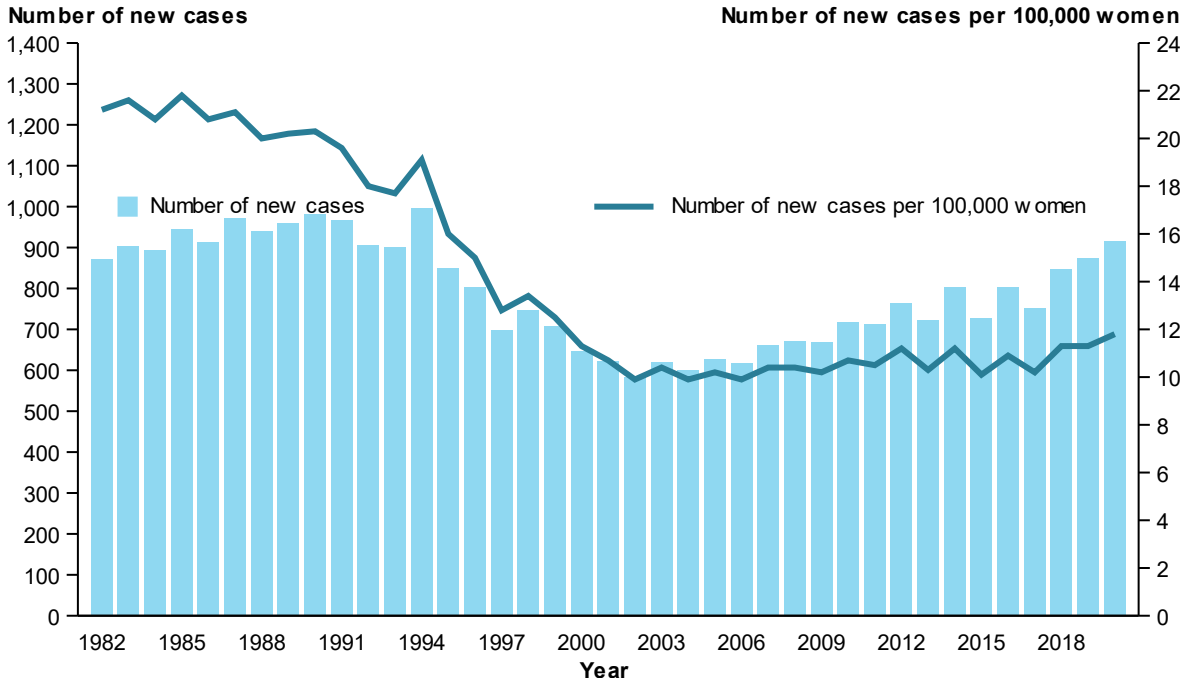
Trends for women aged 25–74, women aged 20–69, and women of all ages are shown in Table A19.5.

Between 2002 and 2020:

- Incidence remained steady for women aged 25–74, at between 10 and 11 new cases per 100,000 women, with a slight upturn to 11.8 new cases per 100,000 women in 2020.
- Incidence remained steady for women aged 20–69, at between 9 and 10 new cases per 100,000 women, with a slight upturn to 10.8 new cases per 100,000 women in 2020.
- Incidence remained steady for females of all ages at around 7 new cases per 100,000 females. The age-standardised incidence rate was 7.5 new cases per 100,000 females in 2020.

The decrease in incidence over time, which has been attributed to the NCSP, has been accompanied by a decrease in the ranking of cervical cancer – from the sixth most common cancer in women in 1982 to the 12th most common in 2020 – and a decrease in the risk of diagnosis before age 85 from 1 in 74 in 1982 to 1 in 165 in 2020 (AIHW 2024a).

Figure 3.19.4: Cervical cancer incidence, by year, women aged 25–74, 1982 to 2020



Note: Age-standardised rate is the number of new cases of cervical cancer per 100,000 women, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table A19.5.

These changes are consistent with the introduction of organised cervical screening programs internationally; however, cervical cancer remains one of the most common cancers in women in countries that do not have organised cervical screening, and fourth overall, so the worldwide burden is still high (IARC 2014), even with successes such as those in Australia.

Survival from cervical cancer

Survival in this report refers to 'relative survival', which is the probability of being alive for a given amount of time after diagnosis compared with the general population, and reflects the impact of a cancer diagnosis. The source of survival data is the 2020 Australian Cancer Database which includes data from the National Death Index on deaths (from any cause) that occurred up to 31 December 2020, which were used to determine which people with cancer had died and when this occurred.

In 2016–2020, women diagnosed with cervical cancer in Australia had a 75.5% chance of surviving for 5 years compared with their counterparts in the general population. For the target age group for the NCSP of 25–74, 5-year survival was 79.1%.

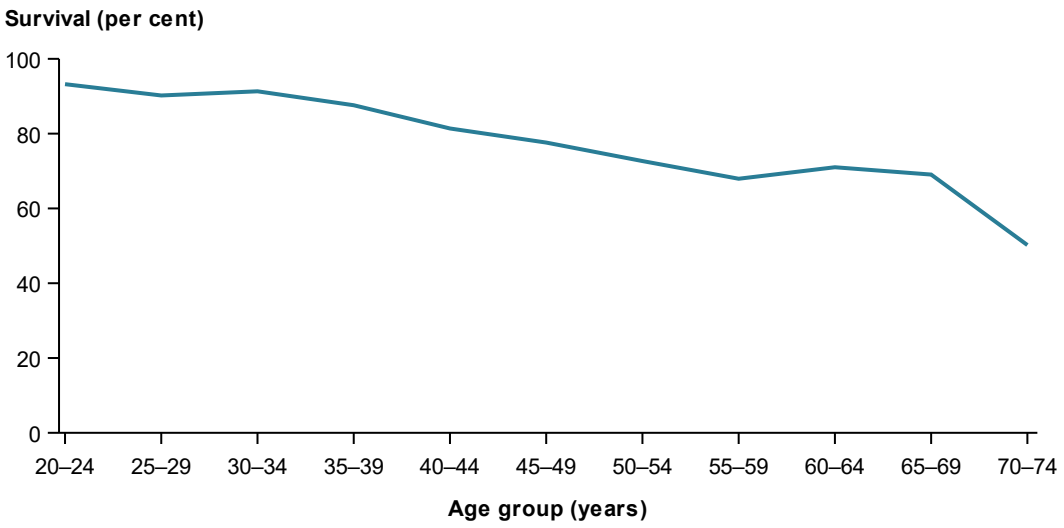
Five-year relative survival by age

Five-year relative survival from cervical cancer generally decreased in increasing age groups; women aged 20–34 had the highest survival at between 90% and 93%, whereas women aged 70–74 diagnosed with cervical cancer had only a 50.2% chance of surviving for 5 years (Figure 3.19.5).

Five-year relative survival trends

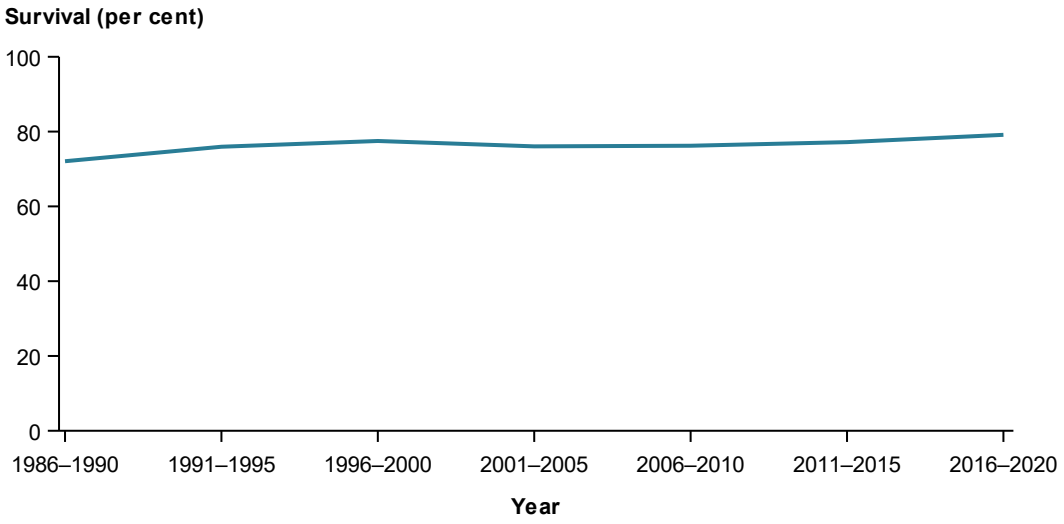
Between 1986–1990 and 2016–2020, 5-year relative survival increased from 69.5% to 75.5% for females of all ages, and from 72.1% to 79.1% for women aged 25–74 (Figure 3.19.6).

Figure 3.19.5: Five-year relative survival from cervical cancer, by age, 2016–2020



Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table A19.6.

Figure 3.19.6: Trends in 5-year relative survival from cervical cancer in women aged 25–74, 1986–1990 to 2016–2020



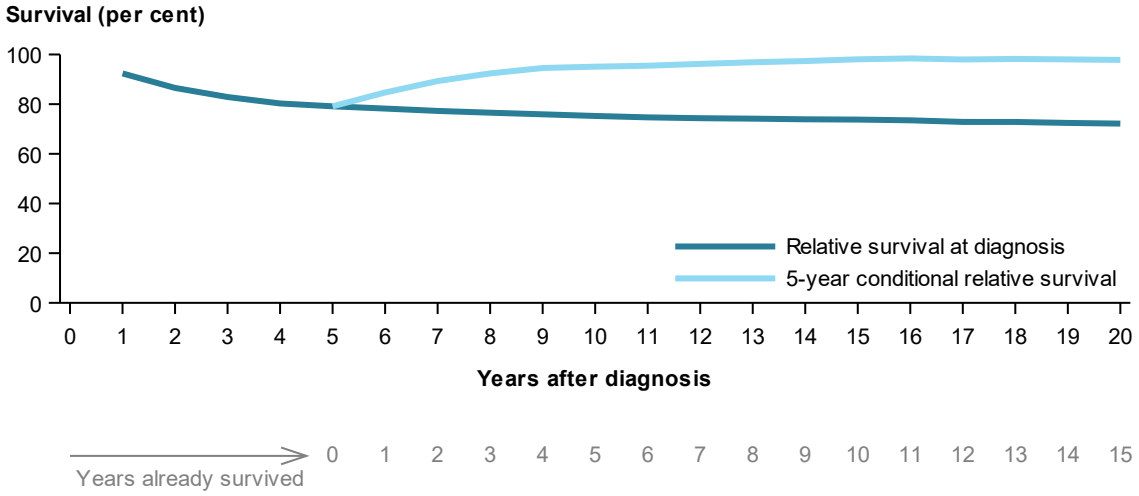
Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table A19.7.

Conditional survival

Conditional survival is the probability of surviving a given number of years, provided that an individual has already survived a specified amount of time after diagnosis.

Conditional survival for cervical cancer for women aged 25–74 is illustrated in Figure 3.19.7.

Figure 3.19.7: Relative survival at diagnosis and 5-year conditional survival from cervical cancer in women aged 25–74, 2016–2020



Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table A19.8.

In this graph, the darker blue line shows relative survival for each year after diagnosis (as shown by the numbers in black on the *x*-axis); the lighter blue line shows relative survival for each year once an individual has already survived a certain number of years (as shown by the numbers in grey on the *x*-axis).

For cervical cancer, 5-year conditional survival – the prospect of surviving for at least 5 more years after having already survived for 5 years – was much higher than relative survival, at 95% (Figure 3.19.7), indicating that if a woman survives for at least 5 years after diagnosis, her survival is almost the same as a woman not diagnosed with cervical cancer.

Prevalence of cervical cancer

Prevalence is the number of people alive after a diagnosis of cancer. It is related to incidence and survival; if incidence and survival are both high, prevalence will be high, whereas if incidence and survival are both low, prevalence will be low.

The source of prevalence data is the 2020 Australian Cancer Database which includes data from the National Death Index on deaths (from any cause) that occurred up to 31 December 2020, which were used to determine which people with cancer had died and when this occurred. Individuals who have been diagnosed with cancer and are still alive contribute to prevalence data.

At the end of 2020, there were 3,575 women aged 25–74 alive who had been diagnosed with cervical cancer in the previous 5 years and 6,266 who had been diagnosed in the previous 10 years (Table 3.19.2).

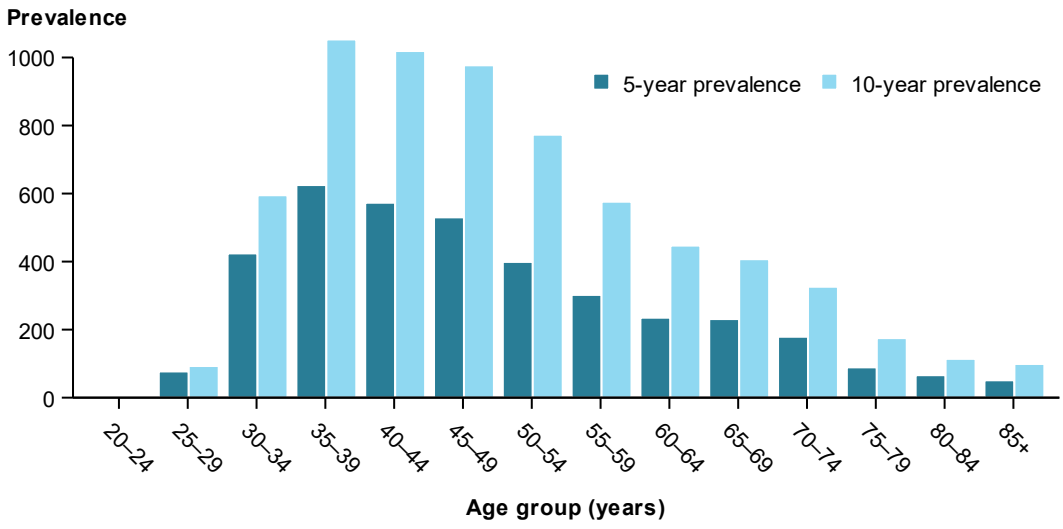
Prevalence by age is shown in Figure 3.19.8.

Table 3.19.2: Prevalence of cervical cancer, by age, end of 2020

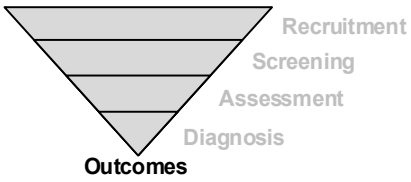
Age group	5-year prevalence	10-year prevalence
20–24	4	5
25–29	77	93
30–34	424	595
35–39	625	1,053
40–44	573	1,019
45–49	530	977
50–54	399	773
55–59	302	576
60–64	235	447
65–69	231	407
70–74	179	326
75–79	89	175
80–84	66	114
85+	51	99
25–74	**3,575**	**6,266**
All ages	**3,787**	**6,661**

Source: AIHW Australian Cancer Database 2020.

Figure 3.19.8: Prevalence of cervical cancer, by age, end of 2020



Source: AIHW Australian Cancer Database 2020.



Performance Indicator 20: Mortality from cervical cancer

Summary cervical cancer mortality data

204 women aged 25–74 died from cervical cancer in 2022, which is a mortality rate of 2.5 deaths per 100,000 women.

Definition:

Number of deaths from cervical cancer in females aged 25–74 in a calendar year per 100,000 estimated resident population.

Rationale:

Mortality data provide contextual information about the number of deaths from cervical cancer in the population that is an indicator of program performance against its aim to reduce mortality from cervical cancer through organised screening.

Guide to interpretation:

Lower cervical cancer mortality is better.

Results

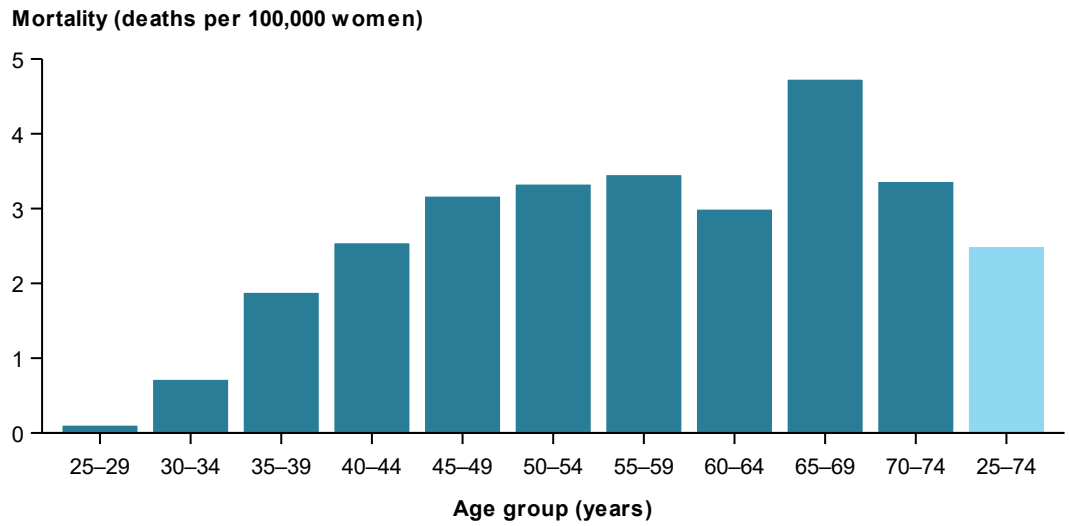
In 2022, there were 269 deaths from cervical cancer, which is 2.1 deaths per 100,000 women in the population (1.8 deaths per 100,000 women after adjusting for age to allow comparison over time or across population groups). Of these, 204 deaths from cervical cancer occurred in women aged 25–74 (the target age group for the NCSP), which is equivalent to 2.5 deaths per 100,000 women in the population (2.4 deaths per 100,000 women after adjusting for age to allow comparison over time or across population groups).

Mortality by age

Cervical cancer mortality by age is shown in Figure 3.20.1.

In 2022, within the age group 25–74, cervical cancer mortality was lowest for women aged under 30, being fewer than 1 death per 100,000 women for ages 25–29 and 30–34. Mortality increased with age, reaching 4.7 per 100,000 for women aged 65–69.

Figure 3.20.1: Cervical cancer mortality, by age, 2022



Source: AIHW National Mortality Database. Data and notes for this figure are available in Table A20.1.

Mortality by remoteness area

In 2018–2022, cervical cancer mortality for women aged 25–74 increased with increasing remoteness.

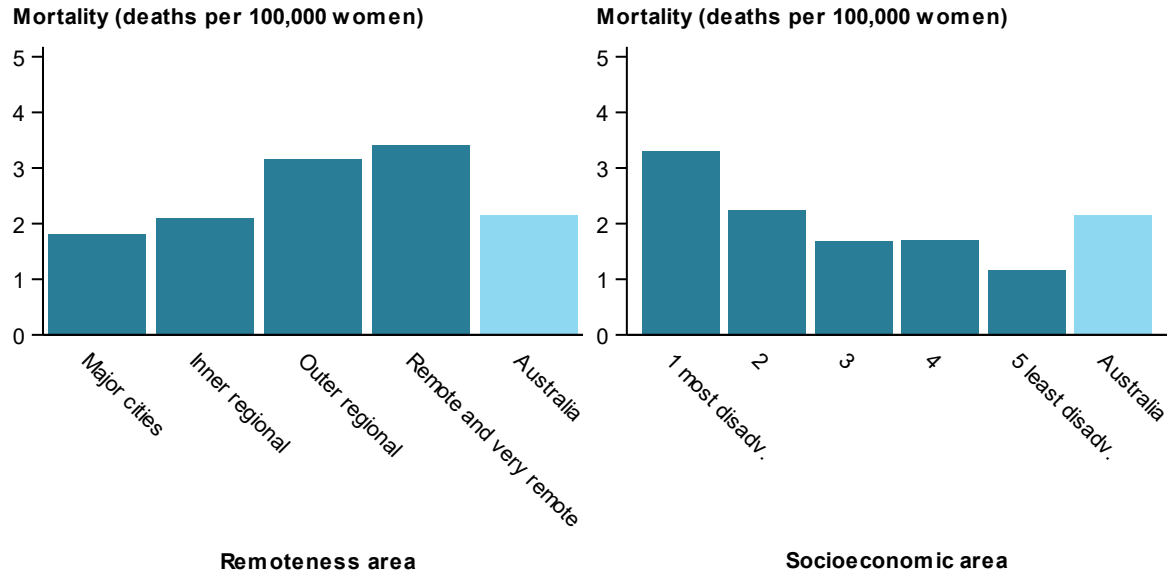
After adjusting for age, mortality in 2018–2022 was lowest for women residing in *Major cities* and *Inner regional* areas at 1.8 and 2.1 deaths per 100,000 women aged 25–74, respectively. Mortality was highest for women residing in *Outer regional* and *Remote and very remote* areas at 3.2 and 3.4 deaths per 100,000 women aged 25–74, respectively (Figure 3.20.2).

Mortality by socioeconomic area

In 2018–2022, cervical cancer mortality for women aged 25–74 increased with increasing socioeconomic disadvantage.

After adjusting for age, mortality in 2018–2022 was highest for women aged 25–74 residing in areas of highest socioeconomic disadvantage at 3.3 deaths per 100,000 women, and lowest for women residing in areas of lowest socioeconomic disadvantage at 1.2 deaths per 100,000 women (Figure 3.20.2).

Figure 3.20.2: Cervical cancer mortality, by remoteness area and socioeconomic area, women aged 25–74, 2018–2022



Source: AIHW National Mortality Database. Data and notes for this figure are available in Table A20.3 and A20.4.

Mortality trends

Similar to the trend for cervical cancer incidence, after adjusting for age, there was a modest decrease in mortality for cervical cancer for women aged 25–74 between 1982 and 1990, from 6.6 to 5.6 deaths per 100,000 women.

The greatest decrease in mortality occurred following the introduction of the NCSP in 1991, with mortality from cervical cancer falling to 2.4 deaths per 100,000 women in 2002. Mortality remained steady at between 2.0 and 2.5 deaths per 100,000 women for all years between 2004 and 2022 (Figure 3.20.3).

The trend for women aged 20–69, the target age group for the NCSP from 1991 to 2017, mirrors this trend for women aged 25–74, the target age group for the NCSP from 2018.

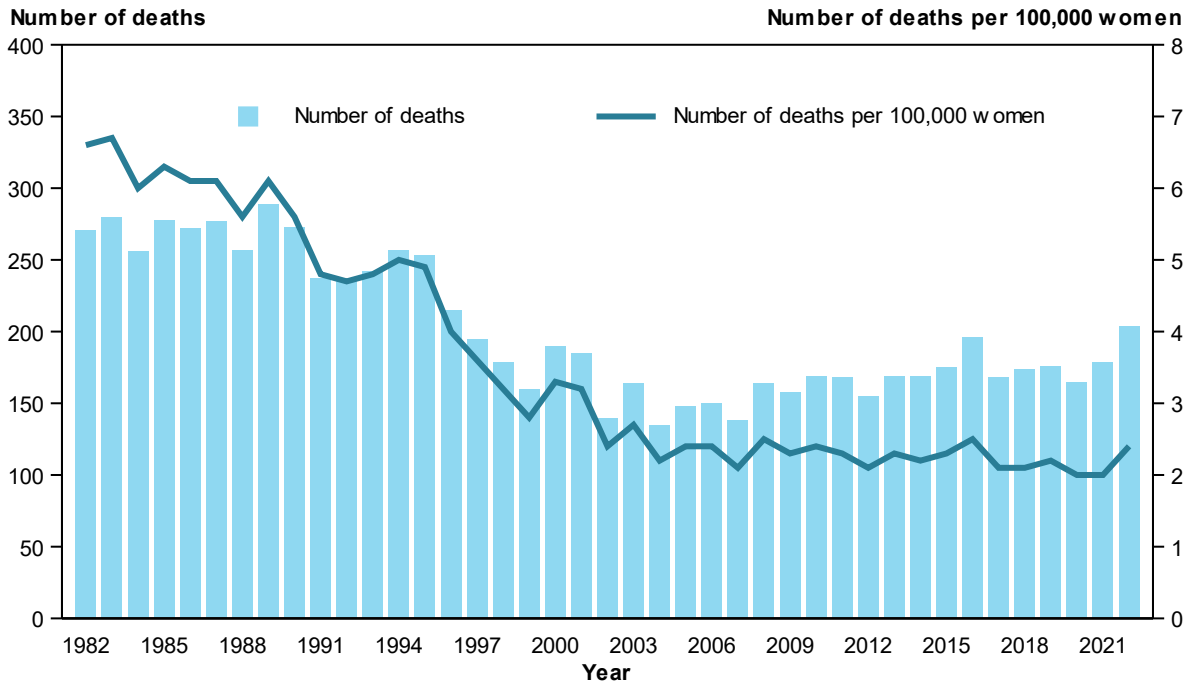
Trends for women aged 25–74, women aged 20–69, and women of all ages are shown in Table A20.5.

Between 2004 and 2022:

- Mortality remained steady for women aged 25–74, at between 2.0 and 2.5 deaths per 100,000 women, with a slight upturn from 2.0 deaths per 100,000 women in 2021 to 2.4 in 2022.
- Mortality remained steady for women aged 20–69, at between 1.7 and 2.1 deaths per 100,000 women, with a slight upturn from 1.7 deaths per 100,000 women in 2021 to 2.1 in 2022.
- Mortality remained steady for women of all ages at around 1.5 and 2.0 deaths per 100,000 women, with a slight upturn from 1.5 deaths per 100,000 women in 2021 to 1.8 in 2022.

This trend of a decrease in mortality over time has been accompanied by a decrease in the risk of death from cervical cancer by age 85, from 1 in 165 in 1982, to 1 in 524 in 2022 (AIHW 2024a).

Figure 3.20.3: Mortality from cervical cancer in women aged 25–74, 1982 to 2022



Source: AIHW National Mortality Database. Data and notes for this figure are available in Table A20.5.

4 Cervical screening outcomes for Aboriginal and Torres Strait Islander participants

It is known that Aboriginal and Torres Strait Islander women experience lower levels of participation in cervical screening and a disproportionately higher burden from cervical cancer than non-Indigenous women.

In Queensland, a data linkage study under the previous NCSP estimated the 2-year participation rate for 2010–2011 to be 33.5% for Aboriginal and Torres Strait Islander women compared to 55.7% for non-Indigenous women (Whop et al. 2016).

The most recent cervical screening data from the National Key Performance Indicators (nKPIs) Data Collection show that, as at December 2022, 42.5% of Aboriginal and Torres Strait Islander regular female clients of Indigenous-specific primary health-care services aged 25–74 who had not had a hysterectomy had a cervical screening test recorded at that service within the previous 5 years (AIHW 2024b).

These data and other research studies suggest that Aboriginal and Torres Strait Islander women face ongoing barriers to participating in cervical screening. However, we have not been able to report on cervical screening participation by Indigenous status at the national level because of incomplete data. The source of cervical screening data used to be primarily pathology forms, and not all pathology forms in all states and territories include/d Indigenous status either historically or currently (see Box 4.1. for further information on Indigenous identification on pathology forms).

Box 4.1: COVID-19 and Indigenous identification on pathology forms

The poor Indigenous identification on pathology forms is a longstanding issue.

The COVID-19 pandemic in early 2020 highlighted this as a pertinent issue, as the poor level of Indigenous identification on pathology forms used for COVID-19 testing meant that it was not possible to accurately know how many Aboriginal and Torres Strait Islander peoples were tested for SARS-CoV-2 (the virus that causes COVID-19), and so the true infection rate for Aboriginal and Torres Strait Islander peoples could not be known.

In May 2020, the National Aboriginal Community Controlled Health Organisation (NACCHO) published a submission on the Australian Government's response to the COVID-19 pandemic, which included a recommendation that the Government 'improve data collection practices in Aboriginal and Torres Strait Islander identification so the information can be used to provide accurate reporting on screening and testing programs, and outcomes of testing, including in pathology' (NACCHO 2020).

In line with this, there has been considerable work undertaken by the states and territories to improve Indigenous identification on pathology forms of both public and private pathology laboratories to address the need to be able to accurately identify Aboriginal and Torres Strait Islander peoples on pathology forms for COVID-19 testing.

While this work was performed in response to the COVID-19 pandemic, improved Indigenous identification on pathology forms will also benefit screening and testing programs that rely on pathology forms to enable accurate reporting of outcomes for Aboriginal and Torres Strait Islander peoples, for example cancer and diabetes.

This has been considered a failing, as it has long been recognised that reporting cervical screening participation is essential to monitor the success of initiatives introduced to increase participation in cervical screening for Aboriginal and Torres Strait Islander women, and to monitor equity in the program delivery as a whole. It is similarly important to report key cervical screening outcomes for Aboriginal and Torres Strait Islander participants.

Progression towards this has for a very long time been a priority for the NCSP. Cervical screening program managers, the Department of Health and Aged Care, and the AIHW have strived towards this with the support of Aboriginal and Torres Strait Islander peoples, NCSP representatives, researchers, clinicians, and cervical screening experts.

Identification of Indigenous status in cervical screening data

The addition of the Medicare Voluntary Indigenous Identifier as a source of Indigenous status for cervical screening data has improved Indigenous status data to a sufficient level of completeness to allow some reporting of cervical screening data for Aboriginal and Torres Strait Islander participants at the national level.

In addition to Indigenous status from Medicare, the National Cancer Screening Register (NCSR), that is the source of cervical screening and bowel screening data in Australia, also receives Indigenous status from bowel screening participants who are able to self-report their Indigenous status, as well as Indigenous status data received from pathology and colposcopy forms, along with any Indigenous status data that existed in the previous sources of cervical screening data when these were originally migrated into the NCSR in 2017.

Indigenous status used in this report is based on the most recently reported Indigenous status from Medicare or migrated data, supplemented with historical data. For this derived Indigenous status, the history of an individual's Indigenous status is used to supplement the most recently reported Indigenous status with a preference for retaining a status of Aboriginal and/or Torres Strait Islander over non-Indigenous/not stated if there are multiple sources.

Indigenous status most recently reported from Medicare or migrated data, and Indigenous status derived from the most recently reported from Medicare or migrated data supplemented with historical sources of Indigenous status, are shown for participants aged 25–74 screened in 2019–2023 in Table 4.1.

Table 4.1: Participants by Indigenous status, aged 25–74, 2019–2023

Indigenous status	Number
Indigenous status most recently reported	
Aboriginal and/or Torres Strait Islander	112,465
Non-Indigenous	3,650,437
Not stated	1,337,072
Indigenous status derived from most recently reported and historical sources	
Aboriginal and/or Torres Strait Islander	125,850
Non-Indigenous	3,912,981
Not stated	1,061,143
Australia	**5,099,974**

Data are grouped into the categories of 'Aboriginal and/or Torres Strait Islander, 'Non-Indigenous' and 'Not stated'. Aboriginal and/or Torres Strait Islander = 'Aboriginal but not Torres Strait Islander origin', 'Torres Strait Islander but not Aboriginal origin', and 'Both Aboriginal and Torres Strait Islander origin'; Non-Indigenous = 'Neither Aboriginal nor Torres Strait Islander origin' and 'South Sea Islander'; Not stated = 'Declined to answer' and 'Not stated or inadequately described'.

Note*:* Participants are those who had an HPV or LBC test for any reason in 2019–2023.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Reporting key performance indicators by Indigenous status

Of the 17 performance indicators reported, 6 are reported by Indigenous status (Table 4.2).

It is important to note that, while Indigenous status data are considered a sufficient level of completeness to allow some reporting of cervical screening data for Aboriginal and Torres Strait Islander participants, Indigenous status data in the NCSR are not complete (around 20% of participants in Table 4.1 do not have a status). This means that the reported findings may not be representative of all Aboriginal and Torres Strait Islander participants.

Table 4.2: Performance indicators reported by Indigenous status

Screening pathway	Performance indicator	Indigenous status
Recruitment	1 Participation	×
	2 Response to invitation	×
	3 Rescreening	××
Screening		
Screening	4 Screening results	×
	5 Correlation of screening results	×
Screening HPV test performance	6 Screening HPV test positivity	✓
	7 Cervical cancer diagnosed after a low risk screening test result	××
Self-collection	8 LBC test in self-collection participants positive for oncogenic HPV (not 16/18)	×
	9 Colposcopy in self-collection participants positive for oncogenic HPV 16/18	×
Follow-up	10 Adherence to recommendation for follow-up	×
	11 Follow-up results	×
Assessment	12 Colposcopy rate	✓
	13 Time to colposcopy	✓
	14 Biopsy rate	×
	15 Yield of high-grade abnormalities on biopsy among participants who attend colposcopy with higher risk screening results	×
	16 Positive predictive value of colposcopy	×
Diagnosis	17a High-grade cervical abnormality detection rate	✓
	17b Cervical cancer detection rate	×
Outcomes	18 Cervical cancers diagnosed by time since last screen	××
	19 Incidence of cervical cancer	✓
	20 Mortality from cervical cancer	✓

✓ = reported by Indigenous status; × = not reported by Indigenous status; ×× = not reported at all in this report.

The performance indicators selected for inclusion in this report are key cervical screening performance indicators for the NCSP, and considered highly relevant to the experience of Aboriginal and Torres Strait Islander participants in cervical screening. Reporting of these performance indicators has been endorsed by Aboriginal and Torres Strait Islander peoples and by the National Aboriginal Community Controlled Health Organisation (NACCHO).

However, it is important that Aboriginal and Torres Strait Islander peoples continue to have agency over their data, which in the future may include additional performance indicators reported by Indigenous status, as well as Aboriginal and/or Torres Strait Islander data presented in a different way that best reflects their needs and aspirations.

Priority Reform 4 under the National Agreement on Closing the Gap aims to improve and share access to regional data and information to enable Aboriginal and Torres Strait Islander communities to make informed decisions (see Box 4.2).

Box 4.2: Priority Reform 4 under the National Agreement on Closing the Gap

The National Agreement on Closing the Gap was developed in partnership between the Coalition of Aboriginal and Torres Strait Islander Peak Organisations and Australian governments, with the objective to overcome the entrenched inequality faced by too many Aboriginal and Torres Strait Islander people so that their life outcomes are equal to all Australians.

Under this National Agreement, and following the guidance of Aboriginal and Torres Strait Islander people, 4 Priority Reforms have been designed to change the way that governments work with Aboriginal and Torres Strait Islander people.

The Priority Reforms will:

- Strengthen and establish formal partnerships and shared decision-making
- Build the Aboriginal and Torres Strait Islander community-controlled sector
- Transform government organisations so they work better for and with Aboriginal and Torres Strait Islander people
- Improve and share access to data and information to enable Aboriginal and Torres Strait Islander communities make informed decisions.

Priority Reform 4 Improve and share access to data and information to enable Aboriginal and Torres Strait Islander communities make informed decisions

Data and information sharing elements of Priority Reform 4:

- There are partnerships in place between Aboriginal and Torres Strait Islander representatives and government organisations to guide the improved collections, access, management, and use of data to inform shared decision-making for the benefit of Aboriginal and Torres Strait Islander people.
- Governments agree to provide Aboriginal and Torres Strait Islander communities and organisations access to the same data and information on which any decisions are made, subject to meeting privacy requirements, and ensuring data security and integrity.
- Governments collect, handle and report data at sufficient levels of disaggregation, and in an accessible and timely way, to empower local Aboriginal and Torres Strait Islander communities to access, use and interpret data for local decision-making
- Aboriginal and Torres Strait Islander communities and organisations are supported by governments to build capability and expertise in collecting, using, and interpreting data in a meaningful way.

In addition, the Framework for Governance of Indigenous Data will be implemented across the Australia Public Service in 2024. This framework was co-designed by Australian Public Service agencies and Aboriginal and Torres Strait Islander and non-government partners. This Framework places Aboriginal and Torres Strait Islander people as its core, and is a single framework for Australian Public Service Agencies working with Indigenous data.

Implementation of this Framework will be guided by the following four principles:

1. Partner with Aboriginal and Torres Strait Islander people
2. Build data-related capabilities
3. Provide knowledge of data assets
4. Build an inclusive data system.

Participation of Aboriginal and Torres Strait Islander women

The standard method used to calculate participation earlier in this report, defined as the number of participants aged 25–74 screened in a 5-year period as a percentage of eligible females in the population, cannot be used to calculate participation by Indigenous status, as Indigenous status in the NCSR is not sufficiently complete.

An alternative methodology for estimating participation in cervical screening by Indigenous status has been developed by Professor John Condon and endorsed by Aboriginal and Torres Strait Islander representatives and NACCHO. This alternative methodology will allow national cervical screening participation by Indigenous status to be reported until such time as the completeness of Indigenous status in the NCSR is sufficiently high to support reporting of participation by Indigenous status using the standard method.

Development and endorsement of this alternative methodology has been a key factor in supporting reporting participation by Indigenous status. However, many factors require thorough investigation to ensure the release of robust and meaningful data. This has meant that participation by Indigenous status data cannot be reported yet. However, it is anticipated that these data will be able to be reported in the near future.

Screening HPV test positivity in 2023 for Aboriginal and Torres Strait Islander participants

Screening HPV test positivity is the proportion of valid screening HPV tests that detect oncogenic HPV – either oncogenic HPV 16/18 or oncogenic HPV (not 16/18).

To look at the impact of HPV vaccination on screening HPV test positivity, participants are split into those who were offered HPV vaccination (since these participants are more likely to be vaccinated against HPV), and those who were not, based on birth cohort.

People born after 30 June 1980 were considered to have been offered HPV vaccination as these people were eligible for HPV vaccination when the school program commenced in April 2007 and the primary care catch up program commenced in July 2007. People born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these people were outside the eligible age for HPV vaccination.

For Aboriginal and Torres Strait Islander participants aged 25–74, positivity was:

- 2.2% of valid screening HPV tests for oncogenic HPV 16/18
- 9.3% of valid screening HPV tests for oncogenic HPV (not 16/18) (Figure 4.1).

For Aboriginal and Torres Strait Islander participants who were of an age at which HPV vaccination was offered (participants born after 30 June 1980), positivity was:

- 1.6% of valid screening HPV tests for oncogenic HPV 16/18
- 13.7% of valid screening HPV tests for oncogenic HPV (not 16/18) (Figure 4.1).

For Aboriginal and Torres Strait Islander participants who were of an age at which HPV vaccination was not offered (participants born on or before 30 June 1980), positivity was:

- 2.7% of valid screening HPV tests for oncogenic HPV 16/18
- 5.2% of valid screening HPV tests for oncogenic HPV (not 16/18) (Figure 4.1).

These results indicate that, compared to participants whose age indicates they were not offered HPV vaccination, screening HPV test positivity for oncogenic HPV 16/18 is lower in participants whose age indicates they were offered HPV vaccination, and screening HPV test positivity for oncogenic HPV (not 16/18) is higher in participants whose age indicates they were offered HPV vaccination.

As noted earlier in *Performance Indicator 6: Screening HPV test positivity*, these are expected results for all participants (Aboriginal and/or Torres Strait Islander participants and non-Indigenous). This is because the occurrence of HPV is higher in this younger age group (born after 30 June 1980), and vaccination will only have an impact on the positivity of HPV 16/18, as only HPV 16 and 18 were included in the HPV vaccine that the majority of the current cervical screening participants would have received (Brotherton et al. 2019). HPV vaccine coverage for Aboriginal and Torres Strait Islander people appears in Appendix B.

Positivity for oncogenic HPV (not 16/18) will not be impacted by vaccination with an HPV vaccine that only includes HPV 16 and 18, and so remains higher for these participants.

Aboriginal and Torres Strait Islander participants experience higher screening HPV test positivity than non-Indigenous participants. This was true for both oncogenic HPV 16/18 and oncogenic HPV (not 16/18) (Figure 4.1; Table 4.4).

Overall, in participants aged 25–74, screening HPV test positivity for any oncogenic HPV for Aboriginal and Torres Strait Islander participants was 1.8 times that of non-Indigenous participants in 2023 (11.5% and 6.3% of valid screening HPV tests, respectively) (Figure 4.1; Table 4.4).

Screening HPV test positivity trends for Aboriginal and Torres Strait Islander participants

Screening HPV test positivity trends for Aboriginal and Torres Strait Islander participants over the years 2018 to 2023 for oncogenic HPV 16/18 and oncogenic HPV (not 16/18) are shown in Figure 4.2 for ages 25–74, the birth cohort that was offered HPV vaccination, and the birth cohort that was not offered HPV vaccination.

For oncogenic HPV 16/18:

Screening HPV test positivity for Aboriginal and Torres Strait Islander participants who were offered HPV vaccination ranged between 2.2% and 2.4% across the years 2018 to 2021, before falling to 1.8% in 2022 and to 1.6% in 2023.

Screening HPV test positivity for Aboriginal and Torres Strait Islander participants who were not offered HPV vaccination increased from 2.8% and 2.9% in 2018 and 2019, respectively, to between 3.1% and 3.2% over the years 2020 to 2022, before falling to 2.7% in 2023.

For oncogenic HPV (not 16/18):

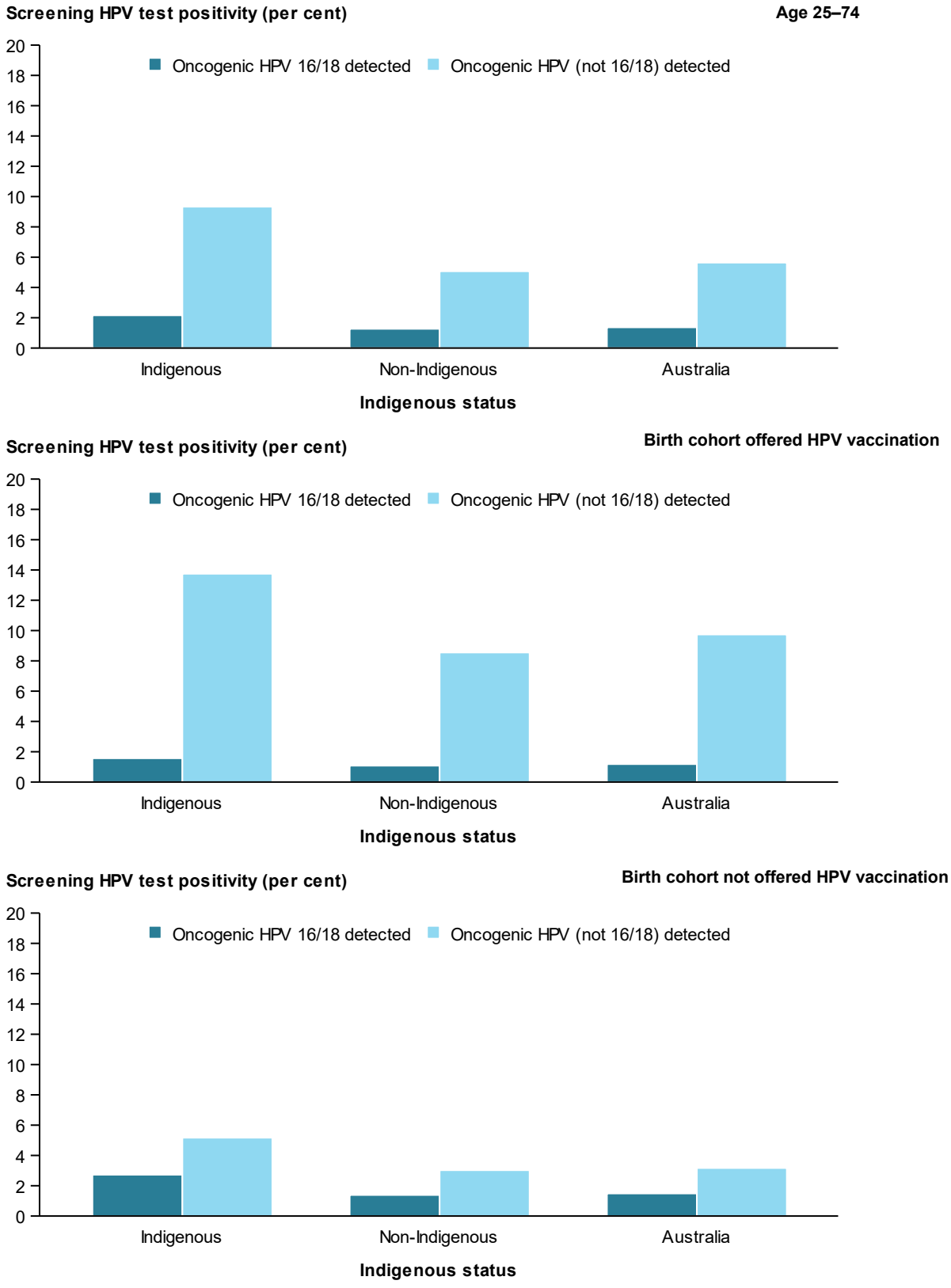
Screening HPV test positivity for Aboriginal and Torres Strait Islander participants who were offered HPV vaccination ranged between 14.9% and 15.6% over the years 2018 to 2022, before falling to 13.7% in 2023.

Screening HPV test positivity for Aboriginal and Torres Strait Islander participants who were not offered HPV vaccination increased from 5.7% and 5.6% in 2018 and 2019, respectively, to between 6.2% and 6.5% between 2020 and 2022, before falling to 5.2% in 2023 .

As for all Australians, lower positivity in 2023 compared to earlier years is likely due to participants in 2023 primarily being those who have returned for their second HPV test 5 years after their first negative HPV test in the renewed NCSP, and so are considered recently-screened. HPV infection is lower in recently-screened participants than in those who are under- or never-screened.

In addition, given the very low positivity of oncogenic HPV 16/18 in the birth cohort offered HPV vaccination in 2023, there is likely also an impact on positivity from recipients of HPV vaccination comprising a greater proportion of screening participants over time.

Figure 4.1: Screening HPV test positivity, by birth cohort, by Indigenous status, 2023

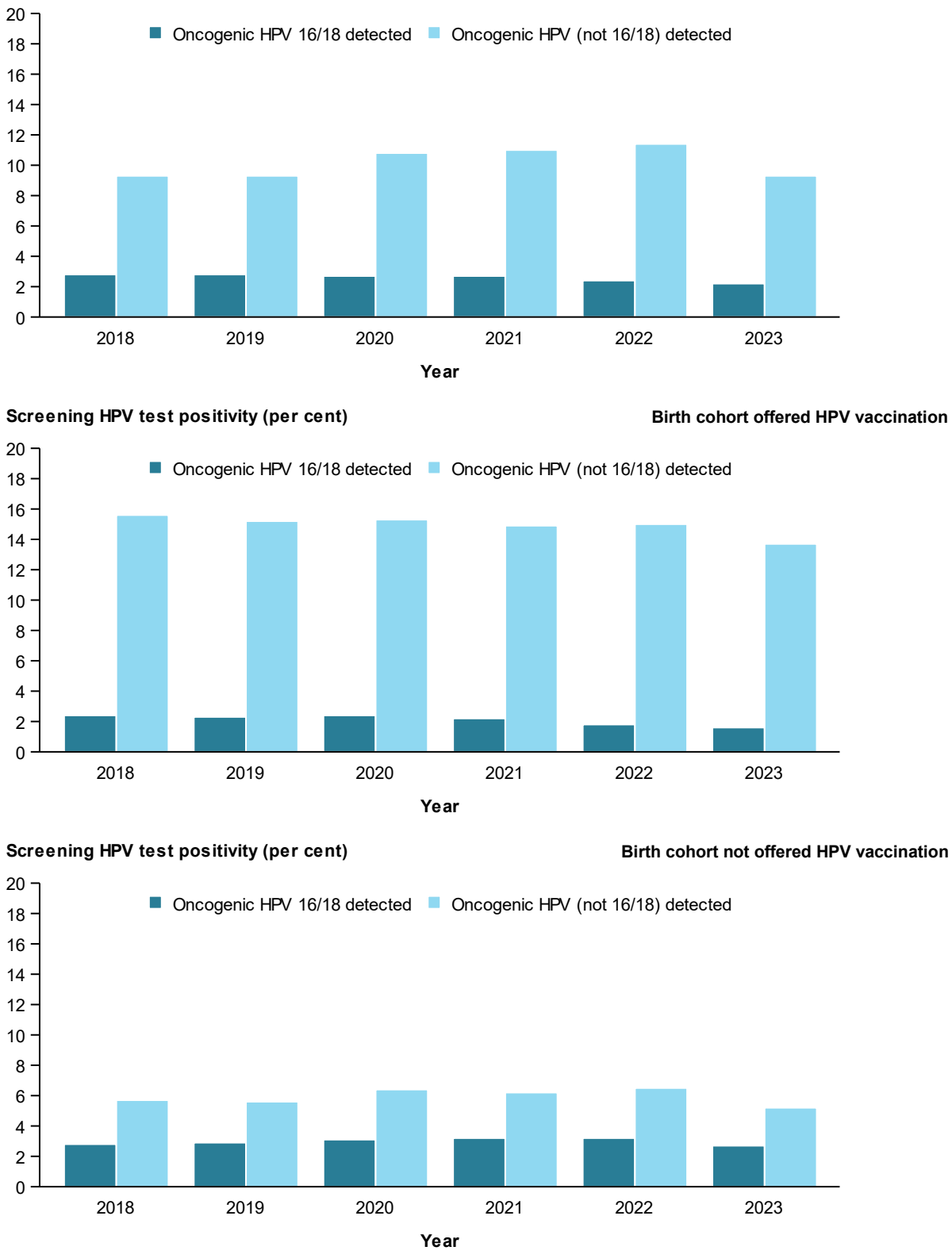


Note: Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this figure.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table 4.5.

Figure 4.2: Screening HPV test positivity trends for Aboriginal and Torres Strait Islander participants, by birth cohort, by year, 2018 to 2023

Age 25–74



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table 4.6.

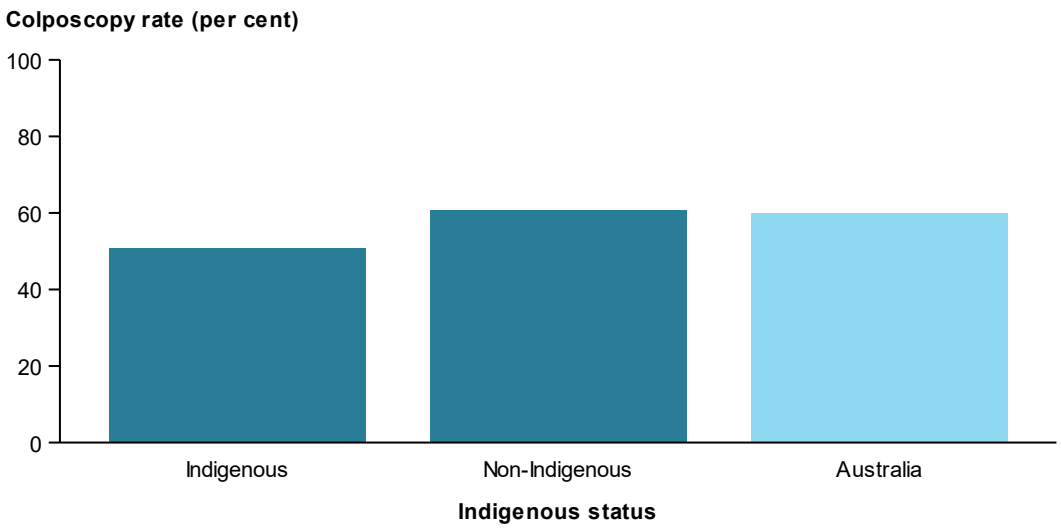
Colposcopy rate in 2022 for Aboriginal and Torres Strait Islander participants

Colposcopy is the examination of the cervix using a magnifying instrument called a colposcope. Colposcopy is the first step in the assessment pathway and is performed where there is a higher risk of a significant cervical abnormality. The colposcopy rate is the proportion of participants who are at higher risk of a significant cervical abnormality who have a colposcopy within 3 months.

In 2022, there were 615 Aboriginal and Torres Strait Islander participants aged 25–74 who, as a result of their screening episode, first follow-up episode, or second follow-up episode result, were considered higher risk and would therefore be referred for colposcopy. Of these 615 participants, 307 had a colposcopy within 3 months, which is a colposcopy rate of 49.9% (Figure 4.3).

This was lower than the colposcopy rate for non-Indigenous participants. After adjusting for age, 50.8% of Aboriginal and Torres Strait Islander participants at higher risk of a significant cervical abnormality had a colposcopy within 3 months compared with 60.8% of non-Indigenous participants at higher risk of a significant cervical abnormality (Figure 4.3).

Figure 4.3: Colposcopy rate, by Indigenous status, participants aged 25–74, 2022



Note: Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this figure.
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table 4.7.

Median time to colposcopy was also calculated. In 2022, the median time to colposcopy for Aboriginal and Torres Strait Islander participants was 76 days.

This is 10 days more than the median time to colposcopy of 66 days for non-Indigenous participants (Table 4.3).

Table 4.3: Median time to colposcopy, by Indigenous status, participants aged 25–74, 2022

Indigenous status	Median (days)	90th percentile
Indigenous	76	339
Non-Indigenous	66	240
Australia	**65**	**241**

Note: Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this table.
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

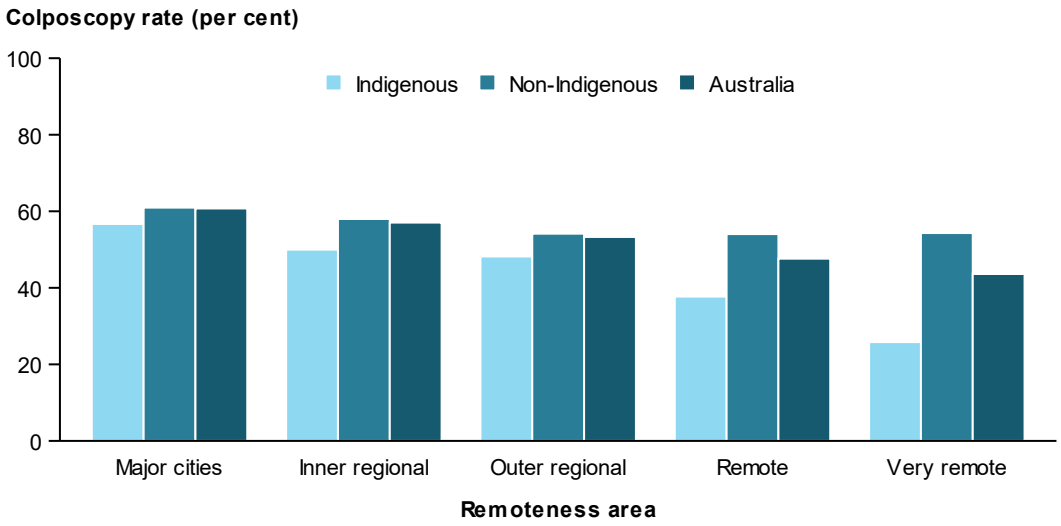
Colposcopy rate and median time to colposcopy are further disaggregated by remoteness area to enable a better understanding of the lower colposcopy rate and higher median time to colposcopy experienced by Aboriginal and Torres Strait Islander participants.

The colposcopy rate differed across remoteness areas for Aboriginal and Torres Strait Islander participants, at 56.7% for participants residing in *Major cities*, 50.0% for participants residing in *Inner regional* areas, 48.2% for participants residing in *Outer regional* areas, 37.7% for participants residing in *Remote* areas, and 25.8% of Aboriginal and Torres Strait Islander participants residing in *Very remote* areas (Figure 4.4).

Note that the colposcopy rate for *Very remote* areas is based on small numbers, so should be interpreted with caution, but was considered important to report separately to ensure that Aboriginal and Torres Strait Islander experiences are visible.

Non-Indigenous participants did not experience the same decrease in colposcopy rate with increasing remoteness. The colposcopy rate fell from 61.0% for participants residing in *Major cities*, to 58.0% for participants residing in *Inner regional* areas, and thereafter remained at 54% for participants residing in *Outer regional*, *Remote*, and *Very remote* areas (Figure 4.4).

Figure 4.4: Colposcopy rate, by Indigenous status and remoteness area, participants aged 25–74, 2022



Note: Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this figure.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table 4.8.

Median time to colposcopy also differed across remoteness areas for Aboriginal and Torres Strait Islander participants.

Median time to colposcopy was 71 days for participants residing in *Major cities*, 77 days for participants residing in *Inner regional* areas, 85 days for participants residing in *Outer regional* areas, 80 days for participants residing in *Remote* areas, and 133 days for Aboriginal and Torres Strait Islander participants residing in *Very remote* areas (Table 4.4).

This was higher than for non-Indigenous participants, at 63 days for participants residing in *Major cities*, 71 days for participants residing in *Inner regional* areas, 76 days for participants residing in *Outer regional* areas, 75 days for participants residing in *Remote* areas, and 65 days for non-Indigenous participants residing in *Very remote* areas (Table 4.4).

Table 4.4: Median time to colposcopy, by Indigenous status and remoteness area, participants aged 25–74, 2022

Indigenous status	Remoteness area				
	Major cities	Inner regional	Outer regional	Remote	Very remote
	Median (days)				
Indigenous	71	77	85	80	133
Non-Indigenous	63	71	76	75	65
Australia	**63**	**71**	**77**	**77**	**85**

Note: Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this table.
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

High-grade cervical abnormality detection in 2023 for Aboriginal and Torres Strait Islander participants

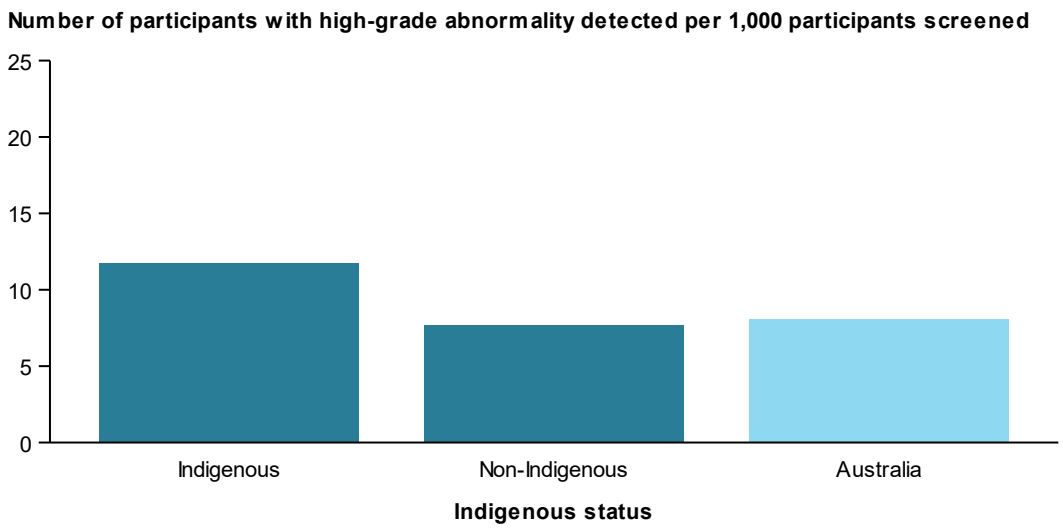
High-grade cervical abnormality detection is the proportion of participants screened that have a high-grade abnormality detected on histology. The detection of high-grade abnormalities is an indicator of program performance. Detection of high-grade abnormalities provides an opportunity for treatment before cancer can develop, thus the NCSP aims to detect high-grade abnormalities in line with its broader aim to reduce the incidence of cervical cancer.

In 2023, there were 499 Aboriginal and Torres Strait Islander participants aged 25–74 with a high-grade abnormality detected on histology, which is 12.6 participants with a high-grade abnormality detected per 1,000 participants screened.

This means that, for every 1,000 Aboriginal and Torres Strait Islander participants screened, 13 had a high-grade abnormality detected, providing an opportunity for treatment prior to any possible progression to cervical cancer.

Detection of high-grade abnormalities among Aboriginal and Torres Strait Islander participants was higher than non-Indigenous participants, at 11.8 and 7.7 with a high-grade abnormality detected on histology per 1,000 screened, after adjusting for age (Figure 4.5).

Figure 4.5: High-grade cervical abnormality detection, by Indigenous status, participants aged 25–74, 2023



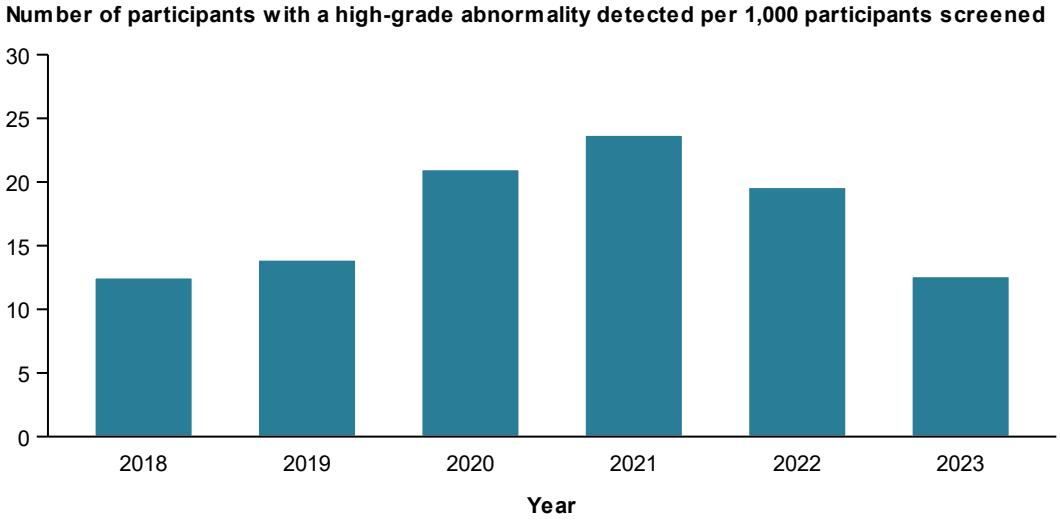
Note: Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this figure.
Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table 4.9.

High-grade cervical abnormality detection trends for Aboriginal and Torres Strait Islander participants

High-grade cervical abnormality detection trends for Aboriginal and Torres Strait Islander participants are shown in Figure 4.6.

After adjusting for age, and similar to the trend for all Australians, the high-grade abnormality rate has increased from 11.1 participants with a high-grade cervical abnormality detected by histology per 1,000 participants screened in 2018, to 12.1 in 2019, to 18.5 in 2020, and to 20.8 in 2021. The high-grade cervical abnormality rate then decreased to 17.3 in 2022, before decreasing further to 11.8 participants with a high-grade cervical abnormality detected by histology per 1,000 participants screened in 2023, similar to the high-grade abnormality detection rate in 2018 (Figure 4.6).

Figure 4.6: High-grade cervical abnormality detection trends for Aboriginal and Torres Strait Islander participants, by year, participants aged 25–74, 2018 to 2023



Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024). Data and notes for this figure are available in Table 4.10.

Incidence of cervical cancer for Aboriginal and Torres Strait Islander women

Incidence is the number of new cases of cervical cancer per 100,000 population.

Reliable national data on the diagnosis of cervical cancer for Aboriginal and Torres Strait Islander peoples are not available. All state and territory cancer registries collect information on Indigenous status; however, in some jurisdictions, the quality of the data is insufficient for analysis. Data for cervical cancer incidence by Indigenous status are only included for New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory. Data are not included for South Australia or Tasmania because the Indigenous status variable is not of sufficient quality in these jurisdictions.

The incidence counts and rates for Aboriginal and Torres Strait Islander women and non-Indigenous women presented are underestimates due to the relatively large proportion of women whose Indigenous status is not stated, or not available. Also, it is likely that some Aboriginal and Torres Strait Islander women are misclassified as non-Indigenous. Therefore, the estimates presented should be interpreted with caution.

Analysis of data from these jurisdictions showed that, over the 5 years 2016–2020, there were 194 Aboriginal and Torres Strait Islander women aged 25–74 diagnosed with cervical cancer, equating to 21.9 new cases per 100,000 women in the population.

After adjusting for age, incidence among Aboriginal and Torres Strait Islander women was 2.3 times the rate of non-Indigenous women over the 5 years 2016–2020 (22.8 and 10.0 new cases per 100,000 women in the population, respectively) (Figure 4.7).

Figure 4.7: Cervical cancer incidence (New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory), by Indigenous status, women aged 25–74, 2016–2020

Note: Data shown for 'Aboriginal and Torres Strait Islander, 'Non-Indigenous' and 'Total' are for New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory only; data from these jurisdictions were considered to have adequate levels of Indigenous identification in cancer registration data at the time this report was prepared.

Aboriginal and Torres Strait Islander women are respectfully referred to as Indigenous women in this figure.

Source: AIHW Australian Cancer Database 2020. Data and notes for this figure are available in Table 4.11.

Mortality from cervical cancer for Aboriginal and Torres Strait Islander women

Mortality is the number of deaths from cervical cancer per 100,000 population.

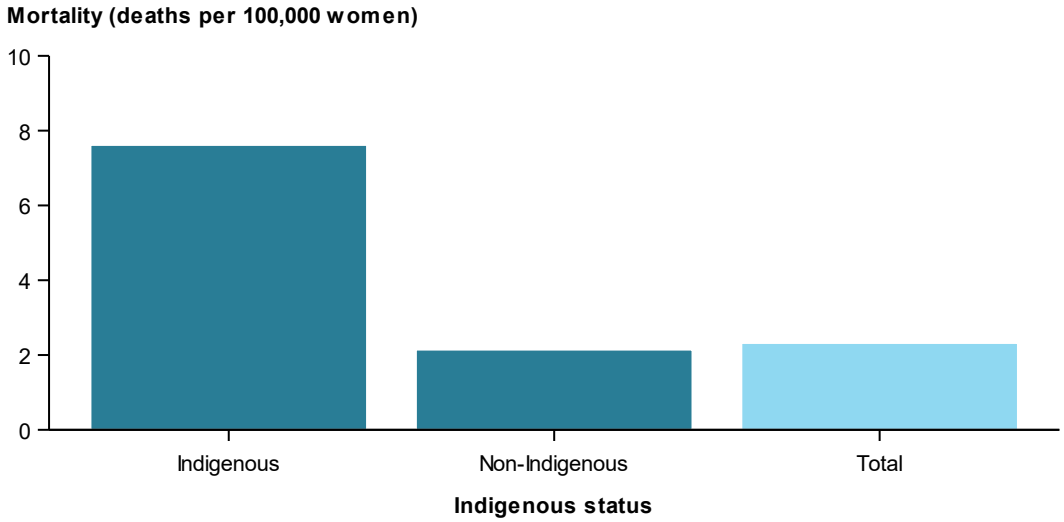
Only mortality data from New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory are considered adequate for reporting by Indigenous status. Other jurisdictions have a small number of Indigenous deaths, and the identification of these in their death registration systems is relatively poor, making the data less reliable. Note that these jurisdictions differ from those used to calculate incidence by Indigenous status. See Box 4.3 for information on rates calculated using Indigenous population estimates from the 2016 Census.

Over the 5 years 2018–2022 there were 70 Aboriginal and Torres Strait Islander women aged 25–74 who died from cervical cancer in Australia.

Over the 5 years 2018–2022, there were 64 Aboriginal and Torres Strait Islander women aged 25–74 who died from cervical cancer in New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory, which equates to 7.1 deaths per 100,000 women in the population.

After adjusting for age, mortality among Aboriginal and Torres Strait Islander women in New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory was 3.6 times the rate of non-Indigenous women over the 5 years 2018–2022 for women aged 25–74 (7.6 and 2.1 deaths per 100,000 women in the population, respectively) (Figure 4.8).

Figure 4.8: Cervical cancer mortality (New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory), by Indigenous status, women aged 25–74, 2018–2022



Note: Data shown for 'Indigenous', 'Non-Indigenous' and 'Total' are for New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory only; data from these jurisdictions were considered to have adequate levels of Indigenous identification in cancer mortality data at the time this report was prepared.

Aboriginal and Torres Strait Islander women are respectfully referred to as Indigenous women in this figure.

Source: AIHW National Mortality Database. Data and notes for this figure are available in Table 4.12.

Box 4.3: Aboriginal and Torres Strait Islander incidence and mortality: populations and rates

To derive cervical cancer incidence and mortality rates for Aboriginal and Torres Strait Islander peoples, this report used Indigenous population estimates and projections based on the 2016 Census, which were the most recent estimates available when this report was prepared.

The final estimated resident Indigenous population as at 30 June 2016 was 19% larger than the estimated population as at 30 June 2011 (ABS 2018). The Australian Bureau of Statistics notes that the population increase is greater than demographic factors alone can explain. In addition, the 2016 estimated population was 7% larger than the 2016 projected population based on the 2011 Census.

The extent of the increase in the Indigenous population estimates between 2011 and 2016 means that any rates calculated with Indigenous population estimates based on the 2016 Census will be lower than those based on the 2011 Census and should not be compared with rates calculated using populations based on previous Censuses.

Indigenous population estimates based on the 2021 Census were released on 25 July 2021 but the back cast estimates have been revised and the revised estimates were released on 10 October 2024.

Table 4.5: Screening HPV test positivity, by Indigenous status and birth cohort, 2023

	Screening HPV test positivity					
	Oncogenic HPV 16/18 detected		Oncogenic HPV (not 16/18) detected		Oncogenic HPV (any type) detected	
Indigenous status	**Number**	**Positivity (%)**	**Number**	**Positivity (%)**	**Number**	**Positivity (%)**
Age 25–74						
Indigenous	588	2.2	2,539	9.3	3,127	11.5
Non-Indigenous	11,533	1.3	46,081	5.1	57,614	6.3
Not stated	3,785	1.7	17,003	7.5	20,788	9.1
Australia	**15,906**	**1.4**	**65,623**	**5.6**	**81,529**	**7.0**
Birth cohort offered HPV vaccination[(a)]						
Indigenous	215	1.6	1,884	13.7	2,099	15.3
Non-Indigenous	3,733	1.1	29,542	8.5	33,275	9.6
Not stated	1,451	1.5	13,007	13.4	14,458	14.9
Australia	**5,399**	**1.2**	**44,433**	**9.7**	**49,832**	**10.9**
Birth cohort not offered HPV vaccination[(b)]						
Indigenous	375	2.7	711	5.2	1,086	7.9
Non-Indigenous	7,896	1.4	17,206	3.0	25,102	4.4
Not stated	2,397	1.8	4,797	3.6	7,194	5.4
Australia	**10,668**	**1.5**	**22,714**	**3.2**	**33,382**	**4.7**

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Notes:

1. Participants were allocated to an Indigenous status from the NCSR according to a derived Indigenous status based on last Indigenous status identified in the NCSR from the Medicare VII and migrated data, supplemented with historical Indigenous status sources, grouped into Indigenous, non-Indigenous, and not stated.
2. Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this table.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 4.6: Screening HPV test positivity for Aboriginal and Torres Strait Islander participants, by year and birth cohort, 2018 to 2023

	Screening HPV test positivity					
	Oncogenic HPV 16/18 detected		Oncogenic HPV (not 16/18) detected		Oncogenic HPV (any type) detected	
Year	Number	Positivity (%)	Number	Positivity (%)	Number	Positivity (%)
Age 25–74						
2018	929	2.7	3,240	9.3	4,169	11.9
2019	887	2.7	3,125	9.3	4,012	12.0
2020	480	2.7	1,895	10.8	2,375	13.5
2021	336	2.6	1,412	11.0	1,748	13.6
2022	300	2.4	1,437	11.4	1,737	13.8
2023	588	2.2	2,539	9.3	3,127	11.5
Birth cohort offered HPV vaccination[(a)]						
2018	379	2.4	2,481	15.6	2,860	18.0
2019	348	2.3	2,310	15.2	2,658	17.5
2020	230	2.4	1,486	15.3	1,716	17.7
2021	167	2.2	1,139	14.9	1,306	17.0
2022	142	1.8	1,162	15.0	1,304	16.8
2023	215	1.6	1,884	13.7	2,099	15.3
Birth cohort not offered HPV vaccination[(b)]						
2018	570	2.8	1,177	5.7	1,747	8.5
2019	558	2.9	1,079	5.6	1,637	8.6
2020	256	3.1	532	6.4	788	9.5
2021	175	3.2	343	6.2	518	9.4
2022	163	3.2	331	6.5	494	9.8
2023	375	2.7	711	5.2	1,086	7.9

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 4.7: Colposcopy rate, by Indigenous status, participants aged 25–74, 2022

Indigenous status	Number of colposcopies	Crude rate (%)	AS rate (%)
Indigenous	307	49.9	50.8
Non-Indigenous	10,085	59.9	60.8
Not stated	2,957	58.6	58.1
Australia	**13,349**	**59.4**	**60.0**

Notes:

1. Crude rate is the number of participants who have a colposcopy within 3 months as a per cent of the number of participants who are at higher risk of a significant cervical abnormality. Age-standardised (AS) rate is the number of participants who have a colposcopy within 3 months as a per cent of the number of participants who are at higher risk of a significant cervical abnormality, age-standardised to the Australian population as at 30 June 2001.
2. Participants whose first follow-up HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a negative or low-grade are managed as higher risk instead of intermediate risk if they are 2 or more years overdue for screening, identify as Aboriginal and/or Torres Strait Islander, or aged 50 or over. However, higher risk is based on test results without considering characteristics of the participants, so these participants are not included as higher risk in this performance indicator.
3. Participants were allocated to an Indigenous status from the NCSR according to a derived Indigenous status based on last Indigenous status identified in the NCSR from the Medicare VII and migrated data, supplemented with historical Indigenous status sources, grouped into Indigenous, non-Indigenous, and not stated.
4. Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this table.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 4.8: Colposcopy rate, by Indigenous status and remoteness area, participants aged 25–74, 2022

Indigenous status	Remoteness area				
	Major cities	Inner regional	Outer regional	Remote	Very remote
Indigenous	56.7	50.0	48.2	37.7	25.8
Non-Indigenous	61.0	58.0	54.1	54.0	54.3
Australia	60.7	57.0	53.3	47.6	43.6

Notes:

1. Crude rate is the number of participants who have a colposcopy within 3 months as a per cent of the number of participants who are at higher risk of a significant cervical abnormality.
2. Participants whose first follow-up HPV test result was oncogenic HPV (not 16/18) and whose reflex LBC test result was a negative or low-grade are managed as higher risk instead of intermediate risk if they are 2 or more years overdue for screening, identify as Aboriginal and/or Torres Strait Islander, or aged 50 or over. However, higher risk is based on test results without considering characteristics of the participants, so these participants are not included as higher risk in this performance indicator.
3. Participants were allocated to a remoteness area using their SA2 at the time of their screen (or postcode where SA2 was not available) according to the Australian Statistical Geography Standard (ASGS) for 2021.
4. Participants were allocated to an Indigenous status from the NCSR according to a derived Indigenous status based on last Indigenous status identified in the NCSR from the Medicare VII and migrated data, supplemented with historical Indigenous status sources, grouped into Indigenous, non-Indigenous, and not stated.
5. Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this table.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 4.9: High-grade cervical abnormality detection, by Indigenous status, participants aged 25–74, 2022

Indigenous status	Number participants with high-grade abnormality detected	Number participants screened	Number participants with high-grade abnormality detected per 1,000 participants screened	
			Crude rate	AS rate
Indigenous	499	39,668	12.6	11.8
Non-Indigenous	8,718	1,213,767	7.2	7.7
Not stated	2,985	319,762	9.3	9.4
Australia	**12,202**	**1,573,197**	**7.8**	**8.1**

Notes:

1. Crude rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened. Age-standardised (AS) rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened, age-standardised to the Australian population as at 30 June 2001.
2. Participants were allocated to an Indigenous status from the NCSR according to a derived Indigenous status based on last Indigenous status identified in the NCSR from the Medicare VII and migrated data, supplemented with historical Indigenous status sources, grouped into Indigenous, non-Indigenous, and not stated.
3. Aboriginal and Torres Strait Islander participants are respectfully referred to as Indigenous participants in this table.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 4.10: High-grade cervical abnormality detection rate for Aboriginal and Torres Strait Islander participants aged 25–74, 2018 to 2023

Year	Number participants with high-grade abnormality detected	Number participants screened	Number participants with high-grade abnormality detected per 1,000 participants screened	
			Crude rate	AS rate
2018	558	43,948	12.7	11.1
2019	612	44,414	13.8	12.1
2020	635	29,718	21.4	18.5
2021	584	24,667	23.7	20.8
2022	483	24,386	19.8	17.3
2023	499	39,668	12.6	11.8

Note: Crude rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened. Age-standardised (AS) rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table 4.11: Cervical cancer incidence, by Indigenous status (New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory), women aged 25–74, 2016–2020

Indigenous status	New cases	Crude rate	AS rate
Indigenous	194	21.9	22.8
Non-Indigenous	3,350	9.7	10.0
Not stated	236	. .	. .
Total	**3,780**	**10.7**	**11.0**

Notes

1. Data shown are for New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory only; data from these jurisdictions were considered to have adequate levels of Indigenous identification in cancer registration data at the time this report was prepared.
2. Some states and territories use an imputation method for determining cancers among Indigenous people, which may lead to differences between these data and those shown in jurisdictional cancer incidence reports.
3. Crude rate is the number of new cases of cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of new cases of cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.
4. Aboriginal and Torres Strait Islander women are respectfully referred to as Indigenous women in this table.

Source*:* AIHW Australian Cancer Database 2020.

Table 4.12: Cervical cancer mortality, by Indigenous status (New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory), women aged 25–74, 2018–2022

	Australia	NSW, Qld, WA, SA, and NT		
Indigenous status	**Deaths**	**Deaths**	**Crude rate**	**AS rate**
Indigenous	70	64	7.1	7.6
Non-Indigenous	819	615	2.3	2.1
Not stated	9	5	. .	. .
Total	**898**	**684**	**2.4**	**2.3**

Notes

1. Data shown for ‘Australia’ are for all states and territories combined; data shown for ‘NSW, Qld, WA, SA, and NT’ are for New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory only; data from these jurisdictions were considered to have adequate levels of Indigenous identification in cancer mortality data at the time this report was prepared. Caution should be used when interpreting data for ‘Australia’ as these include jurisdictions that do not have adequate levels of Indigenous identification.
2. Deaths from 2018 to 2021 were derived by year of death; deaths in 2022 were derived by year of registration of death. Deaths registered in 2019 and earlier are based on the final version of cause-of-death data; deaths registered in 2020 are based on revised versions; and deaths registered in 2021 and 2022 are based on preliminary versions. Revised and preliminary versions are subject to further revision by the ABS.
3. Crude rate is the number of deaths from cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of deaths from cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.
4. Aboriginal and Torres Strait Islander women are respectfully referred to as Indigenous women in this table.

Source*:* AIHW National Mortality Database.

Appendix A: Additional data tables

A1 Participation

Table A1.1: Participation, by age, 2019–2023

Age group	Number	Crude rate (%)
<25	65,376	. .
25–29	694,657	75.1
30–34	581,843	60.6
35–39	548,682	60.8
40–44	486,466	62.8
45–49	472,672	65.9
50–54	428,664	64.7
55–59	393,498	64.8
60–64	357,246	64.6
65–69	286,858	61.3
70–74	177,942	43.6
75+	13,620	. .
25–74	**4,428,528**	**63.5**
All ages	**4,507,524**	**. .**

Notes

1. Number is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of females who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.2: Participation, by state and territory, participants aged 25–74, 2019–2023

State and territory	Number	Crude rate (%)	AS rate (%)
NSW	1,351,010	61.8	61.8
Vic	1,194,596	65.9	66.0
Qld	875,540	62.2	62.3
WA	470,912	63.6	63.6
SA	309,177	64.0	64.3
Tas	97,156	63.6	64.0
ACT	83,405	66.5	66.5
NT	45,026	65.2	64.1
Australia	**4,428,528**	**63.5**	**63.5**

Notes

1. Number is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.
4. State and territory is the state or territory of residence of the participant, which may be different to the state or territory in which the screen took place. Direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions, including population, area, geographical structure, policies, and other factors.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.3: Participation, by remoteness area, participants aged 25–74, 2019–2023

Remoteness area	Number	Crude rate (%)	AS rate (%)
Major cities	3,286,779	64.3	64.3
Inner regional	736,708	61.6	62.3
Outer regional	327,402	60.2	60.7
Remote	47,409	60.1	59.8
Very remote	27,906	56.2	55.5
Australia	**4,428,528**	**63.5**	**63.5**

Notes

1. Number is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.
4. Participants were allocated to a remoteness area using their SA2 at the time of their screen (or postcode where SA2 was not available) according to the Australian Statistical Geography Standard (ASGS) for 2021.
5. Australia does not match the total number of participants across different remoteness areas because some participants were not able to be allocated to a remoteness area.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.4: Participation, by socioeconomic area, participants aged 25–74, 2019–2023

Socioeconomic area	Number	Crude rate (%)	AS rate (%)
1 (most disadvantaged)	763,662	56.7	56.8
2	821,868	59.6	59.7
3	873,767	62.6	62.6
4	942,513	65.8	65.7
5 (least disadvantaged)	1,023,885	71.9	71.9
Australia	**4,428,528**	**63.5**	**63.5**

Notes

1. Number is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.
4. Participants were allocated to a socioeconomic area using their SA2 at the time of their screen (or postcode where SA2 was not available), according to the Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage for 2021.
5. Australia does not match the total number of participants across different socioeconomic areas because some participants were not able to be allocated to a socioeconomic area.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.5: Participation, by year, participants aged 25–74, 2018–2022 to 2019–2023

Year	Number	Crude rate (%)	AS rate (%)
2018–2022	4,718,458	68.5	68.6
2019–2023	4,428,528	63.5	63.5

Notes

1. Number is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2018 and 31 December 2022 or between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had a screening HPV test (reason for test of primary screening or follow-up HPV test) between 1 January 2018 and 31 December 2022 or between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2018, 2019, 2020, 2021, and 2022, or 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.6: Coverage, by age, 2019–2023

Age group	Number	Crude rate (%)
<25	162,221	. .
25–29	777,152	84.0
30–34	678,477	70.7
35–39	648,472	71.8
40–44	575,618	74.3
45–49	559,367	78.0
50–54	501,004	75.6
55–59	448,261	73.8
60–64	397,330	71.8
65–69	316,263	67.6
70–74	198,030	48.6
75+	28,695	. .
25–74	**5,099,974**	**73.1**
All ages	**5,290,890**	**. .**

Notes

1. Number is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.7: Coverage, by state and territory, participants aged 25–74, 2019–2023

State and territory	Number	Crude rate (%)	AS rate (%)
NSW	1,581,201	72.3	72.5
Vic	1,340,839	74.0	74.2
Qld	1,027,086	73.0	73.2
WA	537,525	72.6	72.7
SA	354,591	73.4	74.0
Tas	109,769	71.9	72.7
ACT	95,504	76.2	76.3
NT	51,011	73.9	72.7
Australia	**5,099,974**	**73.1**	**73.3**

Notes

1. Number is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.
4. State and territory is the state or territory of residence of the participant, which may be different to the state or territory in which the screen took place. Direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions, including population, area, geographical structure, policies, and other factors.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.8: Coverage, by remoteness area, participants aged 25–74, 2019–2023

Remoteness area	Number	Crude rate (%)	AS rate (%)
Major cities	3,774,723	73.9	73.9
Inner regional	854,494	71.4	72.6
Outer regional	380,493	69.9	70.9
Remote	54,737	69.4	69.2
Very remote	32,283	65.0	64.3
Australia	**5,099,974**	**73.1**	**73.3**

Notes

1. Number is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.
4. Participants were allocated to a remoteness area using their SA2 at the time of their screen (or postcode where SA2 was not available) according to the Australian Statistical Geography Standard (ASGS) for 2021.
5. Australia does not match the total number of participants across different remoteness areas because some participants were not able to be allocated to a remoteness area.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.9: Coverage, by socioeconomic area, participants aged 25–74, 2019–2023

Socioeconomic area	Number	Crude rate (%)	AS rate (%)
1 (most disadvantaged)	881,024	65.4	65.8
2	948,648	68.8	69.2
3	1,007,134	72.1	72.3
4	1,081,372	75.5	75.4
5 (least disadvantaged)	1,177,940	82.7	82.8
Australia	**5,099,974**	**73.1**	**73.3**

Notes

1. Number is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.
4. Participants were allocated to a socioeconomic area using their SA2 at the time of their screen (or postcode where SA2 was not available), according to the Socio-Economic Indexes for Areas (SEIFA) Index of Relative Socio-Economic Disadvantage for 2021.
5. Australia does not match the total number of participants across different socioeconomic areas because some participants were not able to be allocated to a socioeconomic area.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.10: Coverage, by year, participants aged 25–74, 2018–2022 to 2019–2023

Year	Number	Crude rate (%)	AS rate (%)
2018–2022	5,289,295	76.8	77.1
2019–2023	5,099,974	73.1	73.3

Notes

1. Number is the number of participants who had an HPV or LBC test for any reason between 1 January 2018 and 31 December 2022 or between 1 January 2019 and 31 December 2023. Excludes current Compass participants.
2. Crude rate is the number of participants who had an HPV or LBC test for any reason between 1 January 2018 and 31 December 2022 or between 1 January 2019 and 31 December 2023 as a percentage of the average ABS estimated resident population for females aged 25–74 in 2018, 2019, 2020, 2021, and 2022, or 2019, 2020, 2021, 2022, and 2023, adjusted to exclude the estimated number of participants who have had a hysterectomy (using age-specific hysterectomy fractions derived from the AIHW National Hospitals Morbidity Database).
3. Age-standardised (AS) rate is the crude rate, age-standardised to the Australian population at 30 June 2001.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.11: Reason for HPV test and reason for LBC test, participants aged 25–74, 2019–2023

Reason for HPV test	Number	Per cent
Primary screening HPV test	4,379,048	66.5
Follow-up HPV test (Repeat HPV test after intermediate risk result)	619,961	9.4
Co-test – test of cure	360,463	5.5
Co-test – investigation of signs or symptoms	583,148	8.9
Co-test – other, as recommended in guidelines	152,512	2.3
Other	313,714	4.8
No HPV test performed or unknown reason	176,902	2.7
Reason for LBC test	**Number**	**Per cent**
Reflex LBC cytology after detection of oncogenic HPV in primary screening HPV test	392,525	6.0
Cytology after detection of oncogenic HPV in self-collected sample	17,870	0.3
Reflex LBC after detection of oncogenic HPV in Follow-up HPV test	330,178	5.0
Cytology at colposcopy	95,315	1.4
Co-test – test of cure	363,705	5.5
Co-test – investigation of signs or symptoms	587,341	8.9
Co-test – other, as recommended in guidelines	154,612	2.3
Other	233,383	3.5
Conventional Pap test to screen for cervical cancer precursors	115	0.0
No LBC test performed or unknown reason	4,409,088	66.9

Note: Based on participants who had an HPV or LBC test for any reason between 1 January 2019 and 31 December 2023. All tests in the period are included, not just the first test. As many participants have an HPV test and an LBC test, the number of HPV tests and the number of LBC tests combined exceeds the total number of tests. Excludes current Compass participants.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.12: Number of screening HPV tests, per month, participants aged 25–74, 2018, 2019, 2020, 2021, 2022, and 2023

	Year					
Month	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
January	132,560	125,232	94,492	51,692	43,031	77,525
February	146,074	164,893	102,025	60,464	58,966	107,644
March	145,087	168,320	74,262	63,814	57,346	120,435
April	125,064	130,014	37,530	50,882	39,285	86,820
May	164,729	154,317	56,430	53,600	47,654	124,568
June	139,872	126,318	70,459	56,407	44,951	108,820
July	142,477	145,431	68,368	55,124	42,858	109,220
August	145,743	141,825	58,627	51,113	50,459	120,983
September	119,417	129,969	64,237	50,445	46,229	107,777
October	141,318	143,976	65,680	49,144	53,809	118,615
November	138,636	133,171	64,368	53,087	62,860	119,947
December	100,630	93,783	52,136	42,719	57,915	86,938

Note*:* Data are number of screening HPV tests (reason for test of primary screening or follow-up HPV test) performed each month in 2018, 2019, 2020, 2021, 2022, and 2023 for participants aged 25–74. Excludes current Compass participants.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.13: Number of HPV and LBC tests, per month, participants aged 25–74, 2018, 2019, 2020, 2021, 2022, and 2023

	Year					
Month	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
January	154,046	147,723	118,016	75,337	62,163	102,286
February	170,932	192,640	130,031	89,726	86,791	138,842
March	169,905	197,215	97,523	95,500	86,474	155,162
April	146,374	153,492	53,777	75,381	60,471	110,774
May	192,454	182,898	79,854	80,154	75,271	158,293
June	163,323	150,311	98,399	82,850	70,940	138,252
July	165,893	172,632	96,504	80,433	67,160	137,436
August	171,367	168,548	84,671	76,552	79,199	152,745
September	141,147	154,526	93,085	75,969	72,155	135,558
October	167,804	171,871	95,327	74,691	79,841	148,069
November	164,621	160,720	93,785	81,123	91,296	150,425
December	120,213	114,768	76,975	63,816	79,873	109,449

Note*:* Data are number of HPV and LBC tests for any reason performed each month in 2018, 2019, 2020, 2021, 2022, and 2023 for participants aged 25–74. Excludes current Compass participants.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A1.14: Number of self-collected screening HPV tests per month, participants aged 25–74, 2018, 2019, 2020, 2021, 2022, and 2023

	Year					
Month	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**
January	48	186	236	245	371	11,386
February	77	263	316	300	535	16,432
March	103	314	239	370	588	20,191
April	113	283	142	305	421	15,833
May	128	332	158	361	500	23,872
June	116	275	237	387	619	23,043
July	118	304	212	408	3,357	24,770
August	159	301	188	382	4,970	29,062
September	126	297	252	479	5,416	26,927
October	165	329	309	365	6,533	30,820
November	176	353	271	580	8,384	33,119
December	149	262	293	424	7,938	24,159

Note*:* Data are number of screening HPV tests (reason for test of primary screening or follow-up HPV test) that were self-collected each month in 2018, 2019, 2020, 2021, and 2022, for participants aged 25–74. Excludes current Compass participants.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A2 Response to invitation

Table A2.1: Response to invitation, by age, 2023

		Response within 6 months	
Age group	**Invitations**	**Number**	**Crude rate (%)**
25–29	274,598	46,321	16.9
30–34	203,219	57,034	28.1
35–39	233,428	72,962	31.3
40–44	373,014	82,009	22.0
45–49	402,723	81,956	20.4
50–54	414,076	87,257	21.1
55–59	355,768	84,278	23.7
60–64	340,112	89,878	26.4
65–69	303,572	80,122	26.4
70–74	130,775	51,774	39.6
25–74	**3,031,285**	**733,591**	**24.2**

Note*:* Invitations refer to the number of invitees sent an invitation to screen or rescreen; number refers to the number of invitees who had an HPV test within 6 months.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A2.2: Response to invitation, by letter type, invitees aged 25–74, 2023

		Response within 6 months	
Letter type	**Invitations**	**Number**	**Crude rate (%)**
A1	256,731	40,101	15.6
B1	730,846	26,397	3.6
C1	1,380,962	656,715	47.6
D1	662,746	10,378	1.6
Total	**3,031,285**	**733,591**	**24.2**

Note*:* A1 = invitation to screen; B1 = invitation to screen eligible to self-collect; C1 = invitation to rescreen; D1 = invitation to rescreen eligible to self-collect. Invitations refer to the number of invitees sent an invitation to screen or rescreen; number refers to the number of invitees who had an HPV test within 6 months.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A2.3: Response to invitation to screen or rescreen, by state and territory, invitees aged 25–74, 2023

		Response within 6 months	
State and territory	**Invitations**	**Number**	**Crude rate (%)**
NSW	994,568	212,157	21.3
Vic	848,105	200,242	23.6
Qld	545,445	141,926	26.0
WA	301,962	79,854	26.4
SA	187,428	57,685	30.8
Tas	53,342	17,264	32.4
ACT	49,407	13,728	27.8
NT	29,780	5,398	18.1
Australia	**3,031,285**	**733,591**	**24.2**

Note Invitations refer to the number of invitees sent an invitation to screen or rescreen; number refers to the number of invitees who had an HPV test within 6 months.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A4 Screening results

Table A4.1: Risk of a significant cervical abnormality, primary screening tests, by age, 2023

	Risk of a significant cervical abnormality					
	Low risk		Intermediate risk		Higher risk	
Age group	Number	Crude rate (%)	Number	Crude rate (%)	Number	Crude rate (%)
25–29	103,480	81.2	19,691	15.5	1,949	1.5
30–34	105,973	89.6	8,941	7.6	1,937	1.6
35–39	119,290	92.7	6,343	4.9	2,002	1.6
40–44	120,762	93.6	5,117	4.0	2,127	1.6
45–49	114,577	94.0	4,250	3.5	2,124	1.7
50–54	119,196	94.4	3,938	3.1	2,106	1.7
55–59	111,700	94.9	3,259	2.8	1,848	1.6
60–64	116,419	95.4	2,938	2.4	1,788	1.5
65–69	101,789	95.6	2,343	2.2	1,497	1.4
70–74	68,798	96.1	1,116	1.6	901	1.3
25–74	**1,081,984**	**92.5**	**57,936**	**5.0**	**18,279**	**1.6**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A4.2: Risk of a significant cervical abnormality, primary screening tests, by state and territory, participants aged 25–74, 2023

	Risk of a significant cervical abnormality					
	Low risk		Intermediate risk		Higher risk	
State and territory	Number	Crude rate (%)	Number	Crude rate (%)	Number	Crude rate (%)
NSW	319,629	92.8	16,870	4.9	5,310	1.5
Vic	302,501	92.4	16,602	5.1	4,897	1.5
Qld	207,231	92.2	11,604	5.2	3,776	1.7
WA	115,645	92.5	6,116	4.9	1,883	1.5
SA	81,438	93.2	3,712	4.2	1,389	1.6
Tas	25,256	92.5	1,321	4.8	483	1.8
ACT	19,692	93.7	968	4.6	262	1.2
NT	10,310	87.8	688	5.9	259	2.2
Australia	**1,081,984**	**92.5**	**57,936**	**5.0**	**18,279**	**1.6**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A4.3: Risk of a significant cervical abnormality, primary screening tests, by year, participants aged 25–74, 2018 to 2023

	Risk of a significant cervical abnormality					
	Low risk		Intermediate risk		Higher risk	
Year	Number	Crude rate (%)	Number	Crude rate (%)	Number	Crude rate (%)
2018	1,446,180	91.0	98,823	6.2	39,647	2.5
2019	1,414,195	91.4	93,507	6.0	35,695	2.3
2020	597,481	89.4	50,793	7.6	18,429	2.8
2021	453,185	88.8	41,121	8.1	14,043	2.8
2022	432,543	89.4	36,482	7.5	11,066	2.3
2023	1,081,984	92.5	57,936	5.0	18,279	1.6

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A5 Correlation

Table A5.1: Histology performed within 6 months of a primary screening test, by prior LBC test result, participants aged 25–74 screened in 2022

	Histology result			
Prior LBC result	**Negative**	**Low-grade**	**High-grade**	**Cancer**
Negative	20.7	38.4	10.0	6.9
Low-grade	8.3	27.2	11.8	2.3
High-grade+	6.1	23.2	74.0	80.3

Note: Histology does not equal 100% as cases where LBC was not performed are included in calculations but excluded from this figure. Prior LBC of high-grade+ includes high-grade abnormalities and cervical cancer.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A5.2: Proportion of high-grade or glandular LBC tests followed by high-grade cervical abnormality or cervical cancer histology within 6 months, participants aged 25–74, 2018 to 2022

Year	Number of high-grade LBC results	Number followed by high-grade cervical histology within 6 months	Proportion (%)
2018	9,003	6,019	66.9
2019	7,738	5,209	67.3
2020	4,616	3,223	69.8
2021	3,776	2,773	73.4
2022	2,717	1,944	**71.5**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A6 Screening HPV test positivity

Table A6.1: Screening HPV test positivity, by age and birth cohort, 2023

	Screening HPV test positivity					
	Oncogenic HPV 16/18 detected		Oncogenic HPV (not 16/18) detected		Oncogenic HPV (any type) detected	
Age group	Number	Positivity (%)	Number	Positivity (%)	Number	Positivity (%)
Age 25–74						
<25	45	0.9	1,397	28.0	1,442	28.9
25–29	1,210	1.0	21,977	17.3	23,187	18.3
30–34	1,433	1.2	10,219	8.7	11,652	9.9
35–39	1,655	1.3	7,205	5.6	8,860	6.9
40–44	1,891	1.5	5,722	4.5	7,613	5.9
45–49	1,971	1.6	4,731	3.9	6,702	5.5
50–54	1,979	1.6	4,396	3.5	6,375	5.1
55–59	1,757	1.5	3,740	3.2	5,497	4.7
60–64	1,690	1.4	3,403	2.8	5,093	4.2
65–69	1,441	1.4	2,697	2.5	4,138	3.9
70–74	879	1.2	1,533	2.2	2,412	3.4
75+	116	2.8	127	3.0	243	5.8
25–74	**15,906**	**1.4**	**65,623**	**5.6**	**81,529**	**7.0**
Birth cohort offered HPV vaccination[(a)]						
<25	45	0.9	1,397	28.0	1,442	28.9
25–29	1,210	1.0	21,977	17.3	23,187	18.3
30–34	1,433	1.2	10,219	8.7	11,652	9.9
35–39	1,655	1.3	7,205	5.6	8,860	6.9
40–44	1,056	1.3	3,635	4.6	4,691	6.0
Total	**5,399**	**1.2**	**44,433**	**9.7**	**49,832**	**10.9**
Birth cohort not offered HPV vaccination[(b)]						
40–44	835	1.7	2,087	4.2	2,922	5.9
45–49	1,971	1.6	4,731	3.9	6,702	5.5
50–54	1,979	1.6	4,396	3.5	6,375	5.1
55–59	1,757	1.5	3,740	3.2	5,497	4.7
60–64	1,690	1.4	3,403	2.8	5,093	4.2
65–69	1,441	1.4	2,697	2.5	4,138	3.9
70–74	879	1.2	1,533	2.2	2,412	3.4
75+	116	2.8	127	3.0	243	5.8
Total	**10,668**	**1.5**	**22,714**	**3.2**	**33,382**	**4.7**

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024)

Table A6.2: Screening HPV test positivity, by state and territory and birth cohort, 2023

State and territory	Screening HPV test positivity					
	Oncogenic HPV 16/18 detected		Oncogenic HPV (not 16/18) detected		Oncogenic HPV (any type) detected	
	Number	Positivity (%)	Number	Positivity (%)	Number	Positivity (%)
Age 25–74						
NSW	4,587	1.3	18,840	5.5	23,427	6.8
Vic	4,314	1.3	18,810	5.8	23,124	7.1
Qld	3,292	1.5	13,093	5.9	16,385	7.3
WA	1,620	1.3	7,038	5.7	8,658	7.0
SA	1,206	1.4	4,222	4.9	5,428	6.2
Tas	415	1.5	1,523	5.6	1,938	7.1
ACT	225	1.1	1,058	5.0	1,283	6.1
NT	227	2.0	967	8.4	1,194	10.4
Australia	**15,906**	**1.4**	**65,623**	**5.6**	**81,529**	**7.0**
Birth cohort offered HPV vaccination[(a)]						
NSW	1,561	1.2	12,613	9.6	14,174	10.7
Vic	1,488	1.2	12,773	9.9	14,261	11.1
Qld	1,092	1.3	8,766	10.1	9,858	11.4
WA	605	1.2	4,906	9.6	5,511	10.8
SA	349	1.1	2,801	8.8	3,150	9.9
Tas	115	1.2	977	10.0	1,092	11.2
ACT	79	0.9	786	8.5	865	9.3
NT	96	1.6	750	12.1	846	13.7
Australia	**5,399**	**1.2**	**44,433**	**9.7**	**49,832**	**10.9**
Birth cohort not offered HPV vaccination[(b)]						
NSW	3,078	1.4	6,596	3.1	9,674	4.5
Vic	2,878	1.4	6,465	3.2	9,343	4.7
Qld	2,233	1.6	4,697	3.4	6,930	5.0
WA	1,030	1.4	2,324	3.1	3,354	4.5
SA	863	1.5	1,516	2.7	2,379	4.3
Tas	300	1.7	560	3.2	860	4.9
ACT	148	1.3	294	2.5	442	3.7
NT	132	2.4	250	4.6	382	7.0
Australia	**10,668**	**1.5**	**22,714**	**3.2**	**33,382**	**4.7**

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Note*:* Direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions, including population, area, geographical structure, policies, and other factors.

Source*:* AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A6.3: Screening HPV test positivity, by screening history and birth cohort, 2023

	Screening HPV test positivity					
	Oncogenic HPV 16/18 detected		Oncogenic HPV (not 16/18) detected		Oncogenic HPV (any type) detected	
Screening history	Number	Positivity (%)	Number	Positivity (%)	Number	Positivity (%)
Age 25–74						
Recently-screened	9,276	1.1	32,618	3.9	41,894	5.0
Under-screened	3,572	2.3	12,278	7.8	15,850	10.1
Never-screened	3,058	1.8	20,727	12.5	23,785	14.3
Australia	**15,906**	**1.4**	**65,623**	**5.6**	**81,529**	**7.0**
Birth cohort offered HPV vaccination[(a)]						
Recently-screened	1,993	0.8	16,333	6.5	18,326	7.3
Under-screened	1,075	1.7	7,917	12.3	8,992	14.0
Never-screened	2,331	1.7	20,183	14.4	22,514	16.0
Australia	**5,399**	**1.2**	**44,433**	**9.7**	**49,832**	**10.9**
Birth cohort not offered HPV vaccination[(b)]						
Recently-screened	7,346	1.2	16,560	2.8	23,906	4.0
Under-screened	2,547	2.7	4,438	4.7	6,985	7.4
Never-screened	775	2.6	1,716	5.7	2,491	8.2
Australia	**10,668**	**1.5**	**22,714**	**3.2**	**33,382**	**4.7**

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Note: Recently-screened participants are defined as participants whose previous HPV, LBC, or Pap test was in the 6 years prior to their oncogenic HPV test; under-screened participants are defined as participants whose previous HPV, LBC, or Pap test was more than 6 years prior to their oncogenic HPV test; never-screened participants are defined as participants with no previous HPV, LBC, or Pap test prior to their oncogenic HPV test.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A6.4: Screening HPV test positivity, by year and birth cohort, 2018 to 2023

	Screening HPV test positivity					
	Oncogenic HPV 16/18 detected		Oncogenic HPV (not 16/18) detected		Oncogenic HPV (any type) detected	
Year	Number	Positivity (%)	Number	Positivity (%)	Number	Positivity (%)
Age 25–74						
2018	33,325	2.1	106,231	6.7	139,556	8.8
2019	30,236	2.0	100,247	6.5	130,483	8.4
2020	15,182	2.3	54,627	8.2	69,809	10.5
2021	11,443	2.2	44,464	8.7	55,907	11.0
2022	9,008	1.9	40,571	8.4	49,579	10.3
2023	15,906	1.4	65,623	5.6	81,529	7.0
Birth cohort offered HPV vaccination[(a)]						
2018	12,510	2.3	69,527	12.7	82,037	15.0
2019	11,178	2.0	64,720	11.7	75,898	13.7
2020	7,004	2.1	41,034	12.5	48,038	14.7
2021	5,492	2.0	34,993	12.7	40,485	14.6
2022	4,160	1.6	31,987	12.2	36,147	13.8
2023	5,399	1.2	44,433	9.7	49,832	10.9
Birth cohort not offered HPV vaccination[(b)]						
2018	21,268	2.0	44,255	4.1	65,523	6.1
2019	19,371	1.9	39,781	3.9	59,152	5.8
2020	8,388	2.4	15,871	4.5	24,259	6.9
2021	6,087	2.5	11,098	4.6	17,185	7.1
2022	4,961	2.2	9,938	4.4	14,899	6.5
2023	10,668	1.5	22,714	3.2	33,382	4.7

(a) Participants born after 30 June 1980 were considered to have been offered HPV vaccination as these participants were eligible for the school or catch-up program during 2007.

(b) Participants born on or before 30 June 1980 were considered to have not been offered HPV vaccination, as these participants were outside the eligible age for HPV vaccination.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A8 LBC test in self-collection participants positive for oncogenic HPV (not 16/18)

Table A8.1: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) who had an LBC test within 3 months and within 6 months, by age, 2023

	Within 3 months		Within 6 months	
Age group	Number	Crude rate (%)	Number	Crude rate (%)
25–29	3,950	74.1	4,454	83.5
30–34	1,797	73.5	2,031	83.0
35–39	1,347	75.4	1,489	83.4
40–44	1,076	76.4	1,217	86.4
45–49	910	74.6	1,035	84.8
50–54	945	76.4	1,084	87.6
55–59	942	78.6	1,054	87.9
60–64	1,026	83.6	1,106	90.1
65–69	858	81.6	952	90.5
70–74	401	62.5	506	78.8
25–74	**13,252**	**75.5**	**14,928**	**85.1**

Source*:* AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A8.2: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV (not 16/18) who had an LBC test within 3 months and within 6 months, participants aged 25–74, 2018 to 2023

	Within 3 months		Within 6 months	
Year	Number	Crude rate (%)	Number	Crude rate (%)
2018	63	52.1	81	66.9
2019	122	46.2	157	59.5
2020	105	52.0	121	59.9
2021	170	48.2	206	58.4
2022	2,272	66.7	2,645	77.6
2023	13,252	75.5	14,928	85.1

Source*:* AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A9 Colposcopy in self-collection participants positive for oncogenic HPV 16/18

Table A9.1: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 who had a colposcopy within 3 months and within 6 months, by age, 2023

	Within 3 months		Within 6 months	
Age group	Number	Crude rate (%)	Number	Crude rate (%)
25–29	125	47.0	182	68.4
30–34	179	54.4	244	74.2
35–39	258	58.0	334	75.1
40–44	345	63.1	447	81.7
45–49	389	61.4	500	78.9
50–54	434	64.3	572	84.7
55–59	423	61.4	566	82.1
60–64	431	61.7	575	82.3
65–69	374	60.5	510	82.5
70–74	263	63.4	335	80.7
25–74	**3,221**	**60.6**	**4,265**	**80.2**

Note*:* Number who had a colposcopy within 6 months for 2022 data may be an underestimate.

Source*:* AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A9.2: Proportion of participants who self-collected a sample for their primary screening HPV test that detected oncogenic HPV 16/18 who had a colposcopy within 3 months and within 6 months, participants aged 25–74, 2018 to 2023

	Within 3 months		Within 6 months	
Year	Number	Crude rate (%)	Number	Crude rate (%)
2018	24	48.0	35	70.0
2019	48	46.2	66	63.5
2020	51	51.0	77	77.0
2021	66	50.0	90	68.2
2022	555	57.8	751	78.1
2023	3,221	60.6	4,265	80.2

Source*:* AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A10 Adherence to recommendation for follow-up

Table A10.1: Time to follow-up HPV test after intermediate risk screening episode, participants aged 25–74, 2022

Time to follow-up HPV test (months)	Number who had follow-up HPV test	Cumulative number who had follow-up HPV test	Per cent of intermediate risk participants who had follow-up HPV test (%)	Cumulative per cent of intermediate risk participants who had follow-up HPV test (%)
1	16	16	0.1	0.1
2	26	42	0.1	0.1
3	23	65	0.1	0.2
4	37	102	0.1	0.3
5	35	137	0.1	0.4
6	63	200	0.2	0.6
7	84	284	0.3	0.9
8	125	409	0.4	1.2
9	170	579	0.5	1.7
10	1,216	1,795	3.6	5.4
11	2,699	4,494	8.1	13.5
12	4,081	8,575	12.2	25.7
13	5,803	14,378	17.4	43.1
14	2,957	17,335	8.9	51.9
15	1,760	19,095	5.3	57.2
16	1,431	20,526	4.3	61.5
17	1,678	22,204	5.0	66.5
18	1,043	23,247	3.1	69.6
19	636	23,883	1.9	71.5
20	631	24,514	1.9	73.4
21	417	24,931	1.3	74.7
>21	1,012	25,943	3.0	77.7
No follow-up HPV test	7,452	33,395	22.3	100.0

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.2: Adherence to recommendation for follow-up after intermediate risk screening episode, by age, 2022

Age group	Number who had follow-up HPV test 9–15 months after screening episode	Adherence to recommendation for follow-up (%)
25–29	9,280	57.2
30–34	2,750	50.3
35–39	1,803	52.4
40–44	1,198	52.6
45–49	904	53.2
50–54	795	54.0
55–59	695	59.1
60–64	570	64.3
65–69	454	66.4
70–74	39	58.2
25–74	**18,488**	**55.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.3: Adherence to recommendation for follow-up after intermediate risk screening episode, by state and territory, participants aged 25–74, 2022

State and territory	Number who had follow-up HPV test 9–15 months after screening episode	Adherence to recommendation for follow-up (%)
NSW	5,411	53.8
Vic	5,451	57.4
Qld	3,575	53.3
WA	1,944	54.8
SA	1,166	58.8
Tas	385	60.3
ACT	344	61.2
NT	208	52.3
Australia	**18,488**	**55.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.4: Adherence to recommendation for follow-up after intermediate risk screening episode, by year, participants aged 25–74, 2021 to 2022

Year	Number who had follow-up HPV test 9–15 months after screening episode	Adherence to recommendation for follow-up (%)
2021	20,045	50.9
2022	18,488	55.4

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.5: Time to follow-up HPV test after intermediate risk follow-up episode, participants aged 25–74, 2022

Time to follow-up HPV test (months)	Number who had follow-up HPV test	Cumulative number who had follow-up HPV test	Per cent of intermediate risk participants who had follow-up HPV test (%)	Cumulative per cent of intermediate risk participants who had follow-up HPV test (%)
1	n.p.	n.p.	n.p.	n.p.
2	n.p.	n.p.	n.p.	n.p.
3	7	17	0.1	0.2
4	12	29	0.1	0.3
5	30	59	0.3	0.6
6	34	93	0.4	1.0
7	46	139	0.5	1.5
8	76	215	0.8	2.3
9	88	303	0.9	3.2
10	288	591	3.0	6.2
11	695	1,286	7.3	13.6
12	1,169	2,455	12.3	25.9
13	1,760	4,215	18.6	44.4
14	1,004	5,219	10.6	55.0
15	663	5,882	7.0	62.0
16	506	6,388	5.3	67.4
17	509	6,897	5.4	72.7
18	338	7,235	3.6	76.3
19	212	7,447	2.2	78.5
20	185	7,632	2.0	80.5
21	124	7,756	1.3	81.8
>21	319	8,075	3.4	85.1
No follow-up HPV test	1,409	9,484	14.9	100.0

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.6: Adherence to recommendation for follow-up after intermediate risk follow-up episode, by age, 2022

Age group	Number who had follow-up HPV test 9–15 months after follow-up episode	Adherence to recommendation for follow-up (%)
25–29	3,296	62.1
30–34	1,022	54.9
35–39	564	54.1
40–44	345	54.5
45–49	278	53.1
50–54	24	49.0
55–59	19	57.6
60–64	18	69.2
65–69	n.p.	n.p.
70–74	n.p.	n.p.
25–74	**5,570**	**58.7**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.7: Adherence to recommendation for follow-up after intermediate risk follow-up episode by state and territory, participants aged 25–74, 2022

State and territory	Number who had follow-up HPV test 9–15 months after follow-up episode	Adherence to recommendation for follow-up (%)
NSW	1,416	57.1
Vic	1,569	60.4
Qld	1,206	56.6
WA	660	59.4
SA	350	61.7
Tas	170	61.2
ACT	137	63.7
NT	61	60.4
Australia	**5,570**	**58.7**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A10.8: Adherence to recommendation for follow-up after intermediate risk follow-up episode, by year, participants aged 25–74, 2021 to 2022

Year	Number who had follow-up HPV test 9–15 months after screening episode	Adherence to recommendation for follow-up (%)
2021	6,969	56.6
2022	5,570	58.7

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A11 Follow up results

Table A11.1: Risk of a significant cervical abnormality, first follow-up episodes, by age, 2023

	Risk of a significant cervical abnormality					
	Low risk		Intermediate risk		Higher risk	
Age group	Number	Crude rate (%)	Number	Crude rate (%)	Number	Crude rate (%)
25–29	3,753	37.5	5,800	58.0	337	3.4
30–34	1,579	40.8	2,055	53.1	173	4.5
35–39	1,011	41.7	1,265	52.2	117	4.8
40–44	697	42.0	857	51.7	85	5.1
45–49	547	44.2	591	47.7	80	6.5
50–54	444	42.4	529	50.6	47	4.5
55–59	334	37.5	473	53.1	39	4.4
60–64	241	32.0	438	58.1	32	4.2
65–69	180	31.1	343	59.2	25	4.3
70–74	45	34.9	73	56.6	6	4.7
25–74	**8,831**	**39.1**	**12,424**	**55.0**	**941**	**4.2**

Note: Risk of significant cervical abnormality is based on HPV test and LBC test results only. There will be some participants with an intermediate risk first follow-up episode result that will be managed as higher risk due to their age, screening history, or Indigenous status.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A11.2: Risk of a significant cervical abnormality, first follow-up episodes, by state and territory, participants aged 25–74, 2023

	Risk of a significant cervical abnormality					
	Low risk		Intermediate risk		Higher risk	
State and territory	Number	Crude rate (%)	Number	Crude rate (%)	Number	Crude rate (%)
NSW	2,337	36.6	3,681	57.6	275	4.3
Vic	2,890	41.0	3,730	52.9	291	4.1
Qld	1,630	38.4	2,334	55.0	196	4.6
WA	994	40.8	1,313	53.9	90	3.7
SA	503	37.8	763	57.4	51	3.8
Tas	206	42.6	245	50.6	19	3.9
ACT	143	37.5	220	57.7	11	2.9
NT	126	46.2	134	49.1	8	2.9
Australia	**8,831**	**39.1**	**12,424**	**55.0**	**941**	**4.2**

Note: Risk of significant cervical abnormality is based on HPV test and LBC test results only. There will be some participants with an intermediate risk first follow-up episode result that will be managed as higher risk due to their age, screening history, or Indigenous status.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A11.3: Risk of a significant cervical abnormality, second follow-up episodes, by age, 2023

	Risk of a significant cervical abnormality			
	Low risk		Higher risk	
Age group	Number	Crude rate (%)	Number	Crude rate (%)
25–29	2,005	36.7	3,450	63.2
30–34	1,521	39.7	2,298	60.0
35–39	847	38.9	1,326	60.9
40–44	551	39.8	833	60.1
45–49	388	35.2	713	64.6
50–54	237	32.0	501	67.7
55–59	161	27.6	422	72.4
60–64	113	18.7	490	81.1
65–69	100	19.7	406	80.1
70–74	31	21.7	112	78.3
25–74	**5,954**	**36.0**	**10,551**	**63.8**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A11.4: Risk of a significant cervical abnormality, second follow-up episodes, by state and territory, participants aged 25–74, 2023

	Risk of a significant cervical abnormality			
	Low risk		Higher risk	
State and territory	Number	Crude rate (%)	Number	Crude rate (%)
NSW	1,604	32.9	3,259	66.9
Vic	1,730	36.5	3,008	63.4
Qld	999	41.1	1,423	58.6
WA	858	35.0	1,586	64.8
SA	341	32.1	720	67.7
Tas	207	49.4	211	50.4
ACT	131	34.6	247	65.2
NT	83	46.1	97	53.9
Australia	**5,954**	**36.0**	**10,551**	**63.8**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A12 Colposcopy rate

Table A12.1: Colposcopy rate, by screening or follow-up result, by age, 2022

	Screening or follow-up result				
Age group	Screening HPV 16/18	Screening HPV (not 16/18) + high-grade/ glandular LBC	First follow-up HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/ glandular LBC	Second follow-up any HPV	Total
Number of colposcopies					
25–29	715	589	296	1,565	3,165
30–34	723	289	223	1,190	2,425
35–39	807	238	113	671	1,829
40–44	702	152	98	489	1,441
45–49	611	79	43	355	1,088
50–54	550	44	52	284	930
55–59	475	35	30	213	753
60–64	451	45	30	250	776
65–69	318	38	18	226	600
70–74	257	25	6	54	342
25–74	**5,609**	**1,534**	**909**	**5,297**	**13,349**
Colposcopy rate (%)					
25–29	59.5	75.7	74.7	50.1	57.6
30–34	59.7	71.2	81.1	52.4	58.2
35–39	63.2	73.7	67.7	52.5	60.1
40–44	64.0	77.2	75.4	51.6	60.8
45–49	62.6	75.2	65.2	50.7	58.9
50–54	66.8	68.8	74.3	56.6	63.7
55–59	59.4	92.1	73.2	51.4	58.3
60–64	64.9	76.3	63.8	54.8	61.7
65–69	62.6	80.9	66.7	53.8	59.9
70–74	63.0	78.1	75.0	54.0	62.4
25–74	**62.4**	**74.9**	**74.1**	**51.9**	**59.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A12.2: Colposcopy rate, by screening or follow-up result, by state and territory, participants aged 25–74, 2022

	Screening or follow-up result				
State and territory	Screening HPV 16/18	Screening HPV (not 16/18) + high-grade/ glandular LBC	First follow-up HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/ glandular LBC	Second follow-up any HPV	Total
Number of colposcopies					
NSW	1,640	491	297	1,895	4,323
Vic	1,867	330	220	1,462	3,879
Qld	1,123	374	193	626	2,316
WA	467	169	104	723	1,463
SA	292	89	43	352	776
Tas	95	47	30	96	268
ACT	69	16	10	99	194
NT	54	18	12	44	128
Australia	**5,609**	**1,534**	**909**	**5,297**	**13,349**
Colposcopy rate (%)					
NSW	63.9	79.2	75.2	56.2	62.2
Vic	65.8	71.7	71.4	51.8	60.4
Qld	59.5	79.6	78.1	48.1	59.3
WA	60.2	71.3	70.7	49.9	56.1
SA	54.2	69.0	69.4	47.2	52.6
Tas	62.1	69.1	71.4	43.6	55.5
ACT	63.9	51.6	83.3	43.4	51.2
NT	44.6	60.0	85.7	57.1	52.9
Australia	**62.4**	**74.9**	**74.1**	**51.9**	**59.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A12.3: Colposcopy rate, by year, participants aged 25–74, 2021 to 2022

Year	Number	Colposcopy rate (%)
2021	11,942	66.5
2022	13,349	59.4

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A13 Time to colposcopy

Table A13.1: Proportion of participants who had a colposcopy within 4 weeks, 8 weeks, 12 weeks, and 26 weeks, by screening or follow-up result, participants aged 25–74, 2022

	Screening or follow-up result				
Time to colposcopy (weeks)	Screening HPV 16/18	Screening HPV (not 16/18) + high-grade/ glandular LBC	First follow-up HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/ glandular LBC	Second follow-up any HPV	Total
Number					
4	1,778	497	397	1,833	4,140
8	3,917	1,142	587	3,374	9,154
12	5,310	1,481	808	5,999	12,617
26	7,216	1,843	931	8,646	17,731
Not performed	*1,778*	*206*	*1,227*	*10,215*	*4,754*
Per cent					
4	19.8	24.3	24.1	15.4	18.4
8	43.6	55.7	56.5	33.3	40.7
12	59.0	72.3	72.0	48.4	56.1
26	80.2	89.9	90.0	74.1	78.9
Not performed	*19.8*	*10.1*	*10.0*	*25.9*	*21.1*

Note*:* Data shown for time to colposcopy to 26 weeks are cumulative number and per cent; data shown for 'not performed' are not cumulative.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A13.2: Time to colposcopy in median days, by screening or follow-up result, by age, 2022

	Screening or follow-up result				
Age group	Screening HPV 16/18	Screening HPV (not 16/18) + high-grade/ glandular LBC	First follow-up HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/ glandular LBC	Second follow-up any HPV	Total
25–29	61	50	48	83	69
30–34	61	49	43	78	67
35–39	57	48	55	79	65
40–44	60	43	49	76	62
45–49	66	49	54	79	69
50–54	60	54	52	69	62
55–59	67	32	48	78	67
60–64	61	52	62	77	64
65–69	61	59	63	76	66
70–74	58	36	38	73	58
25–74	**61**	**49**	**48**	**79**	**65**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A13.3: Time to colposcopy in median days, by screening or follow-up result, by state and territory, participants aged 25–74, 2022

	Screening or follow-up result				
State and territory	Screening HPV 16/18	Screening HPV (not 16/18) + high-grade/ glandular LBC	First follow-up HPV 16/18 + any LBC or HPV (not 16/18) + high-grade/ glandular LBC	Second follow-up any HPV	Total
NSW	54	42	43	68	56
Vic	61	55	58	80	69
Qld	63	45	45	88	64
WA	64	53	49	83	71
SA	74	54	54	87	76
Tas	68	75	59	97	82
ACT	52	88	33	92	78
NT	74	67	37	72	71
Australia	**61**	**49**	**48**	**79**	**65**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A14 Biopsy rate

Table A14.1: Biopsy rate, by age, 2023

Age group	Number	Biopsy rate (%)
<25	1,793	47.5
25–29	6,924	52.4
30–34	6,267	48.8
35–39	4,976	45.6
40–44	4,056	44.3
45–49	3,171	41.3
50–54	2,513	33.8
55–59	1,897	29.8
60–64	1,664	26.7
65–69	1,222	23.5
70–74	874	19.9
75+	295	15.8
25–74	**33,564**	**40.2**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A14.2: Biopsy rate, by state and territory, participants aged 25–74, 2023

State and territory	Number	Biopsy rate (%)
NSW	9,986	42.1
Vic	8,690	42.9
Qld	7,831	40.4
WA	3,513	39.2
SA	1,922	28.3
Tas	924	42.3
ACT	436	34.1
NT	210	30.9
Australia	**33,564**	**40.2**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A14.3: Biopsy rate, by year, participants aged 25–74, 2018 to 2023

Year	Number	Biopsy rate (%)
2018	35,747	45.8
2019	43,133	45.5
2020	42,508	44.5
2021	40,111	41.9
2022	32,371	40.7
2023	33,564	40.2

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A15 Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results

Table A15.1: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results, by age, 2022

Age group	Number	Yield (%)
25–29	1,242	32.0
30–34	1,001	31.3
35–39	805	33.0
40–44	549	29.4
45–49	330	23.2
50–54	168	14.5
55–59	103	10.5
60–64	84	9.0
65–69	55	7.2
70–74	44	9.2
25–74	**4,381**	**25.6**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A15.2: Yield of high-grade abnormalities on biopsy among participants who attend colposcopy after higher risk screening results, by year, participants aged 25–74, 2021 to 2022

Year	Number	Yield (%)
2021	5,167	31.5
2022	4,381	25.6

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A16 Positive predictive value of colposcopy

Table A16.1: Positive predictive value of colposcopy, by age, 2022

Age group	Number	Positive predictive value (%)
25–29	612	69.5
30–34	497	69.9
35–39	404	74.3
40–44	274	74.9
45–49	150	71.8
50–54	60	57.1
55–59	40	65.6
60–64	22	57.9
65–69	n.p.	n.p.
70–74	n.p.	n.p.
25–74	**2,078**	**70.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A16.2: Positive predictive value of colposcopy, by year, participants aged 25–74, 2021 to 2022

Year	Number	Positive predictive value (%)
2021	2,674	72.8
2022	2,078	70.4

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A17a High-grade cervical abnormality detection rate

Table A17.1: High-grade cervical abnormality detection, by age, 2023

Age group	Number participants with high-grade abnormality detected	Number participants screened	Number participants with high-grade abnormality detected per 1,000 participants screened
<20	24	4,855	4.9
20–24	425	27,189	15.6
25–29	2,834	192,743	14.7
30–34	2,757	182,732	15.1
35–39	2,190	186,159	11.8
40–44	1,592	178,473	8.9
45–49	1,034	164,291	6.3
50–54	672	165,988	4.0
55–59	414	147,698	2.8
60–64	336	146,345	2.3
65–69	232	124,961	1.9
70–74	141	83,807	1.7
75+	70	10,958	6.4
25–74	**12,202**	**1,573,197**	**7.8**
All ages	**12,721**	**1,616,199**	**7.9**

Note: Crude rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A17.2: Proportion of participants with high-grade cervical abnormality detected, by histological type, by age, 2023

Age group	CIN NOS	CIN2	CIN3	Endocervical dysplasia	AIS
25–29	4.4	38.9	55.0	n.p.	1.4
30–34	5.9	32.3	58.8	0.2	2.8
35–39	5.7	28.3	61.2	n.p.	4.7
40–44	5.6	29.1	59.7	n.p.	5.3
45–49	7.1	31.6	56.8	n.p.	4.3
50–54	8.8	27.7	59.1	n.p.	4.2
55–59	9.7	27.5	58.7	n.p.	3.6
60–64	10.7	22.0	62.8	n.p.	3.3
65–69	9.1	25.4	61.2	0.0	n.p.
70–74	12.8	20.6	63.8	0.0	n.p.
25–74	**6.1**	**31.7**	**58.5**	**0.2**	**3.4**

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A17.3: High-grade cervical abnormality detection, by state and territory, participants aged 25–74, 2023

State and territory	Number participants with high-grade abnormality detected	Number participants screened	Number participants with high-grade abnormality detected per 1,000 participants screened	
			Crude rate	AS rate
NSW	3,781	476,384	7.9	8.3
Vic	2,652	412,595	6.4	6.7
Qld	3,011	318,742	9.4	9.8
WA	1,312	170,138	7.7	7.8
SA	784	115,053	6.8	7.5
Tas	305	35,690	8.5	9.6
ACT	189	28,217	6.7	6.6
NT	131	15,797	8.3	7.7
Australia	**12,202**	**1,573,197**	**7.8**	**8.1**

Note: Crude rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened. Age-standardised (AS) rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A17.4: High-grade cervical abnormality detection calculated using a cohort approach, by screening history, participants aged 25–74, 2023

Screening history	Number participants with high-grade abnormality detected within 6 months	Number participants who had an HPV test	Number participants with high-grade abnormality detected per 1,000 participants screened
Recently-screened	6,520	1,199,081	5.4
Under-screened	1,071	178,488	6.0
Never-screened	1,211	185,640	6.5
Australia	**8,802**	**1,563,209**	**5.6**

Notes:

1. The usual methodology for calculating high-grade cervical abnormality detection cannot be used to look at screening history, therefore a cohort approach to calculate high-grade cervical abnormality detection is instead used so that the oncogenic HPV test that preceded the high-grade histology can be used to assign participants as recently-screened, under-screened, or never-screened. Cohort approach created a cohort of participants who had an HPV test for any reason in 2023, and followed them for 6 months to determine if they had a high-grade abnormality detected. Screening history is as at the time of the HPV test.
2. Recently-screened participants are defined as participants whose previous HPV, LBC, or Pap test was in the 6 years prior to their oncogenic HPV test; under-screened participants are defined as participants whose previous HPV, LBC, or Pap test was more than 6 years prior to their oncogenic HPV test; never-screened participants are defined as participants with no previous HPV, LBC, or Pap test prior to their oncogenic HPV test.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

Table A17.5: High-grade cervical abnormality detection rate, participants aged 25–74, 2018 to 2023

Year	Number participants with high-grade abnormality detected	Number participants screened	Number participants with high-grade abnormality detected per 1,000 participants screened	
			Crude rate	AS rate
2018	15,556	1,888,221	8.2	8.1
2019	18,524	1,920,124	9.6	9.5
2020	17,770	1,076,506	16.5	14.8
2021	15,092	914,815	16.5	14.9
2022	12,420	874,286	14.2	13.1
2023	12,202	1,573,197	7.8	8.1

Note: Crude rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened. Age-standardised (AS) rate is the number of participants with a high-grade abnormality detected on histology per 1,000 participants screened, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A17b Cervical cancer detection rate

Table A17.6: Cervical cancer detection, by age, 2023

Age group	Number participants with cervical cancer detected	Number participants screened	Number participants with cervical cancer detected per 1,000 participants screened
25–29	24	192,743	0.1
30–34	68	182,732	0.4
35–39	149	186,159	0.8
40–44	145	178,473	0.8
45–49	102	164,291	0.6
50–54	93	165,988	0.6
55–59	70	147,698	0.5
60–64	71	146,345	0.5
65–69	66	124,961	0.5
70–74	47	83,807	0.6
25–74	**835**	**1,573,197**	**0.5**
All ages	**898**	**1,616,199**	**0.6**

Note: Crude rate is the number of participants with a cervical cancer detected on histology per 1,000 participants screened.

Source: AIHW analysis of NCSR data (NCSR RDE 4.8 06/07/2024).

A19 Incidence of cervical cancer

Table A19.1: Cervical cancer incidence, by age, 2020

Age group	New cases	Crude rate
25–29	31	3.3
30–34	117	12.2
35–39	165	17.8
40–44	149	18.2
45–49	109	12.8
50–54	109	13.7
55–59	72	9.0
60–64	58	7.8
65–69	64	9.8
70–74	42	7.4
25–74	**916**	**11.4**
All ages	**982**	**7.6**

Note*:* Crude rate is number of new cases of cervical cancer per 100,000 females in the population.

Source*:* AIHW Australian Cancer Database 2020.

Table A19.2: Cervical cancer incidence, by state and territory, women aged 25–74, 2016–2020

State and territory	New cases	Crude rate	AS rate
NSW	1,243	10.1	10.3
Vic	999	9.9	10.2
Qld	1,041	13.4	13.9
WA	404	9.9	10.2
SA	303	11.1	11.9
Tas	108	12.7	13.8
ACT	48	7.2	7.5
NT	45	11.9	12.1
Australia	**4,191**	**10.8**	**11.1**

Note*:* Crude rate is the number of new cases of cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of new cases of cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source*:* AIHW Australian Cancer Database 2020.

Table A19.3: Cervical cancer incidence, by remoteness area, women aged 25–74, 2016–2020

Remoteness area	New cases	Crude rate	AS rate
Major cities	2,848	10.2	10.4
Inner regional	812	11.6	12.5
Outer regional	431	13.3	14.4
Remote	58	12.5	13.0
Very remote	38	14.3	14.7
Australia	**4,191**	**10.8**	**11.1**

Notes

1. Remoteness classification is based on area of usual residence (Statistical Local Area Level 2) at the time of diagnosis.
2. 'Australia' does not match the total because some new cases were not able to be allocated to a remoteness area.
3. Crude rate is the number of new cases of cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of new cases of cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW Australian Cancer Database 2020.

Table A19.4: Cervical cancer incidence, by socioeconomic area, women aged 25–74, 2016–2020

Socioeconomic area	New cases	Crude rate	AS rate
1 (most disadvantaged)	894	12.4	13.1
2	875	11.4	11.9
3	862	10.9	11.3
4	835	10.3	10.5
5 (least disadvantaged)	716	9.0	9.1
Australia	**4,191**	**10.8**	**11.1**

Notes

1. Socioeconomic area was allocated using the ABS Index of Relative Socio-Economic Disadvantage based on area of usual residence (Statistical Local Area Level 2) at the time of diagnosis.
2. 'Australia' does not match the total because some new cases were not able to be allocated to a socioeconomic area.
3. Crude rate is the number of new cases of cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of new cases of cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW Australian Cancer Database 2020.

Table A19.5: Incidence of cervical cancer, by year, 1982 to 2020

Year of diagnosis	New cases			Crude rate			AS rate		
	25–74	20–69	All ages	25–74	20–69	All ages	25–74	20–69	All ages
1982	871	830	967	21.0	18.2	12.7	21.2	19.1	14.3
1983	903	844	996	21.4	18.2	12.9	21.6	19.1	14.4
1984	894	843	1,018	20.7	17.8	13.0	20.8	18.6	14.3
1985	945	902	1,065	21.5	18.8	13.5	21.8	19.7	14.7
1986	914	863	1,023	20.3	17.7	12.8	20.8	18.6	14.0
1987	971	908	1,102	21.1	18.2	13.5	21.1	18.7	14.4
1988	939	903	1,069	20.0	17.7	12.9	20.0	18.1	13.6
1989	960	909	1,074	20.0	17.5	12.7	20.2	18.0	13.5
1990	981	931	1,101	20.0	17.6	12.9	20.3	18.2	13.6
1991	967	899	1,097	19.4	16.7	12.7	19.6	17.3	13.3
1992	906	846	1,024	17.9	15.4	11.7	18.0	16.0	12.2
1993	900	846	1,014	17.5	15.3	11.5	17.7	15.8	11.9
1994	995	936	1,143	19.1	16.7	12.8	19.1	17.1	13.1
1995	850	784	970	16.0	13.8	10.7	16.0	14.0	10.9
1996	804	758	938	14.9	13.2	10.2	15.0	13.4	10.4
1997	697	664	816	12.7	11.4	8.8	12.8	11.6	8.8
1998	747	705	877	13.4	12.0	9.4	13.4	12.0	9.3
1999	707	670	810	12.5	11.2	8.6	12.5	11.2	8.5
2000	647	599	770	11.3	9.9	8.0	11.3	9.9	7.9
2001	621	591	743	10.7	9.7	7.6	10.7	9.6	7.5
2002	584	564	697	9.9	9.1	7.1	9.9	9.1	6.9
2003	620	583	734	10.4	9.3	7.4	10.4	9.2	7.2
2004	600	588	731	9.9	9.2	7.3	9.9	9.2	7.0
2005	626	610	744	10.2	9.4	7.3	10.2	9.4	7.1
2006	618	596	729	10.0	9.0	7.1	9.9	9.0	6.8
2007	661	630	760	10.5	9.4	7.3	10.4	9.4	7.0
2008	670	650	794	10.4	9.5	7.4	10.4	9.6	7.2
2009	668	638	772	10.1	9.1	7.1	10.2	9.2	6.9
2010	718	696	833	10.7	9.7	7.5	10.7	9.8	7.3
2011	713	686	801	10.4	9.4	7.1	10.5	9.6	7.0
2012	764	736	872	10.9	9.9	7.6	11.2	10.2	7.5
2013	722	709	820	10.1	9.4	7.1	10.3	9.6	6.9
2014	802	772	895	11.1	10.1	7.6	11.2	10.2	7.4
2015	728	703	823	9.9	9.1	6.9	10.1	9.3	6.7
2016	802	766	895	10.7	9.7	7.3	10.9	9.9	7.2
2017	751	722	848	9.8	9.0	6.8	10.2	9.3	6.7
2018	848	814	932	10.9	10.0	7.4	11.3	10.3	7.3
2019	874	830	952	11.0	10.1	7.5	11.3	10.3	7.3
2020	916	875	982	11.4	10.5	7.6	11.8	10.8	7.5

Note: Crude rate is the number of new cases of cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of new cases of cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW Australian Cancer Database 2020.

Table A19.6: Five-year relative survival from cervical cancer, by age, 2016–2020

Age group	5-year relative survival (%)
20–24	93.2
25–29	90.2
30–34	91.3
35–39	87.6
40–44	81.4
45–49	77.6
50–54	72.7
55–59	67.9
60–64	71.0
65–69	69.1
70–74	50.2
25–74	**79.1**
All ages	**75.5**

Note: Relative survival was calculated with the period method, using the period 2016–2020 (Brenner and Gefeller 1996).

Source*:* AIHW Australian Cancer Database 2020.

Table A19.7: Trend in 5-year relative survival from cervical cancer in women aged 25–74, 1986–1990 to 2016–2020

Year	5-year relative survival (%)
1986–1990	72.1
1991–1995	75.9
1996–2000	77.5
2001–2005	76.0
2006–2010	76.2
2011–2015	77.2
2016–2020	79.1

Note: Relative survival was calculated with the period method, using the period 2016–2020 (Brenner and Gefeller 1996).

Source*:* AIHW Australian Cancer Database 2020.

Table A19.8: Relative survival at diagnosis and 5-year conditional survival from cervical cancer in women aged 25–74, 2016–2020

	Relative survival	Conditional survival	
Years after diagnosis	Relative survival (%)	Years already survived	5-year conditional relative survival (%)
1	92.4	. .	. .
2	86.5	. .	. .
3	82.9	. .	. .
4	80.3	. .	. .
5	79.1	0	79.1
6	78.2	1	84.7
7	77.3	2	89.3
8	76.6	3	92.4
9	75.9	4	94.6
10	75.2	5	95.1
11	74.7	6	95.5
12	74.3	7	96.2
13	74.2	8	96.9
14	73.9	9	97.4
15	73.8	10	98.1
16	73.5	11	98.4
17	72.8	12	98.0
18	72.8	13	98.2
19	72.4	14	98.0
20	72.2	15	97.8

Note: Relative survival was calculated with the period method, using the period 2016–2020 (Brenner and Gefeller 1996).

Source: AIHW Australian Cancer Database 2020.

A20 Mortality from cervical cancer

Table A20.1: Cervical cancer mortality, by age, 2022

Age group	Deaths	Crude rate
25–29	n.p.	0.1
30–34	n.p.	0.7
35–39	18	1.9
40–44	22	2.5
45–49	26	3.2
50–54	28	3.3
55–59	27	3.5
60–64	23	3.0
65–69	32	4.7
70–74	20	3.4
25–74	**204**	**2.5**
All ages	**269**	**2.1**

n.p. number of deaths fewer than 3 are suppressed.

Notes

1. Deaths in 2022 were derived by year of registration of death and are based on the preliminary version of cause of death data. Revised and preliminary versions are subject to further revision by the ABS.
2. Crude rate is the number of deaths from cervical cancer per 100,000 females in the population. Crude rates based on fewer than 20 deaths should be interpreted with caution.

Source*:* AIHW National Mortality Database.

Table A20.2: Cervical cancer mortality, by state and territory, women aged 25–74, 2018–2022

State and territory	Deaths	Crude rate	AS rate
NSW	266	2.1	2.0
Vic	186	1.8	1.7
Qld	228	2.8	2.7
WA	85	2.0	1.9
SA	86	3.1	3.0
Tas	15	1.7	n.p.
ACT	13	1.9	n.p.
NT	19	4.9	n.p.
Australia	**898**	**2.2**	**2.1**

Notes

1. Deaths from 2018 to 2021 were derived by year of death; deaths in 2022 were derived by year of registration of death. Deaths registered in 2019 and earlier are based on the final version of cause-of-death data; deaths registered in 2020 are based on revised versions; and deaths registered in 2021 and 2022 are based on preliminary versions. Revised and preliminary versions are subject to further revision by the ABS.
2. Crude rate is the number of deaths from cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of deaths from cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001. Crude rates based on fewer than 20 deaths should be interpreted with caution; age-standardised rates based on fewer than 20 deaths are not reported.

Source*:* AIHW National Mortality Database.

Table A20.3: Cervical cancer mortality, by remoteness area, women aged 25–74, 2018–2022

Remoteness area	Deaths	Crude rate	AS rate
Major cities	538	1.9	1.8
Inner regional	158	2.2	2.1
Outer regional	106	3.3	3.2
Remote and very remote	28	3.8	3.4
Australia	**898**	**2.2**	**2.1**

Notes

1. Remoteness classification is based on area of usual residence (Statistical Local Area Level 2) at time of death.
2. 'Australia' does not match the total, because some deaths were not able to be allocated to a remoteness area.
3. Deaths from 2018 to 2021 were derived by year of death; deaths in 2022 were derived by year of registration of death. Deaths registered in 2019 and earlier are based on the final version of cause-of-death data; deaths registered in 2020 are based on revised versions; and deaths registered in 2021 and 2022 are based on preliminary versions. Revised and preliminary versions are subject to further revision by the ABS.
4. Crude rate is the number of deaths from cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of deaths from cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW National Mortality Database.

Table A20.4: Cervical cancer mortality, by socioeconomic area, women aged 25–74, 2018–2022

Socioeconomic area	Deaths	Crude rate	AS rate
1 (most disadvantaged)	259	3.4	3.3
2	182	2.3	2.2
3	143	1.8	1.7
4	145	1.7	1.7
5 (least disadvantaged)	100	1.2	1.2
Australia	**898**	**2.2**	**2.1**

Notes

1. Socioeconomic area was allocated using the ABS Index of Relative Socio-Economic Disadvantage based on area of usual residence (Statistical Local Area Level 2) at time of death.
2. 'Australia' does not match the total, because some deaths were not able to be allocated to a socioeconomic area.
3. Deaths from 2018 to 2021 were derived by year of death; deaths in 2022 were derived by year of registration of death. Deaths registered in 2019 and earlier are based on the final version of cause-of-death data; deaths registered in 2020 are based on revised versions; and deaths registered in 2021 and 2022 are based on preliminary versions. Revised and preliminary versions are subject to further revision by the ABS.
4. Crude rate is the number of deaths from cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is the number of deaths from cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW National Mortality Database.

Table A20.5: Cervical cancer mortality, by year, 1982 to 2022

Year of death	Deaths			Crude rate			AS rate		
	25–74	20–69	All ages	25–74	20–69	All ages	25–74	20–69	All ages
1982	271	237	346	6.5	5.2	4.6	6.6	5.5	5.2
1983	280	248	343	6.6	5.3	4.5	6.7	5.6	5.0
1984	256	223	339	5.9	4.7	4.3	6.0	5.0	4.9
1985	278	234	363	6.3	4.9	4.6	6.3	5.1	5.1
1986	272	240	341	6.1	4.9	4.3	6.1	5.1	4.6
1987	277	225	348	6.0	4.5	4.3	6.1	4.8	4.6
1988	257	219	345	5.5	4.3	4.2	5.6	4.5	4.5
1989	289	243	369	6.0	4.7	4.4	6.1	4.9	4.7
1990	273	245	339	5.6	4.6	4.0	5.6	4.8	4.2
1991	237	204	331	4.7	3.8	3.8	4.8	4.0	4.0
1992	236	188	322	4.7	3.4	3.7	4.7	3.6	3.8
1993	242	204	318	4.7	3.7	3.6	4.8	3.9	3.7
1994	257	223	341	4.9	4.0	3.8	5.0	4.2	4.0
1995	253	211	334	4.8	3.7	3.7	4.9	3.9	3.8
1996	215	174	301	4.0	3.0	3.3	4.0	3.1	3.3
1997	195	160	285	3.5	2.7	3.1	3.6	2.8	3.0
1998	179	153	260	3.2	2.6	2.8	3.2	2.6	2.7
1999	160	131	227	2.8	2.2	2.4	2.8	2.2	2.3
2000	190	154	265	3.3	2.5	2.8	3.3	2.6	2.6
2001	185	156	271	3.2	2.5	2.8	3.2	2.5	2.6
2002	140	126	217	2.4	2.0	2.2	2.4	2.0	2.1
2003	164	140	239	2.7	2.2	2.4	2.7	2.2	2.2
2004	135	119	210	2.2	1.9	2.1	2.2	1.8	1.9
2005	148	136	221	2.4	2.1	2.2	2.4	2.0	2.0
2006	150	137	228	2.4	2.1	2.2	2.4	2.0	2.0
2007	138	125	201	2.2	1.9	1.9	2.1	1.8	1.7
2008	164	145	237	2.5	2.1	2.2	2.5	2.0	2.0
2009	158	143	242	2.4	2.0	2.2	2.3	1.9	1.9
2010	169	151	230	2.5	2.1	2.1	2.4	2.0	1.9
2011	168	152	228	2.5	2.1	2.0	2.3	2.0	1.8
2012	155	141	225	2.2	1.9	2.0	2.1	1.8	1.7
2013	169	154	229	2.4	2.0	2.0	2.3	2.0	1.8
2014	169	146	217	2.3	1.9	1.8	2.2	1.8	1.6
2015	175	145	233	2.4	1.9	1.9	2.3	1.8	1.8
2016	196	171	259	2.6	2.2	2.1	2.5	2.1	1.9
2017	168	150	243	2.2	1.9	2.0	2.1	1.8	1.7
2018	174	149	228	2.2	1.8	1.8	2.1	1.8	1.6

(continued)

Table A20.5 (continued): Cervical cancer mortality, by year, 1982 to 2022

Year of death	Deaths			Crude rate			AS rate		
	25–74	20–69	All ages	25–74	20–69	All ages	25–74	20–69	All ages
2019	176	155	224	2.2	1.9	1.8	2.2	1.8	1.6
2020	165	146	211	2.0	1.8	1.6	2.0	1.8	1.5
2021	179	152	231	2.2	1.8	1.8	2.0	1.7	1.5
2022	204	184	269	2.5	2.2	2.1	2.4	2.1	1.8

Notes

1. Deaths from 1982 to 2021 were derived by year of death; deaths in 2022 were derived by year of registration of death. Deaths registered in 2019 and earlier are based on the final version of cause of death data; deaths registered in 2020 are based on the revised version; and deaths registered in 2021 and 2022 are based on preliminary versions. Revised and preliminary versions are subject to further revision by the ABS.
2. Crude rate is the number of deaths from cervical cancer per 100,000 females in the population. Age-standardised (AS) rate is number of deaths from cervical cancer per 100,000 females in the population, age-standardised to the Australian population as at 30 June 2001.

Source: AIHW National Mortality Database.

Appendix B: HPV vaccination coverage

While it is a separate program from the NCSP, the National Immunisation Program (NIP) supports the cervical screening program through the provision of free HPV vaccines for young Australians. Through vaccination against HPV, the NIP provides primary prevention of cervical cancer; secondary prevention is provided by cervical screening through the NCSP.

In addition to the shared aim of reducing the incidence of cervical cancer, HPV vaccination has a marked impact on the outcomes of the NCSP, such as the effect of HPV vaccination on high-grade abnormalities. It is therefore relevant to report on HPV vaccination rates in Australia in this publication.

In April 2007, Australia introduced HPV vaccination using the quadrivalent vaccine Gardasil (protecting against HPV types 6, 11, 16, 18), which included an ongoing program for girls aged 12–13 and a 'catch-up' program for girls and women aged 14–26 through to the end of 2009. This program was extended to boys from February 2013 with a catch up program for boys aged up to 15 years through to the end of 2014. Catch up for HPV vaccine doses missed as part of the school program was made available to all people aged up to 19 years through primary care from July 2017.

In 2018, Australia commenced using the nonavalent HPV vaccine, Gardasil9, replacing the quadrivalent vaccine, Gardasil, thereby protecting against an additional 5 types of HPV (types 6, 11, 16, 18, 31, 33, 45, 52 and 58). The program began in line with the school year and reduced the number of doses from 3 to 2 (spaced 6–12 months apart).

In 2023, Australia switched to a single-dose HPV vaccination program, on the basis of international evidence that a single dose provides equivalent protection, using Gardasil9 and extended catch up, using a single dose, to age 25 (inclusive).

Use of the nonavalent HPV vaccine provides improved protection against HPV and against the development of CIN, cervical cancer, and other HPV-related cancers. A study suggested that up to 93% of cervical cancers in Australia are associated with the HPV types covered by the new vaccine (Brotherton et al. 2017). In addition, by decreasing the number of recommended doses, first to two, and now to one, the increased ease of administration should facilitate catch up opportunities and hopefully increase vaccine coverage.

Prior to 2019, HPV vaccination data were provided to the National HPV Vaccination Program Register until it was closed on 31 December 2018. Historical HPV vaccination coverage using data from the National HPV Vaccination Program Register are available on the Department of Health and Aged Care website *Historical data from the National HPV Vaccination Program Register* https://www.health.gov.au/resources/collections/historical-data-from-the-national-hpv-vaccination-program-register (Department of Health 2020b).

From 2019, HPV vaccination data have been provided to the Australian Immunisation Register (AIR). HPV vaccination coverage using data from the AIR are available in three recent reports: *Impact evaluation of Australian national human papillomavirus vaccination program* (NCIRS 2021), *Annual Immunisation Coverage Report 2023* (NCIRS 2024), and *Cervical Cancer Elimination Progress Report: Australia's progress towards the elimination of cervical cancer as a public health problem* (NHMRC Centre of Research Excellence in Cervical Cancer Control 2023).

To support the elimination of cervical cancer by 2030, the World Health Organization has a target for HPV vaccine coverage of 90% of girls vaccinated by age 15 years. Australia has adopted a target for HPV vaccine coverage of 90% of girls and boys vaccinated by age 15 years by the year 2030.

Table B1 shows HPV vaccine coverage for first dose and final dose (now historical) from 2012 to 2023. Final dose coverage reflects the recommended number of doses required to complete the course at that time, but we now understand that equivalent protection is provided by a single (first) dose (Brotherton 2019; Whitworth 2024). Therefore the relevant metric to determine changes in overall protection by birth cohort over time is to compare overage with at least one dose. From 2023 only one dose of Gardasil9 was required up to the age of 25 years.

In 2023, HPV vaccine coverage was 84.2% of girls turning 15 in that year. Coverage peaked in 2020 with significant disruption to school immunisation programs experienced in 2020 and 2021 due to the COVID-19 pandemic. Those who were aged 12 in 2020 were aged 15 in 2023. Efforts are now required to reverse falling coverage and to restore equity in coverage post-pandemic (NHMRC Centre of Research Excellence in Cervical Cancer Control 2023; NCIRS 2024).

Table B1: National HPV vaccination coverage for girls turning 15 years of age

Year	Coverage First Dose (%)	Coverage Final Dose (%)*
2012	82.7	71.5
2013	82.1	71.7
2014	83.7	74.1
2015	86.4	78.0
2016	86.5	78.6
2017	88.9	80.2
2016	82.4	75.0
2017	84.0	76.3
2018	84.7	77.0
2019	85.7	79.8
2020	86.6	80.5
2021	86.2	80.3
2022	85.3	—
2023	84.2	—

* Note these data are now historical as a single dose provides sufficient protection (except amongst people who are immunosuppressed who require three doses). The appropriate comparison over time to assess population level protection trends is dose one coverage.

Notes

1. Coverage for 2012–2017 historical data is calculated as doses administered and reported to the HPV Register/Estimated Resident Population, expressed as a percentage.
2. Coverage for 2016–2022 ongoing data is calculated as doses administered and reported to the AIR/ number of Medicare-registered girls aged 15 years in the AIR, expressed as a percentage.
3. The difference in denominators and methodology means that the data for 2012–2017 are not directly comparable with data for 2016–2020, with historical estimates using the AIR lower than from the previous HPV register (Brotherton et al. 2022).
4. The 2019 cohort includes some girls eligible for the 2-dose schedule after the change from the 3-dose schedule in 2018; the 2020–2022 cohorts include only girls eligible for the 2-dose schedule; the 2023 cohort includes girls eligible for the 1-dose schedule.
5. Year is the year in which adolescents turn 15 years of age; 15 years of age is used as the age for routine review of vaccination coverage that provides the best comparison to allow for varying ages in administration, as per World Health Organization recommendations. In Australia most adolescents are routinely vaccinated at school at the age of 12–13 years. Measuring coverage by age 15 allows all adolescents to have had the opportunity to have been offered and completed vaccination.

Sources: Department of Health and Aged Care 2020; NCIRS 2021; NCIRS 2024; NHMRC Centre of Research Excellence in Cervical Cancer Control 2023.

HPV vaccine coverage is also shown for the years 2020 to 2023 for Aboriginal and Torres Strait Islander girls turning 15 who received at least one dose of HPV vaccine.

HPV vaccine coverage was highest in 2020, at 87.8% for Aboriginal and Torres Strait Islander girls. HPV vaccine coverage has decreased since to 86.1% in 2021, 83.0% in 2022, and to 80.9% n 2023. In 2023, HPV vaccine coverage for Aboriginal and Torres Strait Islander girls turning 15 who received at least one dose of HPV vaccine was slightly lower than HPV vaccine coverage for all girls, at 80.9% compared to 84.2%.

Table B2: National HPV vaccination coverage for girls turning 15 years of age

Year	Indigenous	All
2020	87.8	86.6
2021	86.1	86.2
2022	83.0	85.3
2023	80.9	84.2

Note: Year is the year in which adolescents turn 15 years of age; 15 years of age is used as the age for routine review of vaccination coverage that provides the best comparison to allow for varying ages in administration, as per World Health Organization recommendations.

Sources: NCIRS 2022, NCIRS 2023, NCIRS 2024; NHMRC Centre of Research Excellence in Cervical Cancer Control 2023.

HPV vaccine coverage of boys turning 15 in 2023 was 81.8% of all boys and 75.0% of Aboriginal and Torres Strait Islander boys who received at least one dose of HPV vaccine by age 15. More data on HPV vaccine coverage of boys, as well as HPV vaccine coverage for different population groups for girls and boys are available in the *Annual Immunisation Coverage Report 2023* (NCIRS 2024) and the *Cervical Cancer Elimination Progress Report: Australia's progress towards the elimination of cervical cancer as a public health problem* (NHMRC Centre of Research Excellence in Cervical Cancer Control 2023).

Appendix C: Data sources

The multiple data sources used for this report are summarised in Table C1.

Table C1: Data sources for the National Cervical Screening Program monitoring report 2024

Data used to monitor cervical screening in Australia	Data source
Performance indicator 1 Participation	National Cancer Screening Register; ABS population data
Performance indicator 2 Response to invitation	National Cancer Screening Register
Performance indicator 3 Rescreening	. .
Performance indicator 4 Screening results	National Cancer Screening Register
Performance indicator 5 Correlation of screening results	National Cancer Screening Register
Performance indicator 6 Screening HPV test positivity	National Cancer Screening Register
Performance indicator 7 Cervical cancer diagnosed after a low risk screening test result	. .
Performance indicator 8 LBC test in self-collection participants positive for oncogenic HPV (not 16/18)	National Cancer Screening Register
Performance indicator 9 Colposcopy in self-collection participants positive for oncogenic HPV 16/18	National Cancer Screening Register
Performance indicator 10 Adherence to recommendation for follow-up	National Cancer Screening Register
Performance indicator 11 Follow-up results	National Cancer Screening Register
Performance indicator 12 Colposcopy rate	National Cancer Screening Register
Performance indicator 13 Time to colposcopy	National Cancer Screening Register
Performance indicator 14 Biopsy rate	National Cancer Screening Register
Performance indicator 15 Yield of high-grade abnormalities on biopsy among participants who attend colposcopy with higher risk screening results	National Cancer Screening Register
Performance indicator 16 Positive predictive value of colposcopy	National Cancer Screening Register
Performance indicator 17a High-grade cervical abnormality detection rate	National Cancer Screening Register
Performance indicator 17b Cervical cancer detection rate	National Cancer Screening Register
Performance indicator 18 Cervical cancers diagnosed by time since last screen	. .
Performance indicator 19 Incidence of cervical cancer	AIHW Australian Cancer Database; ABS population data
Performance indicator 20 Mortality from cervical cancer	AIHW National Mortality Database; ABS population data

National Cancer Screening Register

Data for most performance indicators were calculated using National Cancer Screening Register data, according to definitions and data specifications in the *National Cervical Screening Program data dictionary version 1.2* (AIHW 2023).

The National Cancer Screening Register (NCSR) is the source of NCSP data in Australia, following the migration and consolidation of state and territory cervical screening register data. This change may impact comparisons with previous NCSP reporting, particularly for participants who screen in a different state or territory to which they reside.

The NCSR is intended to be a near-complete record of all cervical tests, including HPV, cytology, colposcopy, and histology. Pathology labs and colposcopists are required under the NCSR Rules 2017 to notify all cervical test data to the NCSR within 14 days. Any test data not notified to the NCSR will not be included in the NCSR or in the data included in this report. Cervical tests for current Compass participants are not included in the NCSR because, as a clinical trial, notification of Compass data is an exemption under the NCSR Rules 2017. This means that any cervical tests conducted as part of the Compass trial are not included in the NCSR, or in the data in this report. This affects Victoria more than other jurisdictions.

The NCSR is a live database, which means that data are continually updated over time. As such, data extracted at varying times differ, with later data likely to have a greater level of completeness.

NCSR data in this report were sourced from the July 2024 raw data extract (RDE) of version 4.7 of the NCSR (NCSR RDE 4.8 06/07/2024).

The Data Quality Statement for National Cancer Screening Program data for 2019–2023 can be found on the AIHW website at https://meteor.aihw.gov.au/content/792382.

AIHW Australian Cancer Database

All forms of cancer, except basal and squamous cell carcinomas of the skin, are notifiable diseases in each Australian state and territory. Legislation in each jurisdiction requires hospitals, pathology laboratories and various other institutions to report all cases of cancer to their central cancer registry. An agreed subset of the data collected by these cancer registries is supplied annually to the AIHW, where it is compiled into the Australian Cancer Database (ACD). The ACD currently contains data on all cases of cancer diagnosed from 1982 to 2020 for all states and territories.

Cancer reporting and registration is a dynamic process, and records in the state and territory cancer registries may be modified if new information is received. Hence, the number of cancer cases reported by the AIHW for any particular year may change slightly over time and may not always align with state and territory reporting for that year.

The Data Quality Statement for the ACD 2020 can be found at https://meteor.aihw.gov.au/content/778315.

AIHW National Mortality Database

The AIHW National Mortality Database (NMD) contains information provided by the registries of births, deaths and marriages and the National Coronial Information System (coded by the ABS), for deaths from 1964 to 2022. The Registry of Births, Deaths and Marriages in each state and territory is responsible for the registration of deaths. These data are then collated and coded by the ABS and maintained at the AIHW in the NMD.

In the NMD, both the year in which death occurred and the year in which it was registered are provided. For the purposes of this report, actual mortality data are based on the year the death occurred, except for the most recent year (2021), for which the number of people whose death was registered is used. Previous investigation has shown that the year of death and its registration coincide for the most part. However, in some instances, deaths at the end of each calendar year may not be registered until the following year. Thus, year-of-death information for the latest available year is generally an underestimate of the actual number of deaths that occurred in that year.

In this report, deaths registered in 2019 and earlier are based on the final version of cause of death data; deaths registered in 2020 are based on the revised version; and deaths registered in 2021 and 2022 are based on the preliminary version. Revised and preliminary versions are subject to further revision by the ABS.

The data quality statements underpinning the AIHW NMD can be found at:

- ABS quality declaration summary for Deaths, Australia https://www.abs.gov.au/methodologies/deaths-australia-methodology/2022
- ABS quality declaration summary for Causes of death, Australia https://www.abs.gov.au/methodologies/causes-death-australia-methodology/2022

For more information on the AIHW NMD and deaths data, see https://www.aihw.gov.au/about-our-data/our-data-collections/national-mortality-database/deaths-data.

Deaths in Aboriginal and Torres Strait Islander peoples

The ABS Death Registrations collection identifies a death as being of an Aboriginal and/or Torres Strait Islander person where the deceased is recorded as Aboriginal, Torres Strait Islander, or both, on the Death Registration Form. Since 2007, the Indigenous status of the deceased has also been derived from the Medical Certificate of Cause of Death for South Australia, Western Australia, Tasmania, the Northern Territory, and the Australian Capital Territory. For New South Wales and Victoria, the Indigenous status of the deceased is derived from the Death Registration Form only. If the Indigenous status reported in this form does not agree with that in the Medical Certificate of Cause of Death, an identification from either source that the deceased was an Aboriginal and/or Torres Strait Islander person is given preference over identifying them as non-Indigenous.

ABS population data

Throughout this report, population data were used to derive rates of participation in cervical screening, cervical cancer incidence and cervical cancer mortality. The population data were sourced from the ABS estimated resident populations.

To derive its estimates of the resident populations, the ABS uses the 5-yearly Census of Population and Housing data, adjusted as follows:

- all respondents in the Census are placed in their state or territory, Statistical Area, and postcode of usual residence; overseas visitors are excluded
- an adjustment is made for persons missed in the Census
- Australians temporarily overseas on Census night are added to the usual residence Census count.

Estimated resident populations are then updated each year from the Census data, using indicators of population change, such as births, deaths, and net migration. More information is available from the ABS website at www.abs.gov.au.

For the Indigenous comparisons in this report, the most recently released Indigenous experimental estimated resident populations, as released by the ABS, were used. Those estimates were based on the 2016 Census of Population and Housing.

Hysterectomy fractions

Hysterectomy fractions represent the proportion of people with an intact uterus (and cervix) at a particular age, and are used to adjust the population for participation calculations. This is because people who have had a hysterectomy with their cervix removed are not at risk of cervical cancer and thus do not require screening. Since a substantial proportion (20%–30%) of middle-aged and older people in Australia do not have an intact cervix, the female population is adjusted to remove these people, so that true participation in cervical screening can be more accurately estimated.

The National Hospital Morbidity Database (NHMD) is based on summary records of patient separations, referring to episodes of care in public and private hospitals; it allows us to view relatively complete hysterectomy numbers and rates for financial years from the mid-1990s. These data were used, with projections forward and backward where required, to generate estimates of current hysterectomy prevalence for females aged 25–74. Published hysterectomy incidence trends, as well as data from the 1995, 2001 and 2004–05 NHS, were drawn on to ensure accuracy in assumptions.

The results of these combined approaches are robust hysterectomy fractions that reflect both historical and current hysterectomy trends, which can be used in the calculation of participation in cervical screening for the most recent participation data.

Table C2: National hysterectomy fractions, females aged 25–74, 2016

Age group (years)	Proportion of females who have not had a hysterectomy
25–29	0.998
30–34	0.991
35–39	0.962
40–44	0.916
45–49	0.859
50–54	0.810
55–59	0.772
60–64	0.736
65–69	0.706
70–74	0.703

Source: AIHW analysis of the National Hospital Morbidity Database.

Appendix D: Classifications

Age

The data in this report are stratified by the age of the person at the time of the specified test or at the time an invitation was sent (for cervical screening data), at the time of diagnosis (for cancer incidence data), or at the time of death (for cancer mortality data).

For NCSR data, the age group 25–74 actually refers to the age group 24.75–74. The age 24 years and 9 months is used instead of 25 years, as people are invited to screen 3 months prior to their 25th birthday, and so are considered to be eligible to screen from that time. The age group 24.75–74 is used to ensure these invitees and participants are included in the data.

State and territory

The state or territory reported is the one where the participant or invitee resides (for cervical screening data), where the diagnosis was made (for cancer incidence data), or the place of usual residence (for cancer mortality data).

For cervical screening data, direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions, including population, area, geographical structure, policies, and other factors.

Remoteness area

Remoteness areas divide Australia into broad geographical regions that share common characteristics of remoteness for statistical purposes. The remoteness structure divides each state and territory into several regions on the basis of their relative access to services. There are 6 classes of remoteness area: *Major cities*, *Inner regional*, *Outer regional*, *Remote*, *Very remote,* and *Migratory*. The category *Major cities* includes Australia's capital cities, except for Hobart and Darwin, which are classified as *Inner regional*. Remoteness areas are based on the Accessibility and Remoteness Index of Australia, produced by the Australian Population and Migration Research Centre at the University of Adelaide.

For participation calculations, participants were allocated to a remoteness area using their SA2 at the time of their screen (or postcode where SA2 was not available). Caution is required when examining differences across remoteness areas for the following reasons: firstly, postcodes used to allocate participants may not represent their location of usual residence; secondly, as these are based on the 2021 Census, the accuracy of remoteness area classifications diminishes as the years get further away from 2021 due to subsequent changes in demographics; thirdly, some postcodes (and hence individuals) are unable to be allocated to a remoteness area.

Socioeconomic area

The Index of Relative Socio-Economic Disadvantage (one of four Socio-Economic Indexes for Areas developed by the ABS) is based on factors such as average household income, education levels and unemployment rates. It is not a person-based measure but an area-based measure of socioeconomic disadvantage in which small areas of Australia are classified on a continuum from disadvantaged to affluent. This information is used as a proxy

for the socioeconomic disadvantage of participants living in those areas and may not be correct for each person in that area.

In this report, the first socioeconomic area (quintile 1) corresponds to geographical areas containing the 20% of the population with the greatest socioeconomic disadvantage according to the Index of Relative Socio-Economic Disadvantage (that is, the lowest socioeconomic area), and the fifth area (quintile 5) corresponds to the 20% of the population with the least socioeconomic disadvantage (that is, the highest socioeconomic area).

For participation, participants were allocated to a socioeconomic area using their SA2 at the time of their screen (or postcode where SA2 was not available). Caution is required when examining differences across socioeconomic areas for the following reasons: firstly, postcodes used to allocate participants may not represent their location of residence; secondly, as these are based on the 2021 Census, the accuracy of socioeconomic area classifications diminishes as the years get further away from 2021 due to subsequent changes in demographics; thirdly, many postcodes (and hence individuals) are unable to be allocated to a socioeconomic area.

Culturally and linguistically diverse

Participation is not measured for culturally and linguistically diverse (CALD) participants in this report as the data currently do not support these analyses.

There are two fields in the NCSR that relate to the identification of an individual's culturally and linguistically diverse (CALD) status. These are 'Main language other than English spoken at home' and 'Country of birth'.

However, these new fields are not currently sufficiently populated in the NCSR to estimate participation by CALD status. The field 'Main language other than English spoken at home' was not populated for 78% of participants aged 25–74 who had a screening HPV test in 2018–2022, and the 'Country of birth' field was not populated for 69%.

Classification of cervical cancer by histology

Histology codes to classify cervical cancer into histological groups are listed in Table D1.

Table D1: Cervical cancer by histological type

Type of cervical cancer	ICD-O-3 codes
1: Carcinoma	8010–8380, 8382–8576
1.1: Squamous cell carcinoma	8050–8078, 8083–8084
1.2: Adenocarcinoma	8140–8141, 8190–8211, 8230–8231, 8260–8265, 8310, 8380, 8382–8384, 8440–8490, 8570–8574, 8576
1.3: Adenosquamous carcinoma	8560
1.4: Other specified and unspecified carcinoma	ICD-O-3 codes for carcinoma excluding those for squamous cell carcinoma, adenocarcinoma and adenosquamous carcinoma
2: Sarcoma	8800–8811, 8830, 8840–8921, 8990–8991, 9040–9044, 9120–9133, 9150, 9540–9581
3: Other specified and unspecified malignant neoplasm	ICD-O-3 codes for cervical cancer, excluding those for carcinoma and sarcoma

Appendix E: Statistical methods

Crude rates

A ‘crude rate’ is defined as the number of events over a specified period of time (for example, a year), divided by the total population. For example, a crude cancer incidence rate is similarly defined as the number of new cases of cancer in a specified period of time divided by the population at risk. Crude mortality rates and cancer incidence rates are expressed in this report as number of deaths or new cases per 100,000 population. ‘Crude participation rate’ is expressed as a percentage.

Age-specific rates

Age-specific rates provide information on the incidence of a particular event in an age group, relative to the total number of people at risk of that event in the same age group. It is calculated by dividing the number of events occurring in each specified age group by the corresponding ‘at-risk’ population in the same age group, and then multiplying the result by a constant (for example, 100,000) to derive the rate. Age-specific rates are often expressed per 100,000 population.

Age-standardised rates

A crude rate provides information on the number of, for example, new cases of cancer or deaths from cancer in the population at risk in a specified period. No age adjustments are made when calculating a crude rate. Since the risk of cancer is heavily dependent on age, crude rates are not suitable for looking at trends or making comparisons across groups in cancer incidence and mortality.

More meaningful comparisons can be made by using age-standardised rates, with such rates adjusted for age in order to facilitate comparisons between populations that have different age structures, for example, between Aboriginal and/or Torres Strait Islander peoples and non-Indigenous Australians. This standardisation process effectively removes the influence of age structure on the summary rate.

Two methods are commonly used to adjust for age: direct and indirect standardisation. In this report, the direct standardisation approach presented by Jensen and colleagues (1991) is used. To age-standardise using the direct method, the first step is to obtain population numbers and numbers of cases (or deaths) in age ranges, typically 5-year age ranges. The next step is to multiply the age-specific population numbers for the standard population (in this case, the Australian population as at 30 June 2001) by the age-specific incidence rates (or death rates) for the population of interest (such as those in a certain socioeconomic area or those who lived in *Major cities*). The next step is to sum across the age groups and divide this sum by the total of the standard population, to give an age-standardised rate for the population of interest. Finally, this is expressed per 1,000 or 100,000, as appropriate.

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Abbreviations

ABS	Australian Bureau of Statistics
ACD	Australian Cancer Database
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
CALD	culturally and linguistically diverse
AIS	adenocarcinoma in situ
AS	age-standardised
ASC	adenosquamous carcinoma
ASGS	Australian Statistical Geography Standard
CIN 1	cervical intraepithelial neoplasia grade 1
CIN 2	cervical intraepithelial neoplasia grade 2
CIN 3	cervical intraepithelial neoplasia grade 3
CST	Cervical Screening Test
d	definite
ERP	estimated resident population
DNA	deoxyribonucleic acid
HPV	human papillomavirus
HPV NAT	human papillomavirus nucleic acid testing
HSIL	high-grade squamous intraepithelial lesion
ICD	International Classification of Disease
ICD-O-3	International Classification of Diseases for Oncology, 3rd Edition
LBC	liquid based cytology
LSIL	low-grade squamous intraepithelial lesion
NACCHO	National Aboriginal Community Controlled Health Organisation
NCSP	National Cervical Screening Program
NCSR	National Cancer Screening Register
NHMD	National Hospital Morbidity Database
nKPI	national Key Performance Indicator
NMD	National Mortality Database
NOS	not otherwise specified
NIP	National Immunisation Program

NSW	New South Wales
NT	Northern Territory
p	possible
PPV	positive predictive value
Qld	Queensland
RA	remoteness area
RDE	raw data extract
SA	South Australia
SCC	squamous cell carcinoma
SEIFA	Socio-Economic Indexes for Areas
Tas	Tasmania
Vic	Victoria
WA	Western Australia

Symbols

. .	not applicable
n.a.	not available
n.p.	not publishable because of small numbers, confidentiality, or other concerns about the quality of the data
<	less than
>	greater than

Glossary

Aboriginal and/or Torres Strait Islander: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander. See also **Indigenous**.

age-specific rate: A rate for a specific age group. The numerator and denominator relate to the same age group.

age-standardised rate: A rate derived by removing the influence of age when comparing populations with different age structures. This is usually necessary as the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure, which allows disease rates to be compared.

Australian Statistical Geography Standard: Common framework defined by the Australian Bureau of Statistics for collecting and disseminating geographically classified statistics; it replaced the Australian Standard Geographical Classification in July 2011.

biopsy: Small sample of tissue taken to obtain a definitive diagnosis of an abnormality.

cancer (malignant neoplasm): A large range of diseases in which some of the body's cells become defective and begin to multiply out of control. These cells can invade and damage the area around them and can also spread to other parts of the body to cause further damage.

cancer death: A death where the underlying cause of death is indicated as **cancer**. People with cancer who die of other causes are not counted in the **mortality** statistics in this publication.

Cervical Screening Test (CST): Consists of a human papillomavirus (HPV) test with partial genotyping and, if the HPV test detects oncogenic HPV, liquid based cytology (LBC).

cytology: The 'study of cells'; in the context of cervical **screening**, the cells from the cervix that are collected and examined for abnormalities.

endocervical abnormality (cytology): An endocervical result of 'E2 Atypical endocervical cells of uncertain significance', 'E3 Possible high-grade endocervical glandular lesion', 'E4 Adenocarcinoma in situ', 'E5 Adenocarcinoma in situ with possible microinvasion/invasion' or 'E6 Adenocarcinoma', regardless of the corresponding squamous result for that **cytology** test.

endocervical abnormality (histology): An endocervical result of 'HE02 Endocervical atypia', 'HE03.1 Endocervical dysplasia', 'HE03.2 Adenocarcinoma in situ', 'HE04.1 Microinvasive adenocarcinoma', 'HE04.2 Invasive adenocarcinoma', 'HE04.3 Adenosquamous carcinoma' or 'HE04.4 Carcinoma of the cervix (other)', regardless of any squamous result. Note that 'HE04.3 Adenosquamous carcinoma' and 'HE04.4 Carcinoma of the cervix (other)' are included as endocervical abnormalities for data reporting purposes, but that the former is not solely of endocervical origin, and the latter comprises rarer carcinomas of other epithelial origin.

false negative: A test that incorrectly indicates that the disease is not present.

false positive: A test that incorrectly indicates that the disease is present.

follow-up screening episode: Encompasses a follow-up HPV test and an LBC if this is required. Usually occurs at 12 months (or between 9 and 15 months) after the primary screening episode.

genotyping: The process of determining which genetic variants an individual possesses. In the context of cervical **screening**, it is used to determine whether an **HPV** test that is positive for **oncogenic HPV** is positive for HPV type 16 or 18.

histology: Examination of tissue from the cervix through a microscope, which is the primary diagnostic tool of the National Cervical Screening Program. Also referred to as **histological**.

histological: See **histology**.

HPV: An abbreviation for human papillomavirus, a virus that affects both males and females. There are around 100 types of HPV, with around 40 types known as 'genital HPV', which are contracted through sexual contact. Persistent infection with **oncogenic HPV** types can lead to cervical cancer, whereas infection with non-oncogenic types of HPV can cause genital warts.

incidence: The number of new cases (for example, of an illness or event) occurring during a given period, usually 1 year.

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander. See also **Aboriginal and/or Torres Strait Islander**.

in situ: A Latin term meaning 'in place or position'; undisturbed.

morbidity: Illness.

mortality: The number of deaths occurring during a given period.

National HPV Vaccination Program: A program introduced on 1 April 2007, initially for females. At inception, it comprised an ongoing vaccination program for girls aged 12–13 (administered through schools) and a catch-up program for those aged 13–26 between 2007 and 2009, with girls aged 13–17 vaccinated through schools and women aged 18–26 vaccinated through the community. From February 2013, the current school-based program for girls aged 12–13 was extended to boys aged 12–13, with a catch-up program in 2013 and 2014 for boys aged 14–15.

negative cytology: A cervical **cytology** test where the squamous result is 'S1 Negative' and the endocervical result is either 'E0 No endocervical component' or 'E1 Negative'.

new cancer case: A person who has a new **cancer** diagnosed for the first time. One person may have more than 1 cancer and therefore may be counted twice in **incidence** statistics if it is decided that the 2 cancers are not of the same origin. This decision is based on a series of principles, set out in more detail in a publication by Jensen and others (1991).

no endocervical component: Defines a cervical **cytology** test with any squamous result and an endocervical result of 'E0 No endocervical component'. This means that no endocervical cells are present in the sample, and thus only the squamous cells in the sample can be assessed for the presence of abnormalities or cancer.

oncogenic: Cancer-causing.

oncogenic HPV: Those types of **HPV** associated with the development of cervical cancer. Currently, 15 oncogenic types of HPV are recognised. HPV types 16, 18, and 45 are most commonly associated with cervical cancer.

Pap test: A shortened expression for Papanicolaou smear – a procedure used to detect **cancer** and precancerous conditions of the female genital tract, and which was the **screening** test of the National Cervical Screening Program before 1 December 2017. During a Pap test, cells are collected from the transformation zone of the cervix – the area where the squamous cells from the outer opening of the cervix and glandular cells from the

endocervical canal meet. This is the site where most cervical abnormalities and cancers are detected. For conventional **cytology**, these cells are transferred onto a slide, and sent to a pathology laboratory for assessment. Collected cells are then examined under a microscope to look for abnormalities.

previous NCSP: The National Cervical Screening Program that used the **Pap test** as its primary **screening** tool; it ceased on 30 November 2017, to be replaced by the **renewed NCSP**.

primary screening episode: Encompasses a primary screening HPV test and an LBC if this is required.

renewed NCSP: The National Cervical Screening Program that uses **HPV** testing as its primary **screening** tool; it commenced on 1 December 2017.

screening: The application of a test to a population with no overt signs or symptoms of the disease in question to detect disease at a stage when treatment is more effective. The screening test is used to identify people who require further investigation to determine the presence or absence of disease, and is not primarily a diagnostic test.

The purpose of screening an asymptomatic individual is to detect early evidence of an abnormality or abnormalities – such as pre-malignant changes (for example, by **Cervical Screening Test**) or early invasive malignancy in order to recommend preventive strategies or treatment that will provide a better health outcome than if the disease were diagnosed at a later stage.

squamous abnormality (cytology): A squamous result of ‘S2 Possible low-grade squamous intraepithelial lesion’, ‘S3 Low-grade squamous intraepithelial lesion’, ‘S4 Possible high-grade squamous intraepithelial lesion’, ‘S5 High-grade squamous intraepithelial lesion’, ‘S6 High-grade intraepithelial lesion with possible microinvasion/invasion’ or ‘S7 Squamous cell carcinoma’, regardless of the corresponding endocervical result for that **cytology** test.

squamous abnormality (histology): A squamous result of ‘HS02 Low-grade squamous abnormality’, ‘HS03.1 Cervical intraepithelial neoplasia (CIN) not otherwise specified (NOS)’, ‘HS03.2 CIN 2’, ‘HS03.3 CIN 3’, ‘HS04.1 Microinvasive squamous cell carcinoma’ or ‘HS04.2 Invasive squamous cell carcinoma’, regardless of any endocervical result.

unsatisfactory cytology: A cervical **cytology** test where the squamous result is ‘SU Unsatisfactory’ and the endocervical result is ‘EU Unsatisfactory’, or where the squamous result is ‘SU Unsatisfactory’ and the endocervical result is either ‘E0 No endocervical component’ or ‘E1 Negative’. While not a true result per se, ‘unsatisfactory cytology’ means that, due to the unsatisfactory nature of the cells sampled, the pathologist is unable to determine a clear result. This may be due to either too few or too many cells, or to the presence of blood or other factors obscuring the cells, or to poor staining or preservation.

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Related material

National Cervical Screening Program monitoring report is an annual report. This and previous *Cervical screening in Australia* reports and their supplementary data tables are available at https://www.aihw.gov.au/reports-data/health-welfare-services/cancer-screening/overview.

You may also be interested in the following related publications:

AIHW (2019) *Cervical screening in Australia 2019*, catalogue number CAN 124, AIHW, Australian Government.

AIHW (2019) *Analysis of cervical cancer and abnormality outcomes in an era of cervical screening and HPV vaccination in Australia*, catalogue number CAN 129, AIHW, Australian Government.

AIHW (2020) *Cancer screening and COVID-19 in Australia*, catalogue number CAN 136, AIHW, Australian Government, accessed 15 November 2020. https://www.aihw.gov.au/reports/cancer-screening/cancer-screening-and-covid-19-in-australia/contents/how-has-covid-19-affected-australias-cancer-screening-programs

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Data

Additional tables are available as online Excel tables at www.aihw.gov.au, under the 'Additional material' tab for this report. These tables contain detailed statistics for many of the tables and figures presented in summary form in both the body of the report and in Appendix A. Supplementary data tables have the prefix 'S' (for example, 'Table S1.1').

There are 5 Excel files, one for each stage of the screening pathway:

- Recruitment
- Screening
- Assessment
- Diagnosis
- Outcomes.

This is the sixth report to monitor the National Cervical Screening Program since it introduced 5-yearly HPV tests in December 2017. In 2019–2023, there were more than 5 million participants aged 25–74, and in 2023, 7% of screening HPV tests performed were positive for HPV types that cause cervical cancer. In 2020, there were 916 new cases of cervical cancer, and in 2022 there were 204 deaths from cervical cancer.

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