

National Cervical Screening Programme

**Annual Monitoring Report
2003**

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ISBN: 978-0-478-30736-8

Disclaimer: The author is not responsible for the calculation of results for this report. The National Screening Unit of the Ministry of Health provided annual data for this report. Where summary data from quarterly reports are presented, the author accessed these from published reports.

Acknowledgement

The author would like to acknowledge the work undertaken by the Independent Monitoring Group (IMG) to prepare Quarterly Reports 1–10 and the 2001 Annual Report. This 2003 Annual Report closely follows the 2001 Annual Report (as requested by the NSU).

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1. Executive Summary

Monitoring of the National Cervical Screening Programme (NCSP) began at the end of 2000. To this end the Independent Monitoring Group of the National Cervical Screening Programme (IMG-NCSP) was established to provide independent quantitative monitoring of the NCSP to assist the National Screening Unit (NSU) of the Ministry of Health (MoH) to improve the quality of the NCSP. The role of the IMG-NCSP was taken over by a newly established group, the National Cervical Screening Programme Advisory Group, which was established in 2004. This 2003 annual report is the third annual monitoring report of the NCSP.

National indicators for the NCSP, established by the NSU in 2000, provide the basis for monitoring reports. This 2003 annual report does not include all indicators, because appropriate data were not available to enable calculation of the indicators. These indicators were: stage of invasive cancer, interval cancer, programme sensitivity, opt-off rate, accuracy of negative cytology reports, waiting time for colposcopic assessment for HSIL or ASCUS possible high grade and waiting time for colposcopic assessment for LSIL. To calculate indicators in this report, anonymised data for women aged 20–69 years enrolled on the NCSP Register were used. For some indicators, results were presented for women of all ages. Comment was provided on selected national indicators calculated annually, and quarterly for 2002. For other indicators, tables only were presented in Appendix 5.

At 31 December 2003, 1,064,809 women aged 20–69 years were actively enrolled on the NCSP Register. This was 96.2% of the hysterectomy-adjusted population. The proportion of women aged 20–69 years who had at least one smear during the previous six years to 31 December 2002 was 87.3% (hysterectomy-adjusted) and coverage was 72.0% (hysterectomy-adjusted). Since 31 December 2000, calculated enrolment (hysterectomy-adjusted) has increased by about 5%, while coverage has decreased slightly from 73.1% to 72.0%.

Enrolment, participation and coverage varied among the NCSP regions and DHB areas. While Tairāwhiti, Taranaki and Wellington regions met the targets for participation, no region or DHB area met the targets for coverage. Overall, enrolment, participation and coverage declined with increasing age from the 25–29 year age group. Other women had the highest levels of enrolment, participation and coverage. Hysterectomy-adjusted coverage was 50.6%, 77.3% and 45.8%, respectively, for Māori, Other and Pacific women.

98,714 women aged 25–69 years had not had a smear during the previous six years at 31 December 2002 (non-participants). This was 7.8% of the hysterectomy-adjusted population. Auckland region had the highest non-participation rate (11.4%), as well as the lowest re-participation rate (8.2%), while Taranaki had the lowest non-participation rate (5.1%) and a high re-participation rate (14.8%). Nelson-Marlborough had the highest re-participation rate (15.3%). Of the three ethnic groups non-participation was highest among Pacific women.

Follow-up of HSIL cytology indicator to 31 December 2003 has previously been reported in a quarterly report. Overall, for each quarterly report, about 77% of 20–69-year-old women with a high grade cytology result had histology taken within 12 weeks of their smear and 92% within 52 weeks of their smear. Neither of the two targets were reached by any group. The proportion of Other women who had histology taken within 12 weeks of their high grade or more serious cytology was about 10% more than for both Maori and Pacific women. The proportion of women in each region who had a high grade smear result with a subsequent histology specimen taken within 12 weeks varied among regions, with Otago/Southland having the highest proportion at 84% or more. For all NCSP regions, the proportion of women in each region who had a high grade smear result with a subsequent histology specimen taken within 52 weeks was 90% or more.

ASCUS and LSIL were the most frequently reported abnormal smear results in 2003, with women younger than 20 years of age having the highest age-specific reporting rates, (50.0 and 112.8 per 1000 women screened, respectively). HSIL was the most frequently reported histology result, with women aged 25–29 years having the highest age-specific rate (75.3 per 10,000 women).

The histology for 145 women was reported as microinvasive or invasive cervical squamous carcinoma. The age-standardised histology reporting rate for women aged 20–69 years for these two abnormalities combined was 0.9 per 10,000 women. Women aged 60–64 years had the highest age-specific histology reporting rate (1.5 per 10,000 women) followed by women aged 55–59 years (1.4 per 10,000 women).

Overall, the results of 408,925 satisfactory or satisfactory but limited smears reported by two hospital-based laboratories and 11 community-based laboratories were recorded on the NCSP Register during 2003. For all laboratories combined, the proportion of smears reported as HSIL was 1.13%, which met the target of not less than 0.60%. Each laboratory met the target. Overall, 7.5% of smears were reported as abnormal and this did not exceed the target of 10%. Among the laboratories, both hospital-based laboratories and one community-based laboratory reported more than 10% of smears as abnormal.

2. The National Cervical Screening Programme

The National Cervical Screening Programme (NCSP), begun in 1990, aims to reduce the incidence and mortality rate of cervical cancer among women within New Zealand by the detection and treatment of precancerous squamous cell change.

The NCSP, co-ordinated by the National Screening Unit, involves women, smear takers, cytology and histology laboratories, colposcopists and regional NCSP service offices. The national cervical screening register, an integral part of the NCSP, records the cervical cytology and histology results for women enrolled in the programme. This information is used to assist with ensuring individual enrolled women receive smears at recommended intervals and are referred for assessment and treatment when necessary. Collectively, the information is used to monitor the performance of the overall NCSP against a set of national indicators and targets. The monitoring supplements the quality standards that are required of providers of cervical screening services within the NCSP.

The National Screening Unit (NSU) of the Ministry of Health (MoH), through a committee of experts and a consultation process, established national indicators for the National Cervical Screening Programme (NCSP) in 2000. Where it was considered appropriate and feasible, the NSU set targets for some indicators. For indicators with no target, changes over time are assessed. With more information available through the monitoring process, some indicators, and indicator targets and reporting frequencies have changed (see Quarterly Reports 1–5). The method for calculating each indicator reported is described in Appendix 1. While an emphasis is placed on hysterectomy-adjusted rates (the preference of the NSU), both hysterectomy and unadjusted rates are reported.

This report does not include all national indicators, as appropriate data were not available for the following eight indicators: stage of invasive cancer, interval cancer, programme sensitivity, opt-off rate, accuracy of negative cytology reports, waiting time for colposcopic assessment for HSIL or ASCUS possible high grade, waiting time for colposcopic assessment for LSIL, and residual high grade disease after treatment. The definitions and targets for these indicators are listed in Appendix 2.

3. Cervical Cancer Incidence and Mortality

Definitions and targets

Cervical cancer incidence

Definition: Cervical cancer incidence is the annual rate of new registrations of invasive cervical cancer (ICD9 code 180) per 100,000 women, age standardised to the WHO world population.

Targets: The targets for cervical cancer incidence are 8.6 or less per 100,000 women by 2025 for all women and 11.0 or less per 100,000 women for Maori women.

Cervical cancer mortality

Definition: Cervical cancer mortality is the annual rate of death (ICD9 code 180) per 100,000 women, age standardised to the WHO world population.

Targets: The targets for cervical cancer mortality are 2.5 or less per 100,000 women by 2025 for all women and 6.0 or less per 100,000 women for Maori women.

There are no targets for cervical cancer incidence and mortality for Pacific women, as the relatively small size of the Pacific Island population in New Zealand results in few cases of invasive cervical cancer in Pacific women each year.

Results

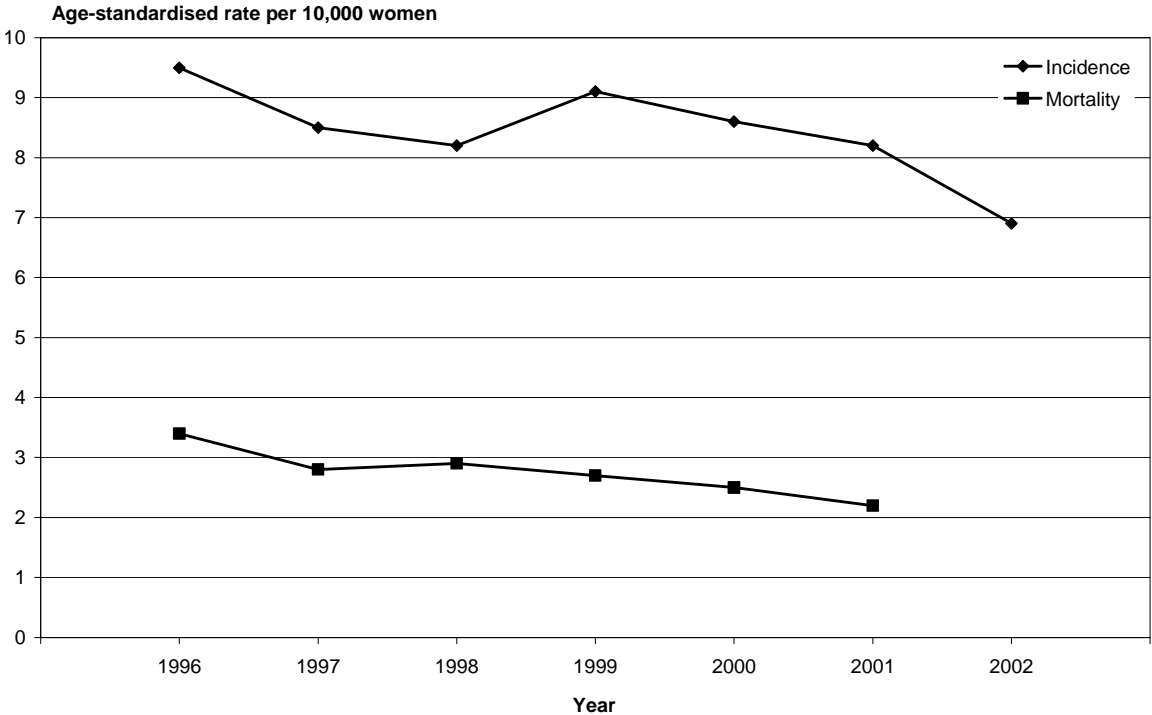
Overall, the annual number of new cases of cervical cancer and the annual number of deaths from cervical cancer have declined. Between 1996 and 2002 age-standardised cervical cancer incidence declined from 9.5 to 6.9 per 10,000 women. From 1998 to 1999, there was a small increase. Between 1996 and 2001 age-standardised mortality declined slightly from 3.4 to 2.2 per 10,000 women (Figure 1).

Table 1 shows the annual number of new cervical cancer registrations and the annual number of deaths for the years 1990–2002. Although the annual number of new registrations has fluctuated, there has been an overall decline from 236 in 1990 to 182 in 2002. For the 1990–2002 period, the highest number of cervical cancer cases registered was in 1991 (266). Similarly the annual number of deaths from cervical cancer declined from 101 in 1990 to 65 in 2002, with a peak occurring in 1991 (106).

Figure 2 shows the average annual cervical cancer incidence and mortality rates (per 100,000 women) by five-year age groups for the five-year period, 1997–2001. Women aged 35–39 years and 65–74 years had the highest incidence rate (18 per 100,000 women). The incidence rates for women aged 40–44 years and 80–84 years were almost as high. Between 1997 and 2001, one woman aged 15–19 years was registered as having cervical cancer, compared with two for the 1996–2000 period and four for the 1995–1999 period.

In general, cervical cancer mortality rates increased with increasing age, with the highest rate being reported among 75–79-year-old women (14 per 100,000 women). No women younger than 20 years of age died from cervical cancer during this five-year period.

Figure 1 Age-standardised cervical cancer incidence and mortality rates, 1996–2002



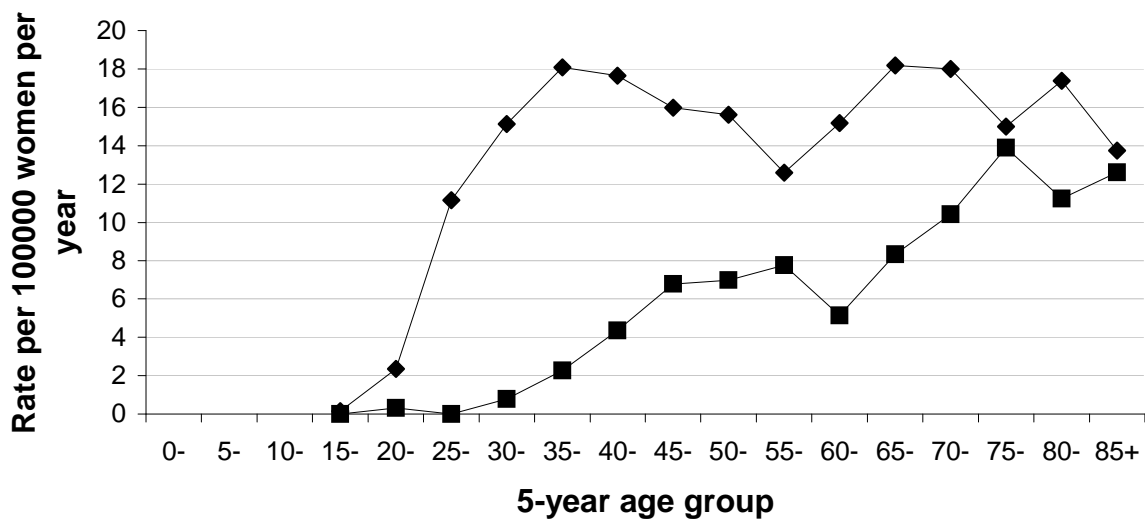
Data source: National Screening Unit, Ministry of Health
 Note: Age-standardised to the Segi's World Population.

Table 1 Annual number of new cervical cancer registrations and cervical cancer deaths, 1990–2002

Year	Number of new cases ¹	Number of deaths (2001)
1990	236	101
1991	266	106
1992	223	87
1993	238	80
1994	212	77
1995	217	96
1996	211	83
1997	205	73
1998	200	77
1999	218	71
2000	205	66
2001	195	63
2002*	182	65
Total	2809	1045

* Mortality data not available.

Figure 2 Average annual cervical cancer incidence and mortality rates (per 100,000) by five-year age group, 1997–2001



¹ The annual number of new cases for the years 1990 to 1999 differ from the 2001 NCSP Annual Monitoring Report. This is because NZ Health Information Service (NZHIS) has updated the cervical cancer data. The NSU accessed the most recent update for this report.

4. Enrolment, Participation and Coverage

Definitions and targets

Enrolment

Definition: Enrolled women were defined as women aged 20–69 years at the end of the reporting period who had a cytology or histology result recorded on the NCSP Register before 1 January 2003.²

Target: There is no target for enrolment, but changes over time will be monitored.

Participation

Definition: Participation is the proportion of enrolled women aged 20–69 years who have had a cervical smear recorded on the NCSP Register within the six years prior to the end of the reporting period.

Targets: The target for participation was 90% for the hysterectomy-adjusted population until December 2001 when, following a recommendation from the IMG-NCSP, it was lowered to 85%. The target for the unadjusted population is 80%.

Coverage

Definition: Coverage is the proportion of enrolled women aged 20–69 years who have had a cervical smear recorded on the NCSP Register in the 36 months prior to the end of the reporting period.

A 36-month interval was used because this is the recommended cervical screening interval for New Zealand, and it is the same period used by other countries, making international comparisons possible.

Targets: The targets for coverage are 85% for the hysterectomy-adjusted population and 80% for the unadjusted population.

² Women who were recorded on the NCSP Register as deceased, living overseas, being too ill to continue being screened or having indicated to the programme that they did not wish to have any more smears were excluded. Women with a normal smear history who were recorded on the NCSP Register as no longer participating in routine screening because they had had a hysterectomy for a benign reason were also excluded.

Results

At 31 December 2003, 1,064,809 women aged 20–69 years were enrolled in the NCSP, an increase of 31,031 women since the end of 2002.

Table 2 shows enrolment, participation and coverage for 20–69-year-old women for each NCSP region. Overall, enrolment in the NCSP was high, particularly when adjusted for hysterectomy (96.2%). Enrolment among the NCSP regions varied ranging from 89.2% for the West Coast to 101.9% for Wellington for the hysterectomy-adjusted population (76.7% and 89.8%, respectively, unadjusted).

Participation and coverage were both lower than enrolment. Nationally, participation was 87.3% (76.5% unadjusted) and coverage was 72.0% (63.1% unadjusted). The targets for participation were not reached nationally, but they were achieved in the Taranaki and Wellington NCSP regions. The hysterectomy-adjusted participation target was achieved or almost achieved in all NCSP regions except the West Coast, where it was 81.9%. For 2002, hysterectomy-adjusted participation for the West Coast was 80.7%.

Coverage was 72.0% nationally (63.1% unadjusted), which is slightly less than that reported for the previous three years (Table 3). The West Coast had the lowest coverage (67.6% hysterectomy-adjusted and 58.2% unadjusted). Coverage for the Auckland NCSP region was also low (67.7% hysterectomy-adjusted and 59.9% unadjusted). Taranaki was the only region where the hysterectomy adjusted target for coverage was almost achieved (84.0%). Coverage for all other regions was less than 80%.

Enrolment varied widely among five-year age groups in both NCSP regions and DHB areas (Appendix 5, Tables 18 and 19). Overall, enrolment (unadjusted) was over 90% for the 25–44 year age groups and over 100% for the 30–34 year age group (102.4%). Women aged 65–69 years had the lowest enrolment (57.5%). A similar pattern was observed for each NCSP region and DHB area. Enrolment was calculated to be above 100% for 25–29 year old women and 30–34 year old women in several NCSP regions and DHB areas. Women aged 25–29 years in Otago DHB had a particularly high calculated enrolment (121.4%). Women aged 30–34 years in Capital Coast DHB also had a high calculated enrolment (110.4%). Women aged 65–69 years had the lowest enrolment (57.5% overall), particularly in Canterbury and the West Coast. In Auckland 20–24 year old women also had low enrolment (55.7% in the Auckland NCSP region and 50.7% in the Auckland DHB area). Except for Waitemata and Counties DHB areas, enrolment for the 20–24 year age group in the other regions and areas was at least 65%.

Figure 3 shows enrolment, participation and coverage for Maori, Other and Pacific women aged 20–69 years. Other women had the highest enrolment, participation and coverage. For each of these three indicators, the difference between Other women and Maori or Pacific women was at least 20%. Coverage was 50.6% for Maori women and 45.8% for Pacific women, compared with 77.3% for Other women.

For both Maori women and Other women the 35–39 year age groups had the highest levels of enrolment, whereas for Pacific women the 30–44 year age groups had the highest levels of enrolment (Appendix 5, Table 20). Enrolment was less than 50% for Maori women aged 60–69 years, and also Pacific women aged 20–24 years and 65–69 years. While both participation and coverage were less than enrolment, similar patterns were observed across the five-year age groups for each ethnic group (Appendix 5, Tables 25 and 30). Coverage (hysterectomy-adjusted) was particularly low for both Maori and Pacific women aged 20–69 years, 50.6% and 45.8%, respectively. Coverage (unadjusted) was less than 40% for both Maori women and Pacific women aged 50–69 years (Appendix 5, Table 30).

For each ethnic group, the level of enrolment, participation and coverage varied widely across both the NCSP regions and DHB areas (Appendix 5, Tables 21, 22, 26, 27, 31 and 32). For example among the NCSP regions, participation for Maori women ranged from 48.4% in Canterbury to 74.5% in Tairāwhiti.

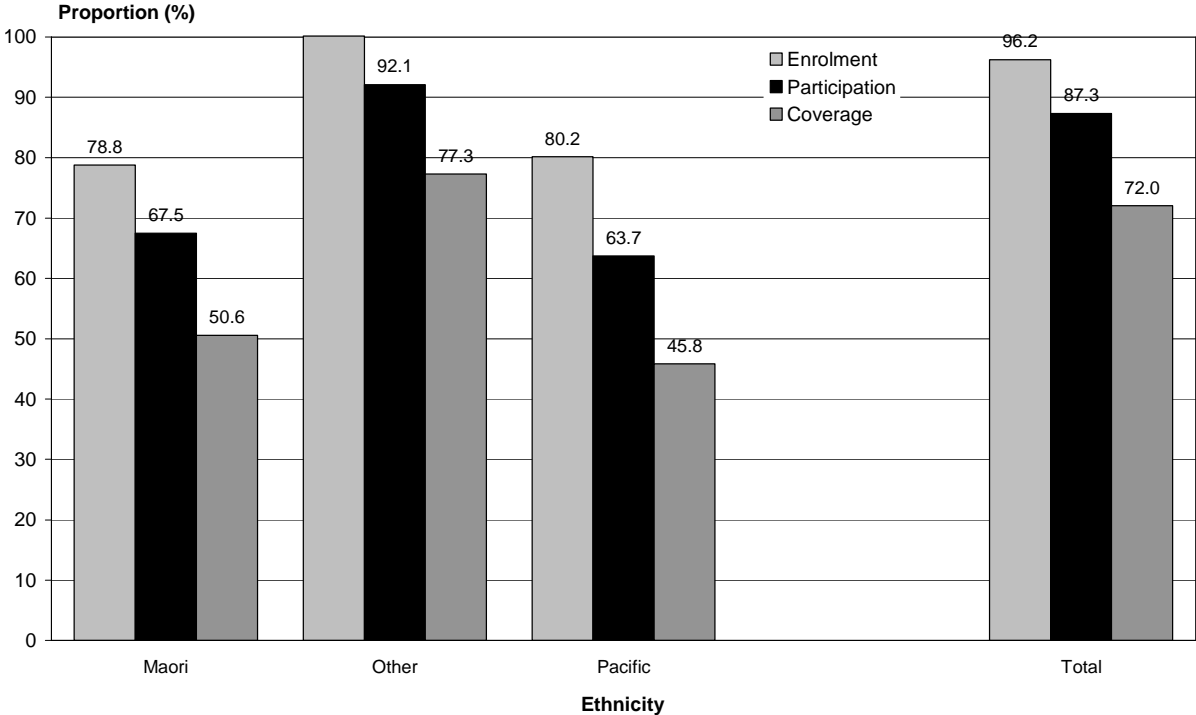
Table 2 Enrolment, participation and coverage (hysterectomy-adjusted and unadjusted) for women aged 20–69 years by NCSP region, 2003

NCSP region	Enrolment no target		Participation targets: 90% adjusted 80% unadjusted		Coverage targets: 85% adjusted 80% unadjusted	
	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted
Hysterectomy	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted
Auckland	96.4	85.4	85.0	75.3	67.7	59.9
Bay of Plenty	98.1	85.0	89.6	77.6	74.8	64.8
Canterbury	93.5	81.5	87.5	76.3	73.9	64.4
Hawkes Bay	94.3	81.5	87.4	75.6	72.7	62.9
Manawatu/Wanganui	91.2	79.4	83.5	72.7	69.6	60.7
Nelson–Marlborough	90.4	78.0	84.9	73.2	73.4	63.3
Northland	94.2	80.9	84.5	72.5	68.6	58.9
Otago/Southland	95.7	83.5	89.2	77.8	77.0	67.3
Tairāwhiti	97.2	84.8	91.6	79.9	75.9	66.2
Taranaki	99.5	85.9	94.4	81.5	84.0	72.6
Waikato	97.3	85.0	88.3	77.2	72.7	63.5
Wellington	101.9	89.8	92.2	81.3	76.3	67.3
West Coast	89.2	76.7	81.9	70.5	67.6	58.2
Total	96.2	84.3	87.3	76.5	72.0	63.1

Table 3 Enrolment, participation and coverage summary, 2000–2003

Year	Enrolment no target		Participation targets: 80% unadjusted 85% adjusted		Coverage targets: 80% unadjusted 85% adjusted	
	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted
Hysterectomy	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted
2000	91.5	80.6	87.0	76.6	73.1	64.4
2001	93.0	81.8	87.1	76.6	72.7	63.9
2002	94.9	83.2	87.5	76.7	72.2	63.3
2003	96.2	84.3	87.3	76.5	72.0	63.1

Figure 3 Enrolment, participation and coverage (hysterectomy-adjusted) for women aged 20–69 years by ethnicity, 2003



5. Non-participation and Re-participation

Definitions and targets

Non-participation

Definition: Non-participating women are enrolled women aged 25–69 years who have not had a smear recorded on the NCSP Register in the six years prior to the end of the reporting period.

Target: There is no target for non-participation.

Re-participation

Definition: The re-participation rate is the proportion of enrolled women aged 25–69 years who had no smear result recorded on the NCSP Register in the six years prior to the end of the reporting period, and who had a smear result recorded on the NCSP Register during the reporting period.

Target: There is no target for re-participation.

Results

Overall, at 31 December 2003, there were 98,714 non-participating women aged 25–69 years, which was 8.9% of the hysterectomy-adjusted population (7.8% unadjusted). The number and proportion of non-participating women have increased each successive year since 31 December 2000 (Table 4). Between the end of 2002 and 2003 the number of non-participating women increased by 17,789.

79,396 women aged 25–69 years had not had a smear result recorded on the NCSP Register during the six years to 31 December 2002. Of these 79,396 women, 10.0% had a smear result recorded on the register during 2003 (re-participated).

Table 5 shows the non-participation and re-participation rates for women aged 25–69 years for each NCSP region. Taranaki had the lowest non-participation rate (5.1% hysterectomy adjusted, 4.4% unadjusted) and Auckland had the highest non-participation rate (11.4% hysterectomy adjusted, 10.1% unadjusted). Hysterectomy-adjusted non-participation rates were also 9% or more in Northland, Waikato and Wellington. Among the NCSP regions re-participation ranged from 8.2% in Auckland to 15.3% in Nelson-Marlborough.

The non-participation and re-participation rates for each DHB area are shown in Table 6. These results are similar to those shown in Table 5. Auckland and Counties Manukau had high levels of non-participation, about 12% (hysterectomy-adjusted), and relatively low re-participation rates compared with the other DHB areas.

Table 7 shows non-participation and re-participation rates for Maori, Other and Pacific women. Pacific women had the highest non-participation rates (16.4% hysterectomy-adjusted) and the lowest re-participation rate (7.4%). While the non-participation rate was lower for Other women than Maori women, the re-participation rates were similar, 10.1% and 11.1%, respectively.

Overall, re-participation rates for the five-year age groups varied considerably among the NCSP regions and DHB areas (Appendix 5, Tables 34 and 35). This is likely to reflect the small numbers of women re-participating in many of the five-year age groups.

In general, five-year re-participation rates were similar for Maori and Other women (Appendix 5, Table 36). Compared with these two groups, re-participation rates for the five-year age groups were lower for Pacific women.

Table 4 Summary of non-participation, 2000–2003

Year Hysterectomy	Non-participation [†]		
	Number	Rate (%) unadjusted	Rate (%) adjusted
2000	Not available	4.2	4.8
2001	62,907	5.7	6.6
2002	80,925	6.5	7.4
2003	98,714	7.8	8.9

† Women aged 25–69 years included.

Data sources: Quarterly Report 1, 2001 Annual Monitoring Report, 2002 Annual Monitoring Report.

Table 5 Non-participation rates (%) and re-participation rates (%) by NCSP region, 2003 [no targets]

NCSP region Hysterectomy	Non-participation [†]		Re-participation [‡]	
	Rate (%) adjusted	Rate (%) unadjusted	Rate (%)	Number of re-participants
Auckland	11.4	10.1	8.2	2736
Bay of Plenty	8.5	7.4	11.0	592
Canterbury	5.9	5.2	13.2	911
Hawkes Bay	6.9	6.0	12.8	273
Manawatu/Wanganui	7.7	6.7	11.5	433
Nelson–Marlborough	5.5	4.8	15.3	255
Northland	9.7	8.4	11.1	350
Otago/Southland	6.5	5.7	11.5	491
Tairāwhiti	5.6	4.9	14.7	78
Taranaki	5.1	4.4	14.8	183
Waikato	9.0	7.9	10.1	645
Wellington	9.6	8.5	9.3	931
West Coast	7.3	6.2	11.2	53
Total	8.9	7.8	10.0	7931

† Women aged 25–69 years included.

‡ Women aged 20–69 years included.

**Table 6 Non-participation rates (%) and re-participation rates (%) by DHB area, 2003
[no targets]**

DHB area Hysterectomy	Non-participation [†]		Re-participation [‡]	
	Rate (%) adjusted	Rate (%) unadjusted	Rate (%)	Number of re-participants
Auckland	12.6	11.3	6.8	837
Bay of Plenty	7.6	6.5	12.2	384
Canterbury	5.7	5.0	13.6	805
Capital Coast	9.8	8.7	8.9	572
Counties Manukau	11.9	10.5	8.4	893
Hawkes Bay	6.9	6.0	12.8	273
Hutt Valley	9.7	8.5	9.2	272
Lakes	10.0	8.7	9.5	205
MidCentral	7.2	6.3	12.0	291
Nelson-Marlborough	5.5	4.8	15.3	255
Northland	9.7	8.4	11.1	350
Otago	6.3	5.5	11.5	295
South Canterbury	5.1	4.4	15.1	96
Southland	6.9	6.0	11.6	196
Tairāwhiti	5.6	4.9	14.7	78
Taranaki	5.1	4.4	14.8	183
Waikato	8.6	7.6	10.1	645
Wairarapa	6.6	5.6	14.6	81
Waitemata	9.6	8.4	9.7	987
West Coast	7.3	6.2	11.2	53
Whanganui	8.5	7.3	12.5	135
Unspecified DHB*			4.3	45
Total*	8.9	7.8	10.0	7931

† Women aged 25–69 years included.

‡ Women aged 20–69 years included.

* For 1380 women the DHB area was not specified (see Methods section). These women are included in the totals.

**Table 7 Non-participation rates (%) and re-participation rates (%) by ethnicity, 2003
[no targets]**

Ethnicity Hysterectomy	Non-participation [†]		Re-participation [‡]	
	Rate (%) adjusted	Rate (%) unadjusted	Rate (%)	Number of re-participants
Maori	11.3	10.2	11.1	1489
Other	8.0	7.0	10.1	5863
Pacific	16.4	14.9	7.4	579
Total	8.9	7.8	10.0	7931

† Women aged 25–69 years included.

‡ Women aged 20–69 years included.

6. Follow-up of Women with HSIL Cytology

Definition

Follow-up of women with HSIL cytology is defined as the proportion of enrolled women with a high grade or more serious cytology result³ for whom a histology specimen has been taken within specified time periods as recorded on the NCSP Register. The time periods from the date the smear was taken are within 12 weeks, between 13 and 26 weeks, between 27 and 52 weeks and more than 52 weeks.

Targets

The targets for the follow up of women with HSIL cytology are 90% for histology specimen taken within 12 weeks of the smear date, and 99% for the histology being taken within 52 weeks of the smear date.

Results

Overall, 78% of 20–69-year-old women with a high grade cytology result had histology taken within 12 weeks of their smear and 92.8% within 52 weeks of their smear for the reporting period to 31 December 2003. There was little change in the results for follow-up of women with HSIL cytology reported in the quarterly reports during 2003, and the two targets were not reached by any group.

Figure 4 shows the proportion of women in each ethnic group who had histology taken within 12 weeks of their high grade or more serious cytology for each reporting quarter. For each reporting quarter the proportion of Other women who had histology taken within 12 weeks of their high grade or more serious cytology was at least 10% more than for both Maori and Pacific women. While the proportion of women who had histology taken within 12 weeks increased slightly over the reporting quarters for both Maori and Other women, it decreased from 68.8% for the January to March quarter to 61.6% for the October to December quarter.

Figure 5 shows the proportion of women in each ethnic group who had histology taken within 52 weeks of their high grade or more serious cytology for each reporting quarter. The results for Pacific women were less than for both Maori and Other women. Results for Maori women were slightly less than those reported for Other women.

³ High grade or more serious cytology was defined as ASCUS possible high grade, HSIL or more serious cytology according to the hierarchy of codes (Appendix 2).

Follow-up of women with HSIL cytology indicator results for NCSP regions is shown in Table 8. The proportion of women in each region who had a high grade smear result with a subsequent histology specimen taken within 12 weeks varied among the regions. These proportions were consistently high (above 83%) for Otago/Southland. Over the four reporting periods the proportion of women with a high grade smear who had histology within 12 weeks declined in the West Coast from 82.9% to 74.1% and improved in Bay of Plenty from 63.9% to 80.4%. There was little change in the other NCSP regions.

For all NCSP regions, the proportion of women in each region who had high grade smear results with a subsequent histology specimen taken within 52 weeks was 90% or more. The target of 99% was met once: the West Coast in the January–March 2003 reporting quarter.

Overall, the proportion of women who did not have any histology recorded on the NCSP Register following their high grade smear changed little over the four reporting periods from 6.4% to 6.1% (Appendix 5, Table 47). There was little change for both Maori women and Other women, but an overall increase for Pacific women (from 13.5% to 15.9%). Among the NCSP regions the proportion of women with no histology recorded varied (Table 9). Over the 2003 reporting quarters, the proportion of women with no histology in Bay of Plenty decreased from 10.1% to 4.8%. Previously, Bay of Plenty had a high proportion of women with a high grade cytology result with no subsequent histology.

Figure 4 Proportion (%) of women with a histology report within 12 weeks of an ASCUS possible high grade or HSIL cytology result by ethnicity and reporting quarter, 2003 [target = 90%]

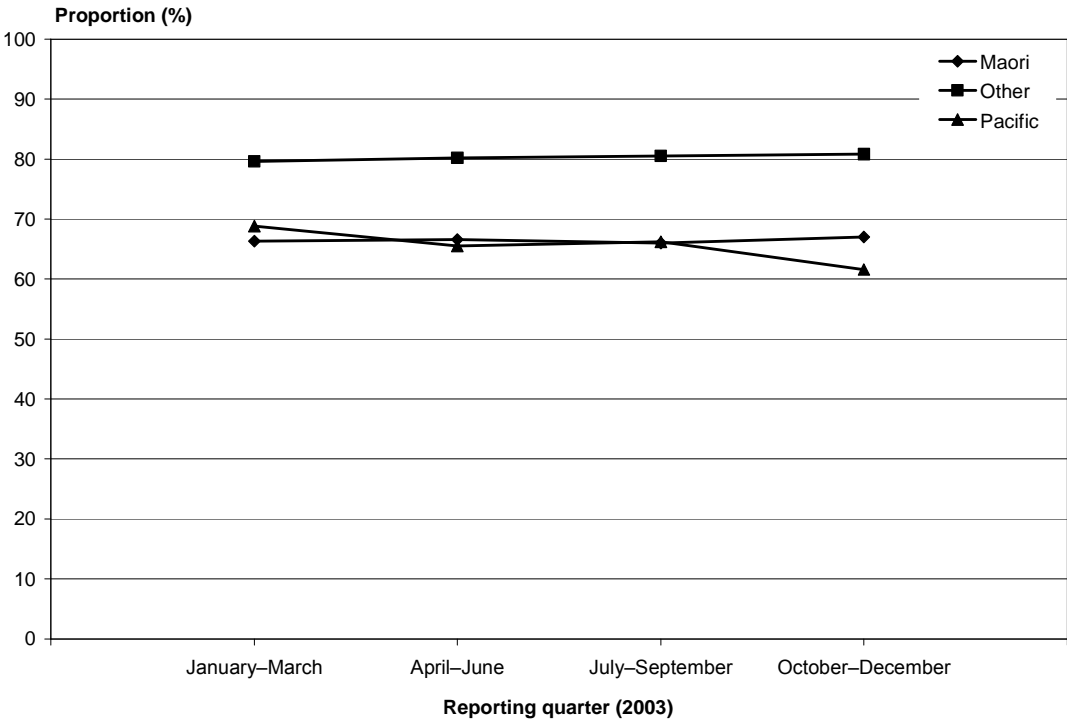


Figure 5 Proportion (%) of women with a histology report within 52 weeks of an ASCUS possible high grade or HSIL cytology result by ethnicity and reporting quarter, 2003 [target = 99%]

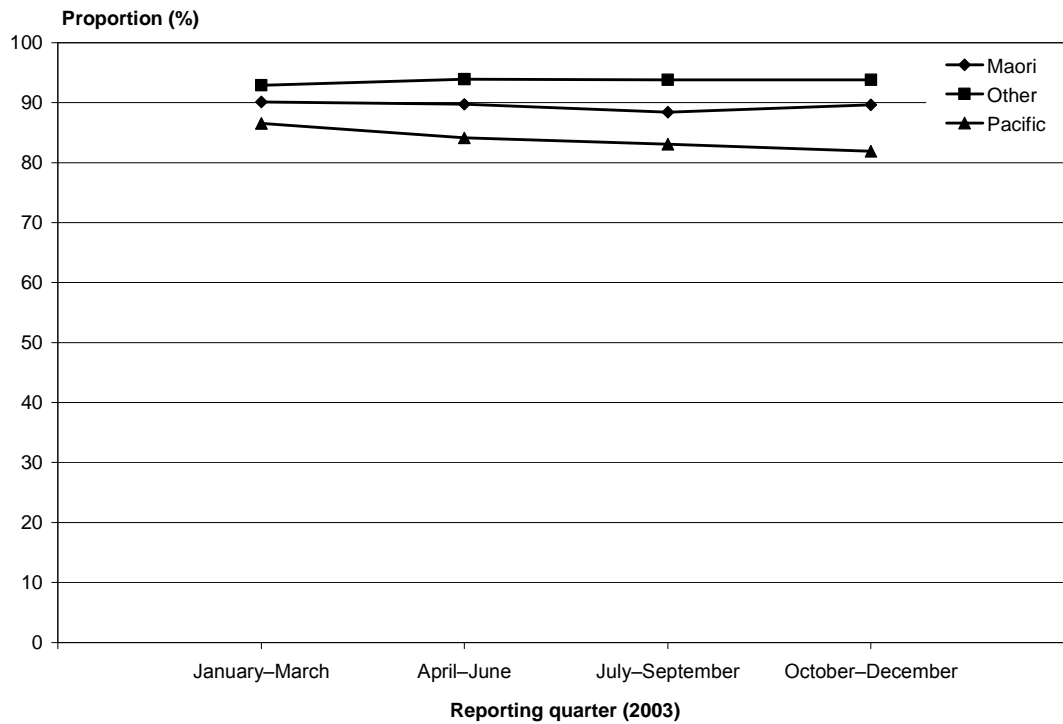


Table 8 Proportion (%) of women with a histology report within 12 weeks and within 52 weeks of an ASCUS possible high grade or HSIL cytology result by NCSP region and reporting quarter, 2003

NCSP region	Within 12 weeks [target = 90%]				Within 52 weeks [target = 99%]				No histology			
	Jan–Mar	Apr–Jun	Jul–Sep	Oct–Dec	Jan–Mar	Apr–Jun	Jul–Sep	Oct–Dec	Jan–Mar	Apr–Jun	Jul–Sep	Oct–Dec
Auckland	78.7	77.7	76.8	75.8	91.7	90.8	90.9	90.4	6.8	7.5	7.7	8.2
Bay of Plenty	63.9	72.4	75.2	80.4	87.6	93.1	92.7	94.6	10.1	5.9	5.8	4.8
Canterbury	81.3	81.0	80.0	81.1	91.6	92.1	89.9	90.3	7.3	6.9	8.9	8.9
Hawkes Bay	78.3	78.8	82.6	81.9	94.4	95.7	97.0	97.7	4.4	3.3	1.8	1.8
Manawatu/Wanganui	79.4	79.3	80.1	79.3	91.7	93.2	95.0	94.6	7.0	4.4	3.3	4.1
Nelson–Marlborough	74.6	78.0	80.4	76.1	98.6	99.2	99.3	97.2	0.0	0.8	0.7	2.1
Northland	83.4	81.7	80.9	77.2	95.0	94.8	92.7	94.0	4.5	4.2	5.6	3.6
Otago/Southland	86.8	87.6	85.5	83.5	95.5	96.1	94.9	94.6	3.3	3.1	4.3	4.4
Tairāwhiti	77.8	81.6	88.4	85.0	93.3	92.1	93.0	92.5	6.7	7.9	4.7	2.5
Taranaki	75.3	73.9	74.8	78.1	94.3	91.9	91.8	94.2	5.1	7.5	7.5	5.1
Waikato	74.7	73.6	76.1	78.2	94.3	95.5	94.8	94.6	5.0	3.9	3.8	4.3
Wellington	74.2	72.2	71.2	73.1	90.7	92.1	92.2	93.3	7.5	6.4	6.5	6.0
West Coast	82.9	76.3	71.4	74.1	100.0	94.7	94.3	92.6	0.0	5.3	5.7	7.4
Total	77.2	77.7	77.8	78.0	92.3	92.9	92.6	92.8	6.4	5.8	6.1	6.1

7. Cytology Abnormality Reporting

Definition

Cytology abnormality reporting is the rate at which cytological cervical abnormalities are reported (as recorded by the NCSP Register).

As a cytological abnormality may not be confirmed at clinical examination or biopsy, the positive predictive value (PPV) of HSIL⁴ results in section 13 should be kept in mind when interpreting the HSIL cytology reporting results presented in this section. However, it is important to note that the HSIL cytology results from different time periods are used to calculate cytology abnormality reporting rates and PPV of HSIL: January–December 2002 for cytology abnormality reporting and July 2001–July 2002 for PPV of HSIL.

The Bethesda 1998 System was used by the NCSP to record the cytological result of each smear. Laboratories can assign more than one Bethesda diagnosis code to each smear. Therefore, a hierarchy of codes is used by the NCSP for the recommended follow-up of women and for tabulation of results. For the purposes of this report the most serious diagnosis code for each smear according to a hierarchy of codes was used. The Bethesda diagnosis codes were assigned to broad cytological categories (Appendix 3). The hierarchy of broad cytological categories used for this report are:

- (a) negative for dysplasia or malignancy
- (b) abnormal not otherwise specified
- (c) atypical squamous cells of undetermined significance, excluding ASCUS possible high grade (ASCUS-LG)
- (d) low grade squamous intraepithelial lesion (LSIL)
- (e) atypical glandular cells of undetermined significance favouring a reactive process (AGUS favour reactive)
- (f) atypical glandular cells of undetermined significance favouring a dysplastic process (AGUS favour dysplasia)
- (g) atypical cells of undetermined significance, possible high grade (ASCUS-HG)
- (h) high grade squamous intraepithelial lesion (HSIL)
- (i) adenocarcinoma-in-situ (AIS)
- (j) adenocarcinoma of the cervix⁵
- (k) cancer not otherwise specified
- (l) invasive squamous carcinoma of the cervix.

⁴ The PPV of HSIL indicator is the probability of a histological report of HSIL or more serious abnormality given an HSIL or more serious cytology report.

⁵ Adenocarcinoma of the cervix includes adenocarcinoma not otherwise specified, adenocarcinoma probably of endocervical origin, adenocarcinoma probably of endometrial origin and adenocarcinoma probably of extrauterine origin.

Targets

There are no targets.

Results

During 2003 the results of 409,141 satisfactory or satisfactory but limited smears taken from 386,431 women were recorded on the NCSP Register.

Age-specific and age-standardised smear reporting rates for specified cytological result categories are shown in Table 9. The age-standardised reporting rate for 20–69-year-old women for a negative smear was 935.2 per 1000 women screened. The age-specific reporting rates for a negative smear increased from 816.4 per 1000 women younger than 20 years of age to 978.1 per 1000 women aged 60–64 years and declined thereafter outside the target age range to 883.5 per 1000 women aged 85 years and older.

The most frequently reported cytological abnormalities were ASCUS and LSIL. The ASCUS and LSIL age-standardised rates for 20–69-year-old women were similar, 24.3 per 1000 women and 26.8 per 1000 women, respectively. For both these low grade abnormalities women younger than 20 years of age (and outside the programme target age range) had the highest age-specific rates, which was particularly high for LSIL (112.8 per 1000 women). Age-specific rates for both ASCUS and LSIL declined with increasing age over the target age range of 20–69 years and, then varied in the older age groups (Table 9).

The age-standardised HSIL cytology rate for 20–69-year-old women was 10.2 per 1000 women. Women aged 25–29 years had the highest age-specific HSIL cytology rate (20.2 per 1000 women). The age-specific HSIL cytology rates were almost as high for women aged less than 25 years and over 85 years. Women aged 55–69 had low age-specific HSIL cytology rates (about 2.5 per 1000 women).

The age-standardised cervical squamous carcinoma cytology rate for 20–69-year-old women was 0.1 per 1000 women screened. Age-specific cervical squamous carcinoma cytology rates increased with increasing age from no cervical squamous carcinoma cytology reported among women aged less than 25 years to 9.7 per 1000 women among the 85 years and older age group.

Table 10 shows the age-standardised reported smear results per 1000 screened women aged 20–69 years by NCSP region. The age-standardised rates varied among the regions for the different cytological categories, particularly for ASCUS. The age-standardised ASCUS cytology rate ranged from 7.3 per 1000 women in Otago/Southland to 58.2 per 1,000 women in the Bay of Plenty. The age-standardised HSIL cytology rate ranged from 7.6 per 1000 women in Wellington to 14.8 per 1000 women screened in Hawkes Bay. Tairāwhiti had the highest age-standardised cervical squamous carcinoma cytology rate and no cases were reported in Hawkes Bay and the West Coast.

Table 11 shows the age-standardised reported smear results per 1000 women screened aged 20–69 years by ethnicity. Maori women had the highest ASCUS, LSIL and HSIL cytology reporting rates compared with Other and Pacific women. ASCUS, LSIL and HSIL cytology reporting rates were similar for Other and Pacific women. Pacific women had the highest cervical squamous carcinoma cytology reporting rates were higher among Pacific women and Maori women (0.4 and 0.3 per 1000 women screened, respectively) compared with Other women (0.1 per 1000).

Table 9 Reported smear results by cytological result category per 1000 women screened by five-year age group, 2003

Category of cytology result*	Five-year age group															Target age ASR [†] 20–69 years
	< 20	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	≥ 85	
Negative for dysplasia or malignancy	816.41	856.70	901.73	931.58	946.21	951.89	955.71	967.34	976.67	978.10	977.89	962.33	946.36	952.38	883.50	935.16
AGUS favour reactive	0.07	0.26	0.84	0.59	0.70	0.82	0.92	0.79	0.63	0.74	0.68	0.40	1.28	3.17	9.71	0.69
AGUS favour dysplasia	0.00	0.07	0.12	0.29	0.17	0.14	0.36	0.30	0.32	0.28	0.17	1.19	5.11	0.00	0.00	0.21
ASCUS [‡]	49.98	43.24	30.90	24.70	22.96	22.81	22.99	17.38	12.18	10.64	10.80	18.64	15.33	9.52	38.83	24.36
LSIL	112.83	77.15	43.36	25.53	19.04	15.76	14.49	9.27	6.15	5.80	5.53	9.12	11.49	9.52	0.00	27.21
ASCUS possible high grade	1.33	2.46	2.51	2.34	1.69	1.18	1.34	0.97	1.02	0.68	0.94	0.79	5.11	6.35	9.71	1.67
HSIL	19.39	19.97	20.21	14.68	8.84	7.01	3.84	3.49	2.56	2.62	2.55	4.76	7.66	9.52	19.42	10.24
Squamous carcinoma of cervix	0.00	0.00	0.02	0.08	0.08	0.06	0.12	0.15	0.20	0.63	0.09	1.19	2.55	3.17	9.71	0.12
Number of women	14,287	41,514	43,104	52,517	51,567	50,944	41,141	32,912	25,379	17,583	11,760	2,522	783	315	103	386,431

* Rates for 'abnormal not otherwise specified', adenocarcinoma-in-situ, adenocarcinoma (both cervical and non-cervical) and carcinoma not otherwise specified were not calculated as the number of smears in each of these categories was too small.

† ASR = age-standardised rates. Rates were standardised to Segi's world population.

‡ Excludes ASCUS possible high grade.

Table 10 Age-standardised[†] reported smear results per 1000 women screened aged 20–69 years by NCSP region, 2003

Category of cytology result*	NCSP regions													Total
	Auckland	Bay of Plenty	Canterbury	Hawkes Bay	Manawatu/Wanganui	Nelson/Marlborough	Northland	Otago/Southland	Tairāwhiti	Taranaki	Waikato	Wellington	West Coast	
Negative for dysplasia or malignancy	943.6	893.7	940.5	935.3	919.4	929.9	941.2	950.0	924.3	927.7	929.4	936.2	942.2	935.16
AGUS favour reactive	0.3	2.2	1.1	0.2	0.3	0.	0.3	0.65	0.2	0.2	0.8	0.8	2.2	0.7
AGUS favour dysplasia	0.0	0.7	0.3	0.4	0.3	0.3	0.1	0.4	0.2	0.0	0.2	0.1	0.0	0.2
ASCUS [‡]	20.5	58.2	25.5	11.8	18.9	30.6	16.7	7.3	21.3	34.6	27.7	25.3	21.2	24.4
LSIL	23.5	32.8	21.1	35.1	49.2	24.8	25.0	24.7	38.8	25.5	30.7	28.1	22.2	27.2
ASCUS possible high grade	1.4	1.5	2.5	1.9	0.5	1.9	2.4	2.7	1.4	0.9	1.4	1.5	3.4	1.7
HSIL	10.2	10.5	8.7	14.8	10.8	11.3	13.9	13.5	12.5	10.7	9.6	7.6	8.3	10.2
Squamous carcinoma of cervix	0.1	0.2	0.1	0.0	0.2	0.1	0.1	0.0	0.3	0.2	0.2	0.1	0.0	0.1
Number of women	118,702	27,924	46,152	12,685	19,331	12,088	12,120	27,055	4,123	10,787	28,714	46,327	2,413	368,421

* Rates for 'abnormal not otherwise specified', adenocarcinoma-in-situ, adenocarcinoma (both cervical and non-cervical) and carcinoma not otherwise specified were not calculated as the number of smears in each of these categories was too small.

† ASR = age-standardised rates. Rates were standardised to Segi's world population.

‡ Excludes ASCUS possible high grade.

Table 11 Age-standardised[†] reported smear results per 1000 screened women aged 20–69 years by ethnicity, 2003

Category of cytology result*	Ethnicity			
	Maori	Other	Pacific	Total
Negative for dysplasia or malignancy	915.5	937.2	939.2	935.2
AGUS favour reactive	0.6	0.7	0.4	0.7
AGUS favour dysplasia	0.3	0.2	0.5	0.2
ASCUS‡	31.0	23.7	24.1	24.4
LSIL	34.5	26.5	23.5	27.2
ASCUS possible high grade	1.6	1.7	1.5	1.7
HSIL	15.6	9.7	9.3	10.2
Squamous carcinoma of cervix	0.3	0.1	0.4	0.1
Number of women	32,816	323,959	11,646	368,421

* Rates for 'abnormal not otherwise specified', adenocarcinoma-in-situ, adenocarcinoma (both cervical and non-cervical) and carcinoma not otherwise specified were not calculated as the number of smears in each of these categories was too small.

† ASR = age-standardised rates. Rates were standardised to Segi's world population.

‡ Excludes ASCUS possible high grade.

8. Histology Abnormality Reporting

Definition

Histology abnormality reporting is the rate at which histological cervical abnormalities are reported (as recorded by the NCSP Register).

The Systematised Nomenclature of Medicine (SNOMED) histology codes are used by the NCSP Register to record the histological results of vaginal and cervical histology specimens. Histology specimens include diagnostic biopsies, treatment biopsies, polyps and the cervical tissue of total hysterectomy specimens.

Laboratories usually code histology results and the coded results are transferred electronically to the NCSP Register. Each histology specimen can be assigned a maximum of five SNOMED codes. As for cytology results, a hierarchy of histology codes is used by the NCSP for the recommended follow-up of women and tabulation of results. For the purposes of this report the most serious diagnosis code for each histology specimen according to a hierarchy of codes was used. Each SNOMED code was assigned to a histological category (Appendix 4). The hierarchy of histological categories used for this report are:

- (a) normal
- (b) other non-neoplastic
- (c) polyp
- (d) atypia/HPV
- (e) CIN not otherwise specified
- (f) LSIL
- (g) HSIL
- (h) glandular dysplasia
- (i) adenocarcinoma-in-situ
- (j) other non-epithelial primary cervical cancer
- (k) metastatic cancer (non-cervical)
- (l) invasive adenocarcinoma
- (m) adenosquamous carcinoma
- (n) microinvasive squamous carcinoma
- (o) invasive squamous carcinoma.

The projected 2002 population⁶ was used for the denominator when calculating the histology abnormality reporting indicator. As not all 20–69-year-old women are enrolled on the NCSP Register, particularly Maori and Pacific women, the enrolment, participation and coverage results (Section 4) should be considered when interpreting the histology abnormality reporting results.

⁶ See Methods Section, Appendix 1.

Targets

There are no targets.

Results

The results of cervical histology specimens taken from 20,791 women during 2003 were recorded on the NCSP Register. The most common histology results for these women were normal (4006), other non-neoplastic (4053) and HSIL (4222). A histological diagnosis of invasive squamous carcinoma was reported for 122 women and 58 women had a histological diagnosis of invasive adenocarcinoma of the cervix.

The age-specific and the age-standardised histology reporting rates for 2003 are shown in Table 12. The number of women with histology reported as CIN not otherwise specified, glandular dysplasia, other non-epithelial primary cancer, metastatic (non-cervical) carcinoma or adenosquamous carcinoma was too small to calculate rates (Appendix 5, Table 53).

The age-standardised atypia/HPV and LSIL histology reporting rates were similar, 23.7 per 10,000 women and 26.4 per 10,000 women, respectively. Both these abnormalities were more common in the younger age groups with the 20–24 year age group having the highest rates (41.0 per 10,000 women and 59.9 per 10,000 women for atypia/HPV and LSIL respectively). Both these low grade abnormalities decreased with increasing age across the target 20–69 years age range. Furthermore, no women older than 85 years of age had these abnormalities reported (Table 12 and Figure 6).

The age-standardised HSIL histology reporting rate was 35.2 per 10,000 women. Age-specific HSIL histology reporting rates were high for women aged 20–24 years (72.5 per 10,000) and 25–29 years (75.3 per 10,000). Outside the programme age range, women older than 85 years and older had the lowest rate (0.3 per 10,000 women).

The histology for 145 women was reported as microinvasive or invasive cervical squamous carcinoma. Most of these women (84%) were reported as having invasive carcinoma. For microinvasive or invasive cervical squamous carcinoma combined women aged 55–59 and 60–64 years had the highest age-specific histology reporting rates, 1.4 per 10,000 women and 1.5 per 10,000 women respectively. One woman aged less than 20 years and two women aged 20–24 years had an invasive squamous carcinoma histology report during 2003.

The age-standardised adenocarcinoma-in-situ reporting rate for 20–69-year-old women was 0.7 per 10,000 women. Women aged 25–29 years had the highest age-specific reporting rate (1.3 per 10,000 women) followed by women aged 30–34 years (1.2 per 10,000 women).

Table 13 shows the age-standardised histology reporting rates for 20–69-year-old women by NCSP region. Rates for the different histological categories varied among the NCSP regions. The reporting rate for normal cervical histology ranged from 11.5 per 10,000 women in Northland to 61.0 per 10,000 women in Tairāwhiti. Otago/Southland had the lowest age-standardised atypia/HPV histology reporting rate (8.2 per 10,000 women) and Tairāwhiti clearly had the highest rate (102.0 per 10,000 women), with the next highest rate being 51.3 per 10,000 women for Manawatu/Wanganui.

Bay of Plenty and the West Coast had the highest age-standardised LSIL reporting rates (about 50 per 10,000 women) with Northland having the lowest (13.6 per 10,000 women). The age-standardised HSIL reporting rates ranged from 13.4 for the West Coast to over 50 per 10,000 women for Hawkes Bay, Otago/Southland and Tairāwhiti. The age-standardised rate for invasive squamous carcinoma was highest in Nelson-Marlborough (1.2 per 10,000 women), while Hawkes Bay and the West Coast had the highest adenocarcinoma-in-situ rates (1.7 and 1.9 per 10,000 women, respectively) and Tairāwhiti the highest invasive adenocarcinoma rate (0.7 per 10,000 women).

Table 14 shows the age-standardised histology reporting rates for women aged 20–69 years by ethnicity. Other women had the highest rates for the less serious histological categories, while Pacific women had the highest microinvasive and invasive squamous carcinoma rates (0.3 and 1.0 per 10,000 women, respectively).

Table 12 Annual age-specific and age-standardised histology reporting rates per 10,000 women, 2003

Category of histology result	Five-year age group															Target age [†] 20–69 years
	< 20	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	≥85	
Normal	0.9	18.2	22.0	28.6	31.7	42.1	49.5	32.2	22.2	19.5	15.8	15.6	12.1	7.7	1.4	28.7
Other non-neoplastic	1.3	22.4	33.1	31.9	32.4	39.7	41.5	32.7	19.9	16.6	13.9	11.9	9.3	7.41	5.7	29.8
Polyp	0.1	0.8	2.2	5.0	10.3	20.9	31.3	29.3	20.6	13.5	9.6	4.0	4.2	1.5	1.7	13.2
Atypia/HPV	2.8	41.0	40.5	27.9	23.6	21.4	17.6	12.7	8.2	5.2	4.3	1.1	0.9	1.0	0.0	23.7
LSIL	4.2	59.9	49.0	32.6	22.4	20.1	14.6	7.3	4.1	2.5	2.6	1.4	0.2	0.3	0.0	26.4
HSIL	4.2	72.5	75.3	52.5	30.6	20.7	12.5	7.6	5.3	5.2	3.6	2.1	0.9	0.8	0.3	35.2
Micro-invasive squamous carcinoma*	0.0	0.0	0.2	0.3	0.1	0.3	0.1	0.2	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Invasive squamous carcinoma	0.0	0.2	0.3	0.9	0.9	1.1	0.8	0.9	0.9	1.4	1.0	1.1	1.1	0.8	1.2	0.8
Invasive and micro-invasive squamous carcinoma*	0.0	0.2	0.5	1.2	1.0	1.3	0.9	1.1	1.4	1.5	1.0	1.1	1.1	0.8	1.2	0.9
Adenocarcinoma-in-situ	0.0	0.6	1.3	1.2	0.8	0.6	0.5	0.2	0.3	0.1	0.6	0.2	0.0	0.0	0.0	0.7
Invasive adenocarcinoma	0.0	0.0	0.2	0.4	0.1	0.3	0.4	0.5	0.4	0.7	1.3	1.0	0.2	1.3	0.3	0.3
Number of women	770	2,964	2,861	2,788	2,409	2,707	2,377	1,546	894	571	374	248	159	83	40	20,791

† ASR = age-standardised rates. Rates were standardised to Segi's world population.

* Number of smears reported were too small to calculate meaningful age-standardised rates.

Figure 6 Age-specific histology reporting rates per 10,000 women for atypia/HPV, LSIL, HSIL, and microinvasive and invasive squamous cancer combined, 2003

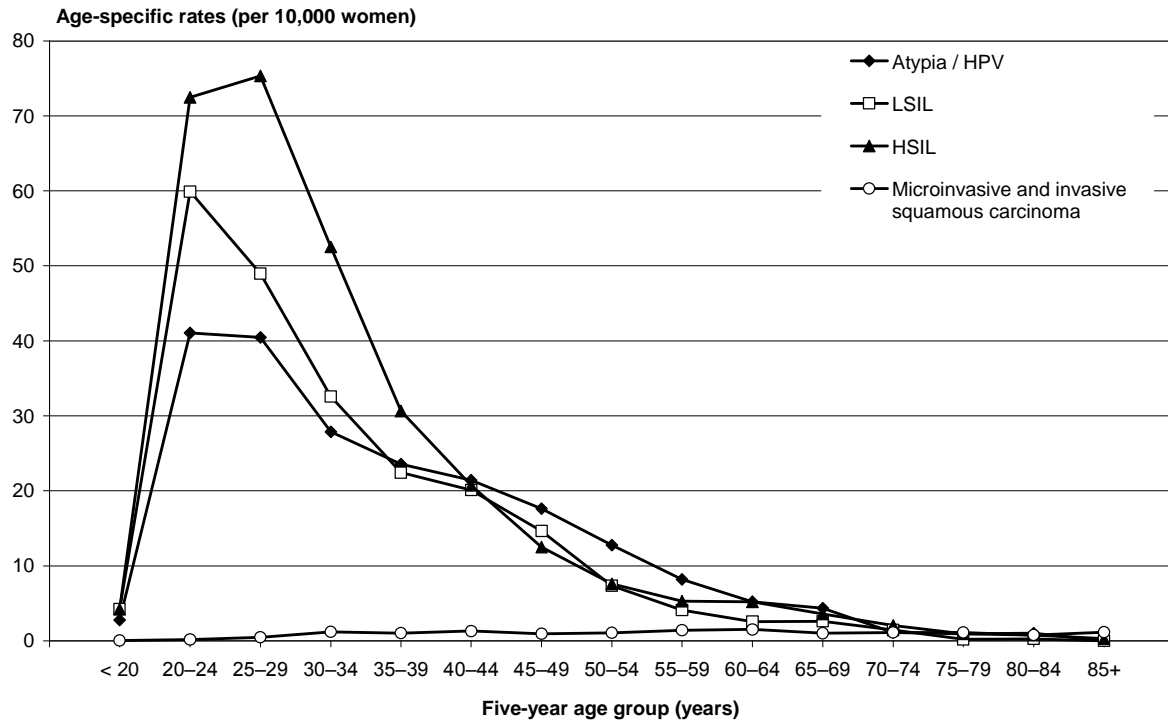


Table 13 Age-standardised[†] histology rates per 10,000 women population for women aged 20–69 years by NCSP region, 2003

Category of histology result	NCSP region													Total
	Auckland	Bay of Plenty	Canterbury	Hawkes Bay	Manawatu/Wanganui	Nelson/Marlborough	Northland	Otago/Southland	Tairāwhiti	Taranaki	Waikato	Wellington	West Coast	
Normal	25.3	25.2	31.7	42.0	46.3	11.5	18.6	36.7	61.0	27.9	28.2	25.7	28.7	28.7
Other non-neoplastic	29.3	51.6	18.8	39.0	19.3	38.2	35.8	19.9	17.6	18.9	25.4	41.9	30.1	29.8
Polyp	12.6	14.4	14.1	6.2	15.1	20.3	20.8	12.8	10.2	16.1	9.6	4.9	15.8	13.2
Atypia/HPV	20.9	39.6	17.4	13.5	51.3	19.8	40.1	8.2	102.0	31.0	28.0	28.8	15.0	23.7
LSIL	18.0	49.3	28.3	16.5	16.8	13.6	37.3	25.7	21.4	46.4	50.7	37.5	34.2	26.4
HSIL	27.1	39.4	35.0	54.0	38.6	46.3	44.7	53.2	51.5	44.9	13.4	31.2	36.6	35.2
Microinvasive squamous carcinoma*	0.2	0.0	0.1	0.6	0.0	0.2	0.4	0.1	0.0	0.0	1.0	0.0	0.2	0.2
Invasive squamous carcinoma*	0.9	0.6	0.8	0.2	0.8	0.7	1.2	0.3	0.6	0.8	0.8	0.6	0.9	0.8
Adenocarcinoma -in-situ	0.4	0.2	1.4	1.7	1.0	0.0	1.1	1.1	1.1	0.5	1.9	0.5	0.8	0.7
Invasive adenocarcinoma	0.5	0.3	0.3	0.4	0.5	0.4	0.2	0.2	0.7	0.0	0.0	0.2	0.3	0.3
Number of women	5,791	1,846	2,253	725	1,265	729	635	1,339	325	531	1,613	2,306	133	19,491

† Rates were standardised to Segi's world population.

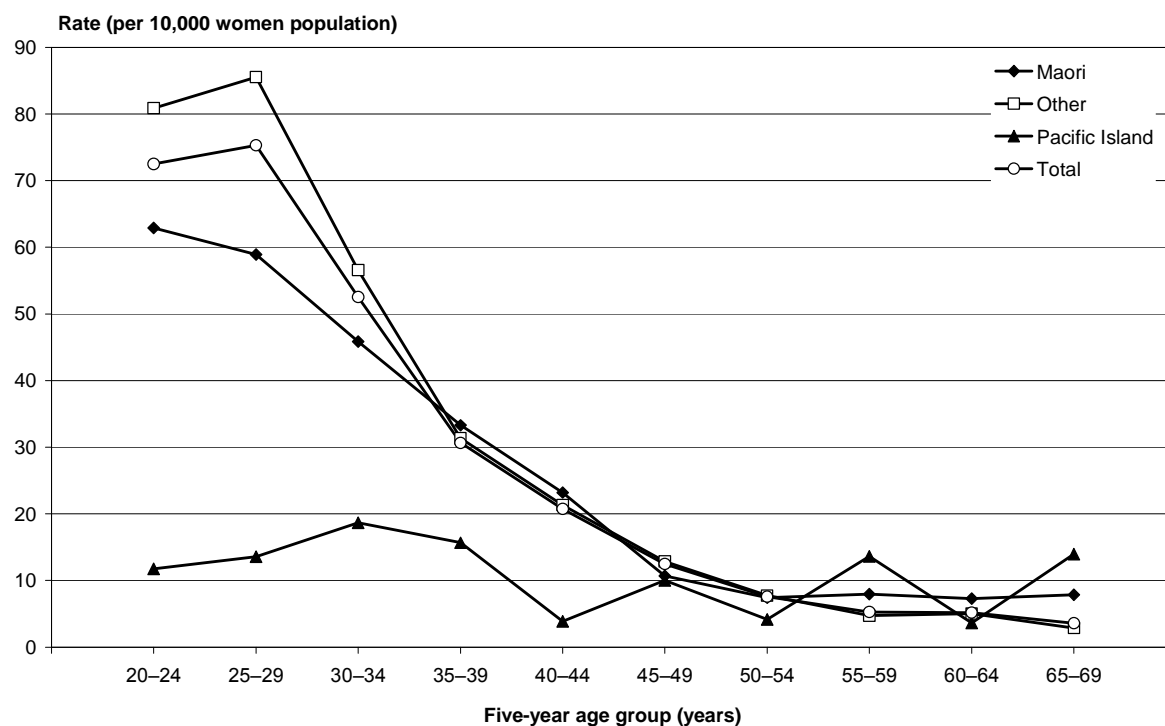
* Number of smears reported were too small to calculate meaningful age-standardised rates.

Table 14 Annual age-standardised[†] histology rates per 10,000 women for women aged 20–69 years by ethnicity, 2003

Category of histology result	Ethnicity			
	Maori	Other	Pacific	Total
Normal	19.2	31.5	11.9	28.7
Other non-neoplastic	17.5	33.2	10.6	29.8
Polyp	7.7	14.3	7.2	13.2
Atypia/HPV	19.7	25.6	9.5	23.7
LSIL	22.5	28.9	8.4	26.4
HSIL	31.7	38.4	11.1	35.2
Microinvasive squamous carcinoma*	0.1	0.2	0.3	0.2
Invasive squamous carcinoma	0.8	0.7	1.0	0.8
Adenocarcinoma-in-situ	0.5	0.8	0.4	0.7
Invasive adenocarcinoma	0.6	0.3	0.4	0.3
Number of women	2,085	16,995	411	19,491

† Rates were standardised to Segi's world population.

Figure 7 HSIL age-specific histology reporting rates per 10,000 women by ethnicity, 2003



9. Laboratory Smear Reporting

Cytology abnormalities reported by laboratories depend on numerous factors including the prevalence of abnormalities, the case mix and laboratory reporting practice. The Bethesda System is used by the NCSP to record the cytological result of each smear.

Definition

Laboratory smear reporting is measured by the numbers and proportions of satisfactory and satisfactory but limited smears in the specified broad cytological categories (negative for dysplasia or malignancy, total ASCUS, AGUS favour reactive, AGUS favour dysplasia, LSIL, ASCUS possible high grade and HSIL).

Targets

The targets for laboratory smear reporting are:

1. negative for dysplasia or malignancy – not more than 96%
2. HSIL – not less than 0.6%
3. total abnormalities – not more than 10%.

Results

Table 16 shows the proportion of satisfactory and satisfactory but limited smears reported during 2003 in broad cytological categories by laboratory. Two hospital-based laboratories and 11 community-based laboratories reported smears.

Overall, the results of 408,925 satisfactory or satisfactory but limited smears reported by laboratories were recorded on the NCSP Register during 2003. This is less than that reported in the 2001 and 2002 annual reports (414,151 and 413,584, respectively). Overall, both hospital-based laboratories read fewer smears (about 10,000 or less) than the community-based laboratories, except Pathlab Waikato, who ceased reading smears during 2003. Diagnostic Medlab Auckland read the greatest number of smears (117,831).

Of the 408,925 smears, 92.6% were reported as negative for dysplasia or malignancy. This was within the target of not more than 96%. Each laboratory met the target, but the proportion of smears reported as negative for dysplasia or malignancy was less for the hospital-based laboratories.

For all laboratories combined, the proportion of smears reported as HSIL was 1.1%, which met the target of not less than 0.6%. Each laboratory met the target. Both hospital-based laboratories reported a higher proportion of smears as HSIL than the community-based laboratories.

Overall, the proportion of smears reported as abnormal was 7.5%, which did not exceed the target of 10%. Among the laboratories, both hospital-based laboratories and one community-based laboratory reported more than 10% of smears as abnormal: Auckland Hospital Laboratory (24.1%), Canterbury Health Laboratories (16.2%) and Medlab Bay of Plenty (11.4%). The proportion of total abnormalities reported each quarter was above the target for three of the four reporting quarters for Medlab Bay of Plenty during 2003 (Table 17). The only other community-based laboratories to report more than 10% of smears as abnormal were Medlab Central, who reported 11.1% of smears as abnormal in the January to March 2003 reporting quarter, and Medical Laboratory Wellington, who reported 10.4% of smears as abnormal in the October to December 2003 reporting quarter.

Table 15 Proportion (%) of satisfactory and satisfactory but limited smears in broad cytological categories by laboratory, 2003

Laboratory	Negative for dysplasia or malignancy target: not more than 96%	Total ASCUS (including ASCUS possible high grade)	LSIL	AGUS favour reactive	AGUS favour dysplasia	ASCUS possible high grade	HSIL target: not less than 0.6%	Total abnormalities [†] target: not more than 10%	Total no. of smears
Hospital-based									
Auckland Hospital Laboratory	75.9	8.8	8.5	0.1	0.0	1.0	6.3	24.1	10,251
Canterbury Health Laboratories	83.8	6.4	6.2	0.4	0.0	0.5	2.9	16.2	6,284
Community-based									
Diagnostic Medlab Auckland	94.4	2.4	2.4	0.0	0.0	0.1	0.8	5.6	117,831
Medical Laboratory Wellington	91.6	4.2	3.3	0.1	0.0	0.2	0.8	8.4	39,837
Medlab Bay of Plenty	88.6	6.8	3.2	0.2	0.1	0.1	1.0	11.4	25,572
Medlab Central, Palmerston North	90.1	2.0	5.9	0.1	0.1	0.1	1.1	9.1	30,427
Medlab Hamilton	92.2	3.1	3.8	0.1	0.0	0.1	0.9	7.8	30,811
Medlab South Christchurch	93.4	3.2	2.3	0.1	0.1	0.3	0.9	6.7	40,807
Pathlab Waikato	92.1	4.5	2.1	0.2	0.0	0.2	1.0	7.9	8,388
SCL, Christchurch	94.5	2.5	2.2	0.1	0.0	0.2	0.7	5.5	20,644
SCL, Dunedin	94.8	0.5	3.0	0.0	0.0	0.3	1.6	5.2	46,941
Taranaki Medlab	92.4	3.8	2.7	0.0	0.0	0.1	1.0	7.6	15,676
Valley Diagnostic Laboratory	95.1	1.0	2.8	0.0	0.0	0.1	1.0	4.9	15,456
Total	92.6	3.0	3.2	0.1	0.0	0.2	1.1	7.5	408,925

† Includes all smears with a diagnosis code of ASCUS or more serious according to the hierarchy of codes.

Table 16 Proportion (%) of satisfactory or satisfactory but limited smears in broad cytological categories by laboratory and reporting quarter, 2003

Laboratory	Negative for dysplasia or malignancy target: not more than 96%				HSIL target: not less than 0.6%				Total abnormalities [†] target: not more than 10%			
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec
Hospital-based												
Auckland Hospital Laboratory	80.5	74.0	75.6	77.8	6.7	7.0	5.2	5.9	19.5	26.0	24.4	22.2
Canterbury Health Laboratories	85.8	85.7	82.4	80.8	2.8	2.5	3.1	3.5	14.2	14.3	17.7	19.2
Community-based												
Diagnostic Medlab Auckland	94.9	94.7	94.5	93.9	0.7	0.8	0.8	1.0	5.1	5.3	5.5	6.1
Medical Laboratory Wellington	91.8	92.7	91.7	89.6	0.7	0.8	0.9	0.9	8.2	7.3	8.3	10.4
Medlab Bay of Plenty	89.7	90.7	88.9	85.1	1.0	0.9	0.9	1.2	10.3	9.3	11.1	14.9
Medlab Central, Palmerston North	88.9	90.9	92.1	91.8	1.2	1.0	1.0	1.1	11.1	9.1	7.9	8.2
Medlab Hamilton	90.5	90.5	93.5	93.6	0.6	1.0	1.1	0.7	9.5	9.5	6.5	6.4
Medlab South Christchurch	93.5	93.6	93.1	92.9	0.8	1.1	1.1	0.8	6.5	6.4	6.9	7.1
Pathlab Waikato	93.5	91.8	90.3	-	1.2	0.6	1.5	-	6.5	8.2	9.7	0.0
SCL, Christchurch	94.1	94.8	94.8	94.3	0.6	0.8	0.7	0.7	5.9	5.2	5.2	5.7
SCL, Dunedin	94.8	94.6	94.3	95.4	1.5	1.8	1.6	1.5	5.2	5.4	5.7	4.6
Taranaki Medlab	93.0	91.6	92.1	92.9	0.9	0.8	1.5	0.8	7.0	8.4	7.9	7.1
Valley Diagnostic Laboratory	94.6	95.1	95.9	95.8	1.3	1.3	0.7	0.7	5.4	4.9	4.1	4.2
Total	92.7	92.7	92.6	92.2	1.1	1.1	1.2	1.2	7.3	7.3	7.4	7.8

† Includes smears with a diagnosis of ASCUS or more serious according to the hierarchy of codes.

10. Cytology Reports Predicting HSIL (Positive Predictive Value)

The reporting of histology involves a degree of subjective assessment of cellular appearance as examined under a microscope and histology reporting practices can differ among pathologists and laboratories. A different pathologist or laboratory from the one who reported the cervical smear may issue the histology report.

Definition

Cytology reports predicting HSIL is the probability of a histological report of HSIL or more serious abnormality given an HSIL or more serious cytology report. This is called the positive predictive value (PPV) of an HSIL cytology result.

Targets

The target for cytology reports predicting HSIL is not less than 65% and not more than 85% of all HSIL or more serious smear results reported by a given laboratory.

Results

Between 1 July 2002 and 30 June 2003, 3645 satisfactory smears were reported as HSIL or invasive carcinoma, of which 3295 (90.4%) had a subsequent histology result recorded. Table 18 shows that 73.1% of the 3295 cytology reports were confirmed as an HSIL or more serious abnormality on histology. This was within the target range of 65–85%.

The positive predictive value (PPV) was below the target range for two laboratories: Pathlab Waikato (58.2%) and Valley Diagnostic Laboratory (57.8%). Pathlab Waikato ceased reporting cervical smears in 2004.

The number of HSIL or invasive carcinoma smears with follow-up histology varied considerably among the laboratories, ranging from 91 for both Canterbury Health Laboratories and Pathlab Waikato to 706 for Diagnostic Laboratory Auckland. The proportion of HSIL or invasive carcinoma smears with no subsequent histology recorded on the NCSP Register also varied, ranging from 4.7% for Southern Community Laboratory Christchurch to 12.8% for Medlab Hamilton.

**Table 17 Cytology reports predicting HSIL (positive predictive value) by laboratory, 2003
[target = 65–85%]**

Laboratory	Number of HSIL or invasive carcinoma cytology reports with a follow up histology report	Proportion (%) of HSIL or invasive carcinoma cytology reports confirmed on histology	Proportion (%) of HSIL or invasive carcinoma cytology reports without a follow up histology report
Hospital-based			
Auckland Hospital Laboratory	325	69.2	10.7
Canterbury Health Laboratories	91	70.3	11.7
Community-based			
Diagnostic Medlab Auckland	706	75.6	10.9
Medical Laboratory Wellington	212	71.2	11.3
Medlab Bay of Plenty	212	68.9	10.2
Medlab Central, Palmerston North	267	68.2	11.6
Medlab Hamilton	157	76.4	12.8
Medlab South Christchurch	300	72.7	5.7
Pathlab Waikato	91	58.2	10.8
SCL, Christchurch	121	74.4	4.7
SCL, Dunedin	556	82.6	7.5
Taranaki Medlab	129	72.9	8.5
Valley Diagnostic Laboratory	128	57.8	8.6
Total	3295	73.1	9.6

Appendix 1: Methods

This section was based on the methods section of the 2001 NCSP Annual Report and was updated by Paul Smale.

The method of calculations for each indicator is described below. To calculate the indicators for this report the following data were used:

- Anonymous data for women enrolled on the NCSP Register prior to 1
- January 2003 at the time of the data download (4 May 2004).

Cancer Registry data on new cases of cervical cancer up to the end of 2002 and cervical cancer mortality up to the end of 2001 were obtained from New Zealand Health Information Services. Cervical cancer FIGO stage data were not available.

Women were assigned to both a NCSP Region and District Health Board (DHB) area according to place of residence by NCSP Register staff. However, women whose address was unknown were allocated to the NCSP region according to their previously known address, and women, who usually had their smears in a NCSP region other than the one where they lived, were allocated to the NCSP region where they usually had their smears. For women in either of these situations, if the NCSP region to which they were allocated had boundaries identical to the DHB area, then they were allocated to that DHB area, otherwise their DHB area was recorded as unspecified. Because some results are presented for both NCSP regions and DHB area, it is important to note that there were 14 NCSP boundaries and 21 DHB areas, and nine of these had identical boundaries (Hawkes Bay, Nelson/Marlborough, Northland, Otago, Tairāwhiti, Taranaki, Southland, Waikato and West Coast).

Unless otherwise stated, women's ages at 31 December 2002 were used when calculating the indicators. The registration status of women at the time of the data download was used for all calculations. Between the end of the reporting period, 31 December 2002, to the data download on 10 May 2003, the registration status of an unknown, but very small number of women could have changed (for example, from 'active' to 'dead' or 'moved overseas'). These women and their smear results were not included in any calculations. Similarly, a few women will have moved from one NCSP region or DHB area to another and informed the NCSP of their new address between 31 December 2002 and 10 May 2003.

Because most women who have had a hysterectomy have not had cervical dysplasia or neoplasia, they no longer require smears.⁷ Therefore, it is preferable to adjust the number of women in the population to allow for the prevalence of hysterectomy when calculating the estimated target population for the NCSP. The MoH has previously calculated hysterectomy prevalence for 20–69-year-old New Zealand women by five-year age groups. While it is likely that there are regional, ethnic and cohort differences in hysterectomy prevalence, no allowance has been made for this, because the level of detail required was not available. In addition, no adjustment has been made for women with an abnormal smear history who have had a hysterectomy and continue to have smears as recommended.⁸

⁷ Cervical Screening. Guidelines for the Management of Women with Abnormal Cervical Smears. National Cervical Screening Programme. 1999.

⁸ Ibid.

Statistics NZ supplied projected population data for 2003, derived from the 2001 census. These data were tabulated by ethnicity, age, NCSP region and District Health Board area. The projected 2003 population data for 20–69-year-old women by five-year age groups for New Zealand overall, each NCSP region, each DHB area and for Maori, Pacific and Other (non-Maori, non-Pacific) ethnic groups were calculated. These population data were also adjusted for hysterectomy using hysterectomy prevalence rates provided by the National Screening Unit, for use in the calculation of the proportions of the age-eligible population enrolled, screened, participating, not participating, and re-participating in the programme.

Calculation of national indicators

How each indicator was calculated is described below. The results for most indicators were included in the body of the report. For five indicators (laboratory cytology turnaround time, histology turnaround time, satisfactory but limited and unsatisfactory smears by laboratory, satisfactory but limited and unsatisfactory smears by smear taker), results are presented only in Appendix 5. The definitions and targets of these five indicators are also included below with the calculation methods.

Cervical cancer incidence and mortality

Average annual cervical cancer incidence and mortality rates were calculated for five-year age groups. An average annual rate was calculated because the number of cases for each five-year age group was small. The age-specific rates were averaged over the most recent 10-year period for which data were available, 1992–2002.

Age-standardised cervical cancer incidence and mortality rates were calculated using standard methods. The rates were standardised to Segi's world population to enable national and international comparisons.

Enrolment

The number of enrolled women aged 20–69 years at the end of the reporting period was calculated using the date of birth and current registration status of women. Enrolment was expressed both as a proportion of the projected unadjusted and the hysterectomy-adjusted populations.

Participation

The number of women aged 20–69 years with a smear result recorded on the NCSP Register in the six years prior to the end of the reporting period was calculated. This was expressed as a proportion of both the projected unadjusted and the hysterectomy-adjusted populations.

Coverage

The number of enrolled women with a smear result recorded on the NCSP Register within the three years prior to the end of the reporting period was calculated. This was expressed both as a proportion of the projected unadjusted and hysterectomy-adjusted populations.

Non-participation

This was calculated as the difference between the number of enrolled women aged 20–69 years and the number of participating women aged 20–69 years. The difference was expressed as a proportion of both the projected unadjusted and the hysterectomy-adjusted populations.

Re-participation

The number of enrolled women aged 20–69 years with no smear results recorded on the NCSP Register in the six years prior to the beginning of the reporting period was calculated. The number of these women who had a smear between the beginning and the end of the reporting period was calculated and expressed as a proportion of all enrolled women aged 20–69 years who had not had a smear result recorded on the NCSP Register in the six years prior to the beginning of the reporting period.

Short interval re-screening

For this annual report, published data were obtained from Quarterly Reports 6–9. The methods used for these reports were:

“For these quarterly reports, to estimate short interval re-screening women who met all the following criteria were included:

1. aged 20–69 years at the end of the reporting period,
2. history at enrolment was recorded as normal on the NCSP Register,
3. had at least one satisfactory or satisfactory but limited smear during the 33 months prior to the end of the reporting period,
4. all cytological and histological results prior to the 33 months before the end of the reporting period were recorded on the NCSP Register as negative for dysplasia or malignancy, and
5. the first smear taken during the 33 months prior to the end of the reporting period was not a woman’s first smear.

Following a woman’s first ever smear, a further smear in one year is recommended.⁹

⁹ Cervical Screening Working Party. Recommendations for cervical screening 1997. NZ Med J 1998; 111: 94–8.

Each smear is classified as satisfactory, satisfactory but limited or unsatisfactory for laboratory reading. Unsatisfactory smears reported during the 33-month period were excluded because they generate a three-month recall.¹⁰

The number of women who met the above criteria and who, during the 33 months prior to the end of the reporting period, had two or more smears recorded minus those who had at least one smear recorded as abnormal¹¹ was expressed as a proportion of the number of women who had at least one smear recorded minus those who had at least one smear recorded as abnormal.

For women with a normal smear history, smears coded as satisfactory but limited generate either a one-year or a three-year recall depending on the reason for the satisfactory but limited classification.¹² To determine whether smears categorised as satisfactory but limited with a one-year recall were contributing to the high level of short interval re-screening, separate analyses were done for satisfactory and satisfactory but limited smears combined and satisfactory smears only.”

Delayed re-screening for women with a high grade abnormality

For this annual report, published data were obtained from Quarterly Reports 6–9. The methods used for these reports were:

“Participating women¹³ aged 20–69 years at the end of the reporting period who had a high grade result recorded on the NCSP Register and were recorded as ‘signed in’¹⁴ following assessment and treatment prior to 15 months before the end of the reporting period were included.¹⁵ Fifteen months before the end of the reporting period was chosen, because this allowed sufficient opportunity for recommended annual follow up smears to be taken and recorded on the NCSP Register. The numbers of these women who had a smear recorded on the NCSP Register within 15 months, between 15 and 18 months and more than 18 months prior to the end of the reporting period were calculated. These were expressed as proportions of all participating women who had had a high grade abnormality recorded on the NCSP Register and were recorded as ‘signed in’ following assessment and treatment 15 months before the end of the reporting period.”

¹⁰ Revised Bethesda Coding Standard. Appendix 9. National Cervical Screening Programme Interim Operational Policy and Quality Standards. Health Funding Authority, October 2000.

¹¹ An abnormal smear was defined as any smear with a diagnosis of ASCUS or more serious according to the hierarchy of cytological codes (Appendix 2).

¹² Revised Bethesda Coding Standard. Appendix 9. National Cervical Screening Programme Interim Operational Policy and Quality Standards. Health Funding Authority, October 2000.

¹³ Refer to Section 4 for the definition of participating women.

¹⁴ Women are “signed out” so that no letters are sent from the Register advising them of their results or recommended recall while under the care of a specialist or colposcopist. Once the period of colposcopy or treatment has finished, women are “signed in” and the Register will send letters as appropriate to their test and smear history.’ P6.24, NCSP Interim Operational Policy and Quality Standards. October 2000.

¹⁵ Women who were recorded, as having an abnormal history at enrolment were included only if they had had a high grade cytological or histological abnormality recorded on the NCSP Register since enrolment.

Follow-up of women with HSIL cytology

The number of enrolled women aged 20–69 years at the end of the reporting period who had a cytology result of ASCUS possible high grade, HSIL or more serious abnormality (according to the hierarchy of codes in Appendix 3) recorded on the NCSP Register during the 12 months, one year before the end of the reporting period was calculated. For each of these women the time between the date that the smear was taken and the date that the subsequent histology specimen was taken was calculated. The numbers of women with a histology specimen taken within 12 weeks, between 13 and 26 weeks, between 27 and 52 weeks and more than 52 weeks after their ASCUS possible high grade, HSIL or more serious cytology result were expressed as proportions of the total number of women with ASCUS possible high grade, HSIL or more serious cytology during the 12 months, one year before the end of the reporting period. The numbers and proportions of women with no histology result recorded on the NCSP Register following their ASCUS possible high grade, HSIL or more serious cytology results were also calculated.

Cytology abnormality reporting

Cytology abnormality reporting rates were calculated for smears and women of all ages. For each age group, the number of satisfactory or satisfactory but limited smear results in each specified cytological category and the total number of satisfactory or satisfactory but limited smears processed during the reporting period were used to express a rate per 1000 smears. In addition, the number of women with a smear result in each specified cytological category and the total number of women who had satisfactory or satisfactory but limited smears processed during the reporting period were used to express a rate per 1000 screened women. For both calculations, when a single smear had more than one diagnostic code, the most serious code according to the hierarchy of codes, was used. For the calculation per 1000 women screened, when a woman had more than one abnormal smear result during the reporting period, only the most serious smear result was used.

For each specified cytological category, the truncated age-standardised rate for 20–69-year-old women was calculated using Segi's World population.

Unlike most other indicators, the age of each women midway through the reporting period was used.

Histology abnormality reporting

The total number of histology results for satisfactory specimens taken during the reporting period was tabulated by specified histological categories.

For each age group, the number of women with a histology result in each specified histological category was tabulated. If a woman had more than one histology result recorded on the NCSP Register during the reporting period, only the worst ranked result according to the hierarchy of histological categories was used.

Age-specific histology rates were calculated using the 2002 estimated total female population as the denominator. The rates were expressed per 10,000 women population. Age-standardised rates for 20–69-year-old women were calculated using Segi's World population.

It is important to note that because the type of histology specimen was not always recorded, all cervical and vaginal histology specimens that were taken during the reporting period with results recorded on the NCSP Register were used. These specimens include cervical diagnostic biopsies, cervical treatment biopsies and the cervical tissue of total hysterectomy specimens.

Laboratory smear reporting

The Bethesda diagnosis codes for smears taken during the reporting period and recorded on the NCSP Register were used to calculate the number of smears in each specified cytological category (negative for dysplasia or malignancy, total ASCUS, AGUS favour reactive, AGUS favour dysplasia, LSIL, ASCUS possible high grade, HSIL, total abnormalities) for each laboratory. Because each smear can be assigned up to five diagnosis codes, the most serious ranked code according to the hierarchy of cytological codes was used.¹⁶ Total abnormalities included all smears with a diagnosis of ASCUS or a more serious abnormality.

Cytology reports predicting HSIL (positive predictive value)

The first satisfactory smear from women reported as indicating the presence of HSIL during the 12 months, one year before the end of the reporting period, and subsequent histology reports for biopsies taken within six months of the smear from the same women during the 18 months prior to the end of the reporting period, were compared. When more than one histology result was recorded, the most severe abnormality was chosen. The number of women with histological confirmation of an HSIL or more serious lesion was expressed as a proportion of all women with an HSIL cytology report and subsequent histology.

This indicator was calculated for each laboratory according to where the smears were processed.

Laboratory cytology turnaround time

Definition

Laboratory cytology turnaround time is the period of time between the smear being received in the laboratory and the report being issued by the laboratory to the smear taker.

¹⁶ Appendix 3.

Target

The targets of the laboratory cytology turnaround time are 90% of smear reports issued to the smear taker within seven working days of the smear being received by the laboratory, and 100% of smear reports issued to the smear taker within 14 working days of the smear being received by the laboratory.

Calculation

The difference between the date that the smear was received and the date that the smear was reported by the laboratory, as recorded on the NCSP Register, was used to calculate the laboratory cytology turnaround time for each laboratory. The number of smears reported within seven working days, between eight and 14 working days and more than 14 working days were expressed as a proportion of the total number of smears processed by each laboratory during the quarter. Smear results for women of all ages processed during the reporting period were included.

Laboratory histology turnaround time

The IMG-NCSP recommended in Quarterly Report 3 that an additional national indicator, laboratory histology turnaround time, should be calculated. This recommendation was accepted by the NSU. Laboratory histology turnaround time is calculated quarterly and annually and it was first calculated for Quarterly Report 5.

Definition

Laboratory histology turnaround time is the period of time between the cervical histology specimen being received in the laboratory and the report being issued by the laboratory to the gynaecologist.

Histology specimens include diagnostic biopsies, treatment biopsies, polyps and the cervical tissue of total hysterectomy specimens. The type of histology specimens can be recorded on the NCSP Register, but this data field was incomplete for some women.

Target

The targets of the laboratory histology turnaround time are 90% of final histology reports issued within five working days of the specimen being received by the laboratory, and 100% of final histology reports issued within a reasonable time period of the specimen received by the laboratory.¹⁷ If it is likely to take more than 10 days for a result to be reported, the colposcopist should be informed.¹⁸

¹⁷ P5.21 National Cervical Screening Programme Interim Operational and Quality Standards. Health Funding Authority, October 2000.

¹⁸ Ibid.

Calculation

The difference between the date that the cervical histology specimen was received and the date that the histology result was reported by the laboratory, as recorded on the NCSP Register, was used to calculate the laboratory histology turnaround time. For each laboratory the number of cervical histology specimens received and reported within five working days during the reporting period was expressed as a proportion of the total number of cervical histology specimens received and reported during the reporting period. Cervical histology results for women of all ages were included.

Satisfactory but limited and unsatisfactory smears by laboratory

Definitions

Satisfactory but limited smears are those smears reported with a Bethesda adequacy code of A2 (satisfactory but limited).

Unsatisfactory smears are those smears reported with a Bethesda adequacy code of A3 (unsatisfactory).

It is important to note that the adequacy coding of a smear is influenced by both the smear taking technique and laboratory reporting practice.

The revised Bethesda System 2001 no longer includes a satisfactory but limited category. Until the National Cervical Screening Programme adopts this most recent revision of the Bethesda System, satisfactory but limited smears will continue to be reported.

Targets

The target for satisfactory but limited smears is not more than 20% of all smears reported for a given laboratory.

The target for unsatisfactory smears is not less than 0.5% and not more than 2.0% of all smears reported for a given laboratory.

Calculation

All smears taken during the reporting period for women who were enrolled at the end of the reporting period were used to calculate these indicators.

For each laboratory, the number of satisfactory but limited smears and the number of unsatisfactory smears reported and recorded on the NCSP Register were each expressed as a proportion of the total number of smears processed during the reporting period.

Satisfactory but limited and unsatisfactory smears by smear taker

Definitions

Satisfactory but limited smears are those smears reported with a Bethesda adequacy code of A2 (satisfactory but limited).

Unsatisfactory smears are those smears reported with a Bethesda adequacy code of A3 (unsatisfactory).

It is important to note that the adequacy coding of a smear is influenced by both the smear taking technique and laboratory reporting practice.

The revised Bethesda System 2001 no longer includes a satisfactory but limited category. Until the National Cervical Screening Programme adopts this most recent revision of the Bethesda System, satisfactory but limited smears will continue to be reported.

Targets

The target for satisfactory but limited smears is not more than 20% of all smears reported for each smear taker category.

The target for unsatisfactory smears is not less than 0.5% and not more than 2.0% of all smears reported for each smear taker category.

Calculation

All smears taken during the reporting period for women who were enrolled at the end of the reporting period were used to calculate these indicators. The total number of smears recorded against each smear taker for the 12 months prior to the end of the reporting period were used to calculate the annual volume of smears taken by each smear taker group.

For each smear taker group, the number of satisfactory but limited smears and the number of unsatisfactory smears was expressed as a proportion of the total number of smears taken by each group.

Appendix 2: National Indicators not Included in the 2002 Annual Report

Stage of invasive cervical cancer

Definition

The stage of invasive cervical cancer is the classification of the extent of invasive cervical cancer cased at diagnosis by FIGO staging (I–V).

Target

The target for stage of cervical cancer is 70% or more of new cervical cancers classified as FIGO stage I at diagnosis.

Interval cancer

Definition

Interval cancers are those invasive cervical cancers diagnosed between screening examinations in women whose cytology results were negative for dysplasia or malignancy at their last smear.

Target

There is no target.

Programme sensitivity

Definition

Programme sensitivity is the proportion of all women with invasive cervical cancer (both screen detected and interval cases) whose cervical cancer was detected by screening within a defined period.

Target

The targets for squamous cervical cancer are more than 85% at one year and more than 75% at three years.

Opt-off rate

Definition

The opt-off rate is the proportion of all cervical cytology results reported by a laboratory, which are not sent to the NCSP Register because women have chosen not to be enrolled on the NCSP.

Target

There is no target.

Accuracy of negative cytology reports

Definition

The accuracy of negative cytology reports is the ability of a laboratory to correctly identify a negative smear.

Target

For women with a histological diagnosis of HSIL or more serious, not more than 20% of their cytology slides reported as negative within the preceding 42 months are, on review, consistent with ASCUS possible high grade or HSIL.

Waiting time for colposcopic assessment for HSIL or ASCUS possible high grade

Definition

The waiting time for colposcopic assessment for HSIL or ASCUS possible high grade is the time from the receipt of a referral to a DHB colposcopy service for women with a high grade cytology result to the time of the first colposcopic assessment.

Target

The target is 95% or more of women with a high grade cytology result to have a colposcopic assessment within four weeks.

Waiting time for colposcopic assessment for LSIL

Definition

The waiting time for colposcopic assessment for LSIL is the time from the receipt of a referral to a DHB colposcopy service for women with a low grade (LSIL or ASCUS) cytology result to the time of the first colposcopic assessment.

Target

The target is 95% or more of women with a low grade cytology result to have a colposcopic assessment within 26 weeks.

Residual high grade disease after treatment

Definition

Residual high grade disease after treatment is high grade squamous (CIN2–3) or glandular intraepithelial lesions present at the post treatment colposcopy (usually 4–6 months) for all methods of treatment.

Target

The target is 15% or less with residual high grade disease.

Appendix 3: Bethesda Codes by Broad Cytological Abnormality Category used for IMG-NCSP Reports

The Bethesda Coding Standard 1998 was used for this annual monitoring period.

Cytological category	C codes
(a) Negative for dysplasia or malignancy	No C code
(b) Abnormal not otherwise specified	C6
(c) Atypical squamous cells of undetermined significance excluding ASCUS possible high grade (ASCUS-LG)	C3A1; C3A1A; C3A1B; C3A1C; C3A1D; C3A1F; C3A1G
(d) Low grade squamous intraepithelial lesion (LSIL)	C3A2A; C3A2A1; C3A2A2; C3A2A3
(e) Atypical glandular cells of undetermined significance not otherwise specified or favouring a reactive process (AGUS favour reactive)	C3B2; C3B2A; C3B2B; C3B2B1; C3B2C; C3B2E
(f) Atypical glandular cells of undetermined significance not otherwise specified or favouring a hyperplastic or dysplastic process (AGUS favour dysplasia)	C3B2A1; C3B2B2; C3B2D
(g) Atypical glandular cells of undetermined significance, possible high grade (ASCUS-HG)	C3A1E
(h) High grade squamous intraepithelial lesion (HSIL)	C3A2B; C3A2B1; C3A2B2; C3A2B3; C3A2B4; C3A2B5; C3A2B6; C3A2B7
(i) Adenocarcinoma-in-situ (AIS)	C3B3D; C3B3E; C3B3F
(j) Adenocarcinoma (endocervical, not otherwise specified and other)	C3B3; C3B3A; C3B3B; C3B3C
(k) Cancer not otherwise specified	C3C; C4
(l) Invasive squamous carcinoma of the cervix	C3A3

Appendix 4: SNOMED Codes by Broad Histological Abnormality Category used for IMG-NCSP Reports

Histological category	SNOMED codes
(a) Normal	M60000
(b) Other non-neoplastic	M40000; M72480; M73000; M01000
(c) Polyp	M76800
(d) Atypia/HPV	M67000; M76700; M76720
(e) CIN not otherwise specified	M67015
(f) LSIL	M67016
(g) HSIL	M67017; M80102; M80702
(h) Glandular dysplasia	M67031
(i) Adenocarcinoma-in-situ (AIS)	M81402
(j) Other primary cervical cancer	M80203; M88003; M80003
(k) Metastatic (non-cervical) carcinoma	M80006
(l) Invasive adenocarcinoma	M81403
(m) Adenosquamous carcinoma	M85603
(n) Microinvasive squamous carcinoma	M80763
(o) Invasive squamous carcinoma	M80703

Appendix 5: Additional Tables

A. Enrolment

Table 18 Unadjusted proportion (%) of women aged 20–69 years enrolled by five-year age group and NCSP region as at 31 December 2003 [no targets]

NCSP region	Five-year age group										Target age 20–69 years	
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Hysterectomy												
Auckland	55.7	91.3	103.2	102.2	96.7	90.1	82.5	74.0	65.3	57.8	85.4	96.4
Bay of Plenty	78.1	102.2	103.0	98.3	93.7	86.2	76.6	69.2	61.3	58.1	85.0	98.1
Canterbury	70.4	104.1	99.7	95.1	91.0	81.4	71.8	65.8	56.7	51.7	81.5	93.5
Hawkes Bay	69.6	100.4	99.9	92.9	89.8	82.8	73.7	66.8	61.7	57.9	81.5	94.3
Manawatu/Wanganui	67.0	98.3	96.1	91.2	88.9	80.6	71.9	65.9	59.1	56.7	79.4	91.2
Nelson–Marlborough	64.6	89.8	94.6	88.3	86.7	83.5	71.0	66.1	58.5	55.8	78.0	90.4
Northland	69.5	97.9	96.5	93.4	89.4	84.9	74.8	67.4	61.4	59.3	80.9	94.2
Otago/Southland	70.5	109.2	102.3	95.7	90.9	85.3	75.0	70.3	62.3	57.9	83.5	95.7
Tairāwhiti	75.5	97.3	99.4	95.6	91.5	86.8	80.8	70.9	62.4	61.4	84.8	97.2
Taranaki	83.3	102.6	100.5	96.3	91.9	85.6	77.3	73.7	68.4	64.8	85.9	99.5
Waikato	67.9	105.4	103.0	97.5	92.4	87.2	77.7	71.1	64.5	60.2	85.0	97.3
Wellington	70.6	102.5	109.8	104.3	98.8	92.0	80.6	75.1	67.1	59.4	89.8	101.9
West Coast	66.9	88.2	93.4	87.2	87.2	78.5	68.2	65.1	60.5	52.4	76.7	89.2
Total	65.2	98.1	102.4	98.6	93.7	86.8	77.6	70.8	62.8	57.5	84.3	96.2

Table 19 Unadjusted proportion (%) of women aged 20–69 years enrolled by five-year age group and DHB area as at 31 December, 2003 [no targets]

DHB area	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Auckland		50.7	88.4	106.6	108.3	101.6	93.3	86.8	76.4	66.2	56.7	87.0	97.2
Bay of Plenty		75.2	97.4	99.3	95.4	90.4	84.7	75.6	67.9	60.6	58.2	82.3	95.3
Canterbury		67.9	102.1	98.5	94.3	90.4	80.4	71.1	65.1	56.1	50.3	80.5	92.2
Capital Coast		67.6	100.0	110.4	104.5	99.9	92.4	80.2	74.8	65.6	57.2	89.5	100.8
Counties Manukau		60.0	95.6	102.0	99.7	94.0	87.6	78.8	70.1	62.3	56.3	84.2	95.4
Hawkes Bay		69.6	100.4	99.9	92.9	89.8	82.8	73.7	66.8	61.7	57.9	81.5	94.3
Hutt Valley		71.1	102.4	105.8	101.7	96.7	92.4	81.1	73.7	69.1	62.7	89.0	101.5
Lakes		79.8	105.8	106.2	100.5	97.7	87.0	76.7	69.7	61.5	56.7	87.5	100.2
MidCentral		66.0	100.8	98.1	95.5	91.6	84.6	75.1	68.5	61.6	60.4	82.0	93.9
Nelson-Marlborough		64.6	89.8	94.6	88.3	86.7	83.5	71.0	66.1	58.5	55.8	78.0	90.4
Northland		69.5	97.9	96.5	93.4	89.4	84.9	74.8	67.4	61.4	59.3	80.9	94.2
Otago		69.9	121.4	108.3	100.2	95.2	88.6	77.8	73.7	65.5	59.2	86.6	99.1
South Canterbury		80.8	99.6	94.5	91.2	88.7	84.3	71.6	68.2	57.6	58.3	80.0	93.8
Southland		71.7	93.2	94.3	89.5	84.9	80.4	70.7	65.0	57.4	55.9	78.8	90.3
Tairāwhiti		75.5	97.3	99.4	95.6	91.5	86.8	80.8	70.9	62.4	61.4	84.8	97.2
Taranaki		83.3	102.6	100.5	96.3	91.9	85.6	77.3	73.7	68.4	64.8	85.9	99.5
Waikato		65.5	100.5	98.8	93.2	88.5	83.7	74.6	68.4	62.0	57.9	81.6	93.4
Wairarapa		78.3	96.2	96.9	93.6	86.5	78.4	71.9	69.6	62.9	56.7	79.8	93.3
Waitemata		56.1	87.9	98.2	97.1	93.2	87.9	80.4	73.8	65.5	58.6	82.9	94.4
West Coast		66.9	88.2	93.4	87.2	87.2	78.5	68.2	65.1	60.5	52.4	76.7	89.2
Whanganui		72.3	105.4	104.8	97.2	96.5	83.4	75.8	69.9	60.9	56.9	83.9	97.3
Unspecified DHB		1,150	1,518	1,428	1,084	944	700	637	533	345	206		
Total		65.2	98.1	102.4	98.6	93.7	86.8	77.6	70.8	62.8	57.5	84.3	96.2

Table 20 Unadjusted proportion (%) of women aged 20–69 years enrolled by five-year age group and ethnicity as at 31 December 2003 [no targets]

Ethnicity	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Maori		56.6	82.4	85.4	81.9	76.7	70.1	60.0	54.8	49.0	47.4	71.3	78.8
Other		69.6	104.1	106.9	101.9	96.9	89.6	80.0	72.8	64.3	58.8	87.1	100.2
Pacific		41.4	76.6	88.8	92.5	86.6	76.7	67.1	57.0	54.6	44.5	72.7	80.2
Total		65.2	98.1	102.4	98.6	93.7	86.8	77.6	70.8	62.8	57.5	84.3	96.2

Table 21 Unadjusted proportion (%) of women aged 20–69 years enrolled by ethnicity and NCSP region as at 31 December 2003 [no targets]

NCSP region	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	71.1	88.6	75.2	85.4
Bay of Plenty	74.6	88.8	68.0	85.0
Canterbury	55.0	83.2	74.5	81.5
Hawkes Bay	72.3	84.8	63.4	81.5
Manawatu/Wanganui	70.3	81.5	69.8	79.4
Nelson–Marlborough	54.2	80.0	65.9	78.0
Northland	74.9	83.8	55.5	80.9
Otago/Southland	58.3	85.4	74.9	83.5
Tairāwhiti	81.6	87.7	75.9	84.8
Taranaki	73.7	87.8	76.7	85.9
Waikato	76.3	87.6	66.3	85.0
Wellington	71.3	94.3	63.8	89.8
West Coast	58.9	78.2	66.7	76.7
Total	71.3	87.1	72.7	84.3

Table 22 Unadjusted proportion (%) of women aged 20–69 years enrolled by ethnicity and DHB as at 31 December 2003 [no targets]

DHB area	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	67.9	90.0	77.2	87.0
Bay of Plenty	70.7	85.8	66.8	82.3
Canterbury	53.7	82.3	73.1	80.5
Capital Coast	65.5	94.5	62.4	89.5
Counties Manukau	76.3	87.9	77.5	84.2
Hawkes Bay	72.3	84.8	63.4	81.5
Hutt Valley	77.3	92.9	66.0	89.0
Lakes	78.4	92.4	67.5	87.5
MidCentral	74.3	83.5	69.7	82.0
Nelson-Marlborough	54.2	80.0	65.9	78.0
Northland	74.9	83.8	55.5	80.9
Otago	60.8	88.1	75.5	86.6
South Canterbury	51.4	81.4	78.8	80.0
Southland	55.9	81.0	73.7	78.8
Tairāwhiti	81.6	87.7	75.9	84.8
Taranaki	73.7	87.8	76.7	85.9
Waikato	70.4	84.8	64.9	81.6
Wairarapa	67.6	81.9	60.6	79.8
Waitemata	62.5	86.1	65.6	82.9
West Coast	58.9	78.2	66.7	76.7
Whanganui	85.8	83.5	71.8	83.9
Unspecified DHB	1167	7232	146	8545
Total	71.3	87.1	72.7	84.3

B. Participation

Table 23 Unadjusted proportion (%) of women aged 20–69 years participating by five-year age group and NCSP region as at 31 December 2003 [targets = 80% unadjusted and 90% hysterectomy-adjusted]

NCSP region	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Auckland		54.8	82.7	89.1	87.8	83.6	78.8	72.3	64.9	57.4	50.4	75.3	85.0
Bay of Plenty		76.3	93.4	91.5	88.5	84.3	78.4	70.3	63.8	56.8	54.0	77.6	89.6
Canterbury		69.7	96.3	91.1	88.2	85.2	76.3	67.6	61.8	53.5	48.6	76.3	87.5
Hawkes Bay		68.3	92.1	90.1	85.5	83.0	76.2	68.4	62.6	57.6	54.9	75.6	87.4
Manawatu/Wanganui		66.0	89.6	85.4	81.8	80.1	73.5	66.2	61.1	55.0	52.8	72.7	83.5
Nelson–Marlborough		63.7	83.6	86.2	82.1	81.4	78.5	67.1	62.4	55.5	53.6	73.2	84.9
Northland		67.3	87.0	83.9	82.4	78.7	75.7	67.9	61.6	56.1	54.2	72.5	84.5
Otago/Southland		70.0	100.0	91.1	88.1	84.9	79.7	70.2	65.7	58.7	54.6	77.8	89.2
Tairāwhiti		73.7	90.7	90.6	88.4	86.4	82.8	77.3	66.4	60.0	59.6	79.9	91.6
Taranaki		81.9	96.3	93.5	90.4	86.7	81.1	73.1	71.2	65.7	63.0	81.5	94.4
Waikato		66.6	95.6	90.3	87.3	82.8	78.4	70.6	65.3	58.9	55.6	77.2	88.3
Wellington		69.9	94.9	96.3	92.2	87.9	82.8	72.7	68.6	60.9	54.2	81.3	92.2
West Coast		65.1	80.3	84.9	80.2	80.5	72.5	60.2	60.2	55.9	48.0	70.5	81.9
Total		64.2	89.7	90.3	87.6	84.0	78.4	70.4	64.5	57.4	52.7	76.5	87.3

Table 24 Unadjusted proportion (%) of women aged 20–69 years participating by five-year age group and DHB area as at 31 December 2003 [targets = 80% unadjusted and 90% hysterectomy-adjusted]

DHB area	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Auckland		49.8	80.1	90.2	90.8	86.1	80.5	75.5	66.3	57.8	48.4	75.8	84.6
Bay of Plenty		73.5	88.9	88.9	86.9	82.1	78.0	70.1	63.3	56.7	54.5	75.8	87.8
Canterbury		67.2	94.7	90.4	87.8	84.7	75.5	67.0	61.2	52.9	47.2	75.5	86.5
Capital Coast		67.0	92.9	96.2	91.9	88.3	83.0	72.2	68.2	59.2	51.6	80.8	91.0
Counties Manukau		58.8	86.0	87.9	84.6	80.2	75.6	68.3	61.3	54.2	48.7	73.7	83.5
Hawkes Bay		68.3	92.1	90.1	85.5	83.0	76.2	68.4	62.6	57.6	54.9	75.6	87.4
Hutt Valley		70.3	93.8	93.5	89.9	86.3	82.9	73.0	66.7	62.5	57.5	80.4	91.7
Lakes		77.7	96.6	93.4	88.9	86.5	77.3	68.9	63.1	56.0	51.6	78.8	90.3
MidCentral		65.3	92.4	88.3	86.4	83.4	77.7	69.6	64.2	57.4	56.9	75.8	86.7
Nelson–Marlborough		63.7	83.6	86.2	82.1	81.4	78.5	67.1	62.4	55.5	53.6	73.2	84.9
Northland		67.3	87.0	83.9	82.4	78.7	75.7	67.9	61.6	56.1	54.2	72.5	84.5
Otago		69.6	109.8	96.4	92.8	89.1	83.3	73.5	69.9	62.3	56.1	81.1	92.8
South Canterbury		79.7	93.9	87.3	85.5	84.0	79.2	68.0	64.4	54.8	55.8	75.6	88.6
Southland		71.0	87.1	84.1	81.4	79.0	74.3	65.0	59.0	53.2	52.1	72.8	83.5
Tairāwhiti		73.7	90.7	90.6	88.4	86.4	82.8	77.3	66.4	60.0	59.6	79.9	91.6
Taranaki		81.9	96.3	93.5	90.4	86.7	81.1	73.1	71.2	65.7	63.0	81.5	94.4
Waikato		64.3	91.3	86.6	83.5	79.2	75.3	67.8	62.8	56.6	53.4	74.0	84.7
Wairarapa		77.1	88.6	88.8	86.9	78.9	72.3	66.2	65.8	59.1	53.5	74.1	86.7
Waitemata		55.3	80.3	86.9	86.2	82.8	78.6	71.6	65.4	58.2	52.2	74.5	84.8
West Coast		65.1	80.3	84.9	80.2	80.5	72.5	60.2	60.2	55.9	48.0	70.5	81.9
Whanganui		70.6	97.6	92.8	87.0	86.7	75.7	69.9	63.7	57.6	52.0	76.6	88.9
Unspecified DHB		1120	1291	1100	848	768	591	516	458	296	177		
Total		64.2	89.7	90.3	87.6	84.0	78.4	70.4	64.5	57.4	52.7	76.5	87.3

Table 25 Unadjusted proportion (%) of women aged 20–69 years participating by five-year age group by ethnicity as at 31 December 2003 [targets = 80% unadjusted and 90% hysterectomy-adjusted]

Ethnicity	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Maori		54.8	72.4	71.6	67.7	63.3	58.1	50.2	46.4	41.3	40.9	61.1	67.5
Other		68.8	96.2	95.7	92.6	88.4	82.3	73.5	67.0	59.3	54.3	80.1	92.1
Pacific		40.2	66.7	69.2	68.8	64.1	56.9	51.8	44.3	44.1	34.7	57.8	63.7
Total		64.2	89.7	90.3	87.6	84.0	78.4	70.4	64.5	57.4	52.7	76.5	87.3

Table 26 Unadjusted proportion (%) of women aged 20–69 years participating by ethnicity and NCSP region as at 31 December 2003 [target = 80% unadjusted]

NCSP region	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	59.2	79.6	59.1	75.3
Bay of Plenty	64.3	82.6	57.3	77.6
Canterbury	49.4	78.1	64.9	76.3
Hawkes Bay	62.9	79.9	55.2	75.6
Manawatu/Wanganui	60.8	75.5	58.2	72.7
Nelson–Marlborough	48.4	75.3	57.0	73.2
Northland	62.8	77.0	44.7	72.5
Otago/Southland	51.1	79.8	64.0	77.8
Tairāwhiti	74.5	84.6	70.3	79.9
Taranaki	66.3	83.9	62.0	81.5
Waikato	64.2	80.8	55.0	77.2
Wellington	62.0	86.3	50.2	81.3
West Coast	52.1	72.0	56.7	70.5
Total	61.1	80.1	57.8	76.5

Table 27 Unadjusted proportion (%) of women aged 20–69 years participating by ethnicity and DHB as at 31 December 2003 [target = 80% unadjusted]

DHB area	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	55.4	79.8	58.4	75.8
Bay of Plenty	60.9	80.3	57.2	75.8
Canterbury	48.6	77.4	64.1	75.5
Capital Coast	57.0	86.2	48.1	80.8
Counties Manukau	63.4	79.2	61.9	73.7
Hawkes Bay	62.9	79.9	55.2	75.6
Hutt Valley	67.1	84.9	54.0	80.4
Lakes	67.6	84.7	56.3	78.8
MidCentral	65.3	77.8	58.3	75.8
Nelson-Marlborough	48.4	75.3	57.0	73.2
Northland	62.8	77.0	44.7	72.5
Otago	54.2	82.7	65.0	81.1
South Canterbury	46.3	77.1	70.6	75.6
Southland	48.3	75.2	61.5	72.8
Tairāwhiti	74.5	84.6	70.3	79.9
Taranaki	66.3	83.9	62.0	81.5
Waikato	59.2	78.2	53.8	74.0
Wairarapa	58.6	76.8	49.7	74.1
Waitemata	53.2	78.0	52.8	74.5
West Coast	52.1	72.0	56.7	70.5
Whanganui	74.3	77.4	61.8	76.6
Unspecified DHB	887	6184	94	7165
Total	61.1	80.1	57.8	76.5

C. Coverage

Table 28 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2003 by five-year age group and NCSP region [targets = 80% unadjusted and 85% adjusted]

NCSP region	Five-year age group										Target 20–69 years	
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Auckland	48.0	63.7	69.5	68.4	66.2	62.7	58.1	52.9	46.7	39.7	59.9	67.7
Bay of Plenty	65.8	73.6	74.1	72.3	70.6	66.3	60.1	54.8	49.9	46.6	64.8	74.8
Canterbury	62.5	76.6	75.0	73.9	71.7	65.0	58.1	53.2	46.4	41.0	64.4	73.9
Hawkes Bay	58.9	72.6	72.3	69.6	68.8	64.1	58.5	54.0	49.7	47.3	62.9	72.7
Manawatu/Wanganui	55.9	68.3	66.1	64.5	63.6	62.4	55.7	51.8	47.8	45.4	58.9	68.6
Nelson–Marlborough	57.6	68.9	72.4	70.1	70.3	69.0	58.4	55.2	49.7	46.4	63.3	73.4
Northland	63.5	80.2	77.4	74.7	73.3	69.4	61.8	58.2	52.3	48.0	67.3	77.0
Otago/Southland	61.4	70.7	72.6	71.9	72.9	67.9	66.9	56.6	53.0	51.3	66.2	75.9
Tairāwhiti	72.5	80.7	80.7	80.3	77.4	73.4	66.2	64.9	61.3	57.5	72.6	84.0
Taranaki	54.3	64.2	68.3	65.6	66.7	59.6	51.1	50.8	47.3	40.0	58.2	67.6
Waikato	59.4	73.7	71.1	70.6	67.6	64.9	59.1	56.2	50.7	46.9	63.5	72.7
Wellington	57.9	70.2	68.0	66.7	66.3	61.8	56.8	53.1	48.2	45.8	60.7	69.6
West Coast	62.4	74.1	76.5	75.3	73.0	69.2	61.0	58.6	52.3	45.4	67.3	76.3
Total	56.7	70.2	72.3	70.9	69.1	65.2	59.0	54.8	49.1	44.2	63.1	72.0

Table 29 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2003 by five-year age group and DHB area [targets = 80% unadjusted and 85% adjusted]

DHB area	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Auckland		44.1	61.2	69.3	69.4	67.9	64.4	60.3	54.1	46.6	37.2	59.9	66.9
Bay of Plenty		63.4	68.7	72.3	71.3	69.2	66.2	60.6	54.5	50.3	47.9	63.6	73.7
Canterbury		60.5	75.5	74.7	73.6	71.3	64.3	57.6	52.6	46.2	39.9	63.9	73.1
Capital Coast		60.4	72.6	76.5	74.7	73.3	69.4	60.5	58.0	50.5	43.0	66.8	75.2
Counties Manukau		50.4	65.8	67.3	65.1	62.3	59.0	54.3	49.7	44.0	38.3	57.9	65.6
Hawkes Bay		58.9	72.6	72.3	69.6	68.8	64.1	58.5	54.0	49.7	47.3	62.9	72.7
Hutt Valley		61.7	73.3	73.8	74.0	72.0	69.0	60.9	56.9	54.1	48.5	66.5	75.9
Lakes		67.3	78.3	75.1	72.1	71.5	64.9	57.8	53.7	47.9	42.3	65.3	74.8
MidCentral		57.6	73.0	70.9	70.9	69.2	65.6	59.9	56.2	50.4	49.5	63.5	72.7
Nelson-Marlborough		57.6	68.9	72.4	70.1	70.3	69.0	58.4	55.2	49.7	46.4	63.3	73.4
Northland		55.9	68.3	66.1	64.5	63.6	62.4	55.7	51.8	47.8	45.4	58.9	68.6
Otago		63.7	86.6	82.4	79.4	77.0	72.5	64.9	62.2	55.6	49.4	70.3	80.4
South Canterbury		69.9	78.0	71.7	73.2	71.5	67.9	58.9	56.1	46.0	46.7	64.3	75.4
Southland		63.1	71.8	70.7	68.3	68.0	64.7	57.0	51.9	47.1	45.7	62.5	71.7
Tairāwhiti		61.4	70.7	72.6	71.9	72.9	67.9	66.9	56.6	53.0	51.3	66.2	75.9
Taranaki		72.5	80.7	80.7	80.3	77.4	73.4	66.2	64.9	61.3	57.5	72.6	84.0
Waikato		57.3	70.4	68.2	67.5	64.8	62.3	56.7	54.1	48.8	45.0	60.9	69.7
Wairarapa		65.5	74.2	74.7	73.6	66.1	62.1	57.7	57.6	51.0	46.0	63.2	74.0
Waitemata		49.0	62.9	70.0	68.9	66.7	63.3	58.2	53.6	47.7	41.6	60.4	68.8
West Coast		54.3	64.2	68.3	65.6	66.7	59.6	51.1	50.8	47.3	40.0	58.2	67.6
Whanganui		60.7	77.1	73.9	70.4	72.2	63.7	59.8	54.5	50.6	45.0	63.7	74.0
Unspecified DHB		950	830	709	585	558	443	404	355	244	140		
Total		56.7	70.2	72.3	70.9	69.1	65.2	59.0	54.8	49.1	44.2	63.1	72.0

Table 30 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2003 by ethnicity and five-year age group [targets = 80% unadjusted and 85% adjusted]

Ethnicity	Five-year age group										Target age 20–69 years		
	Hysterectomy	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	Unadjusted	Adjusted
Maori		45.6	53.4	51.7	48.9	46.5	42.9	37.9	35.3	32.2	31.3	45.7	50.6
Other		61.6	76.5	78.3	76.6	74.1	69.4	62.4	57.4	51.2	45.9	67.2	77.3
Pacific		34.0	47.8	47.9	46.8	44.6	40.4	37.5	33.4	32.2	25.2	41.5	45.8
Total		56.7	70.2	72.3	70.9	69.1	65.2	59.0	54.8	49.1	44.2	63.1	72.0

Table 31 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2003 by ethnicity and NCSP region [targets = 80% unadjusted]

NCSP region	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	43.1	64.6	42.0	59.9
Bay of Plenty	48.6	70.7	44.1	64.8
Canterbury	38.6	66.1	50.6	64.4
Hawkes Bay	47.1	68.1	40.5	62.9
Manawatu/Wanganui	46.4	63.9	44.4	60.7
Nelson–Marlborough	38.7	65.4	49.3	63.3
Northland	46.1	64.6	33.1	58.9
Otago/Southland	41.5	69.2	50.3	67.3
Tairāwhiti	56.5	74.8	52.8	66.2
Taranaki	53.0	75.6	50.7	72.6
Waikato	46.8	68.0	39.6	63.5
Wellington	47.0	72.4	36.1	67.3
West Coast	41.3	59.6	50.0	58.2
Total	45.7	67.2	41.5	63.1

Table 32 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2003 by ethnicity and DHB [targets = 80% unadjusted]

DHB area	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	40.5	64.1	40.7	59.9
Bay of Plenty	45.4	69.0	44.7	63.6
Canterbury	38.2	65.7	50.2	63.9
Capital Coast	43.1	72.1	34.9	66.8
Counties Manukau	45.8	64.4	44.1	57.9
Hawkes Bay	47.1	68.1	40.5	62.9
Hutt Valley	50.7	71.6	38.3	66.5
Lakes	52.1	72.1	42.6	65.3
MidCentral	50.2	66.1	43.7	63.5
Nelson-Marlborough	38.7	65.4	49.3	63.3
Northland	46.1	64.6	33.1	58.9
Otago	44.8	71.9	51.2	70.3
South Canterbury	37.8	65.7	61.2	64.3
Southland	38.6	65.0	48.1	62.5
Tairāwhiti	56.5	74.8	52.8	66.2
Taranaki	53.0	75.6	50.7	72.6
Waikato	43.2	65.9	38.7	60.9
Wairarapa	46.6	66.1	35.2	63.2
Waitemata	39.2	63.9	38.4	60.4
West Coast	41.3	59.6	50.0	58.2
Whanganui	57.0	65.6	53.6	63.7
Unspecified DHB	560	4609	49	5218
Total	45.7	67.2	41.5	63.1

D. Re-participation

Table 33 Re-participation rate for women aged 20–69 years by five-year age group and NCSP region, 2003 [no target]

NCSP region	Five-year age group										Target age 20–69 years
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	
Auckland	16.5	10.6	9.0	7.5	8.0	7.9	8.3	6.6	7.1	5.7	8.2
Bay of Plenty	17.6	16.9	11.9	12.4	9.3	9.1	7.5	10.7	7.8	9.2	11.0
Canterbury	13.2	16.5	13.4	12.0	12.6	14.6	12.5	11.5	11.7	11.7	13.2
Hawkes Bay	15.4	15.9	15.0	13.2	14.5	12.3	7.3	7.0	10.5	11.4	12.8
Manawatu/Wanganui	17.6	12.1	12.5	11.2	11.2	10.2	11.0	8.8	14.3	11.5	11.5
Nelson–Marlborough	0.0	17.1	16.4	16.3	17.8	15.5	11.6	10.9	11.8	14.5	15.3
Northland	17.1	11.7	11.5	10.3	10.4	13.0	10.2	11.9	7.4	11.8	11.1
Otago/Southland	30.4	14.1	11.0	10.6	12.0	13.2	8.5	9.1	13.0	9.3	11.5
Tairāwhiti*	0.0	11.1	9.3	17.6	18.8	14.9	22.2	13.3	20.0	8.3	14.7
Taranaki	17.6	15.8	16.4	16.9	15.7	10.6	15.0	9.7	12.5	15.2	14.8
Waikato	11.4	13.3	9.6	11.6	7.8	9.7	9.2	11.9	6.8	12.8	10.1
Wellington	23.1	14.4	9.8	8.1	8.5	9.0	7.4	8.4	8.2	9.9	9.3
West Coast [#]	14.3	11.1	16.7	12.5	16.5	9.3	1.8	10.0	4.0	7.7	11.2
Total	16.2	13.2	10.6	9.5	9.6	9.8	9.0	8.6	8.6	8.8	10.0

* 78 women re-participated during 2003.

53 women re-participated during 2003.

Table 34 Re-participation rate for 20–69-year-old women by five-year age group and DHB area, 2003 [no target]

DHB area	Five-year age group										Target age 20–69 years
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	
Auckland	12.6	9.6	7.9	5.7	6.6	6.8	6.9	4.3	5.2	4.3	6.8
Bay of Plenty	13.3	18.1	13.4	13.1	10.1	11.3	8.1	12.8	7.3	13.5	12.2
Canterbury	16.3	17.6	14.1	12.3	12.0	15.3	12.9	12.0	11.6	11.5	13.6
Capital Coast	20.6	16.5	9.9	7.5	8.0	7.2	7.0	8.1	6.3	8.6	8.9
Counties Manukau	20.4	12.0	9.2	7.8	7.2	7.6	8.8	6.3	7.4	7.3	8.4
Hawkes Bay	15.4	15.9	15.0	13.2	14.5	12.3	7.3	7.0	10.5	11.4	12.8
Hutt Valley	30.8	11.4	9.4	8.1	9.1	11.7	6.5	7.2	7.9	8.7	9.2
Lakes	24.1	15.4	9.8	11.4	8.2	6.2	6.9	8.2	8.9	1.5	9.5
MidCentral	23.8	11.8	14.4	11.9	12.6	10.0	9.3	8.7	13.1	11.9	12.0
Nelson–Marlborough	0.0	17.1	16.4	16.3	17.8	15.5	11.6	10.9	11.8	14.5	15.3
Northland	17.1	11.7	11.5	10.3	10.4	13.0	10.2	11.9	7.4	11.8	11.1
Otago	35.7	13.3	9.9	12.4	12.0	13.8	8.5	9.3	14.2	3.6	11.5
South Canterbury	0.0	15.3	16.8	13.5	21.6	13.6	13.1	7.8	15.8	13.8	15.1
Southland	22.2	16.1	13.0	8.0	12.1	12.3	8.5	8.9	11.6	16.4	11.6
Tairāwhiti*	0.0	11.1	9.3	17.6	18.8	14.9	22.2	13.3	20.0	8.3	14.7
Taranaki	17.6	15.8	16.4	16.9	15.7	10.6	15.0	9.7	12.5	15.2	14.8
Waikato	11.4	13.3	9.6	11.6	7.8	9.7	9.2	11.9	6.8	12.8	10.1
Wairarapa	20.0	7.8	13.4	15.2	10.2	15.4	13.8	17.8	23.8	27.3	14.6
Waitemata	16.0	10.7	10.4	9.4	10.6	9.4	9.4	9.1	8.3	5.6	9.7
West Coast [#]	14.3	11.1	16.7	12.5	16.5	9.3	1.8	10.0	4.0	7.7	11.2
Whanganui	9.1	17.0	11.4	12.6	10.0	11.0	15.9	9.5	20.4	11.8	12.5
Unspecified DHB [†]	0.0	2.2	3.1	7.2	5.9	3.3	5.1	4.9	2.7	0.0	4.3
Total	16.2	13.2	10.6	9.5	9.6	9.8	9.0	8.6	8.6	8.8	10.0

* 78 women re-participated during 2003.

53 women re-participated during 2003.

† DHB area was not specified for some women (see Methods section). These women are included in the totals.

Table 35 Re-participation rate for women aged 20–69 years by five-year age group and ethnicity, 2003 [no target]

Ethnicity	Five-year age group										Target age 20–69 years
	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	
Maori	19.4	13.0	11.1	11.2	10.9	10.6	8.2	10.2	8.7	9.4	11.1
Other	14.1	13.5	10.9	9.6	9.7	10.0	9.4	8.4	8.5	8.8	10.1
Pacific	14.8	10.3	7.2	6.4	6.5	7.5	6.6	8.7	10.4	7.6	7.4
Total	16.2	13.2	10.6	9.5	9.6	9.8	9.0	8.6	8.6	8.8	10.0

E. Short interval re-screening

Table 36 Short interval re-screening proportion (%) by five-year age groups for the 33 months prior to 31 December 2003 [target = less than 10%]

Age groups (years)	No. of women with a normal history and at least one A1 [†] or A2 [‡] smear	No. of women with more than one A1 [†] or A2 [‡] smear	No. of women with an abnormal (ASCUS more serious) A1 [†] or A2 [‡] smear	Proportion (%) with >1 A1 [†] or A2 [‡] smear among women with a normal history*	Proportion (%) with >1 A1 [†] smear among women with a normal history*
20–24	22,062	4,372	3,992	19.8	7.8
25–29	39,442	7,091	4,126	18.0	7.1
30–34	52,100	10,085	3,486	19.4	9.3
35–39	58,511	11,011	2,946	18.8	9.9
40–44	62,778	12,041	2,669	19.2	10.4
45–49	53,267	10,391	2,162	19.5	10.7
50–54	43,901	8,651	1,347	19.7	11.2
55–59	37,058	6,756	796	18.2	9.8
60–64	27,962	4,595	456	16.4	8.8
65–69	21,207	3,062	277	14.4	7.5
Total	418,288	78,055	22,257	18.7	9.6

† A1 = satisfactory smear

‡ A2 = satisfactory but limited smear

* = (column 3 – column 4) x 100 / (column 2 – column 4)

Source: Draft Quarterly Report 13 National Cervical Screening Programme October–December 2003. Dr Mona Jeffreys, Centre for Public Health Research, Massey University. September 2004.

Table 37 Short interval re-screening proportion (%) by five-year age group for the 33 months prior to the end of each reporting quarter, 2003 [target = less than 10%]

Five-year age group	Satisfactory or satisfactory but limited smears				Satisfactory smears			
	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
20–24	21.2	No data	20.4	19.8	10.6	No data	7.7	7.8
25–29	19.5	No data	18.3	18.0	9.9	No data	7.1	7.1
30–34	21.5	No data	20.0	19.4	12.3	No data	9.5	9.3
35–39	20.8	No data	19.2	18.8	12.5	No data	9.9	9.9
40–44	20.9	No data	19.4	19.2	12.8	No data	10.3	10.4
45–49	21.5	No data	19.7	19.5	13.4	No data	10.5	10.7
50–54	21.9	No data	19.7	19.7	13.9	No data	10.8	11.2
55–59	20.4	No data	18.4	18.2	12.5	No data	9.7	9.8
60–64	18.0	No data	16.3	16.4	10.7	No data	8.8	8.8
65–69	15.7	No data	14.3	14.4	8.9	No data	7.3	7.5
Total	20.5	No data	18.9	18.7	12.1	No data	9.5	9.6

Data sources: Quarterly Report 10, Draft Quarterly Report 12 and Draft Quarterly Report 13.

Figure 8 Short interval re-screening by DHB area for the 33 months prior to the end of each reporting quarter, 2003 (both satisfactory and satisfactory but limited smears included)

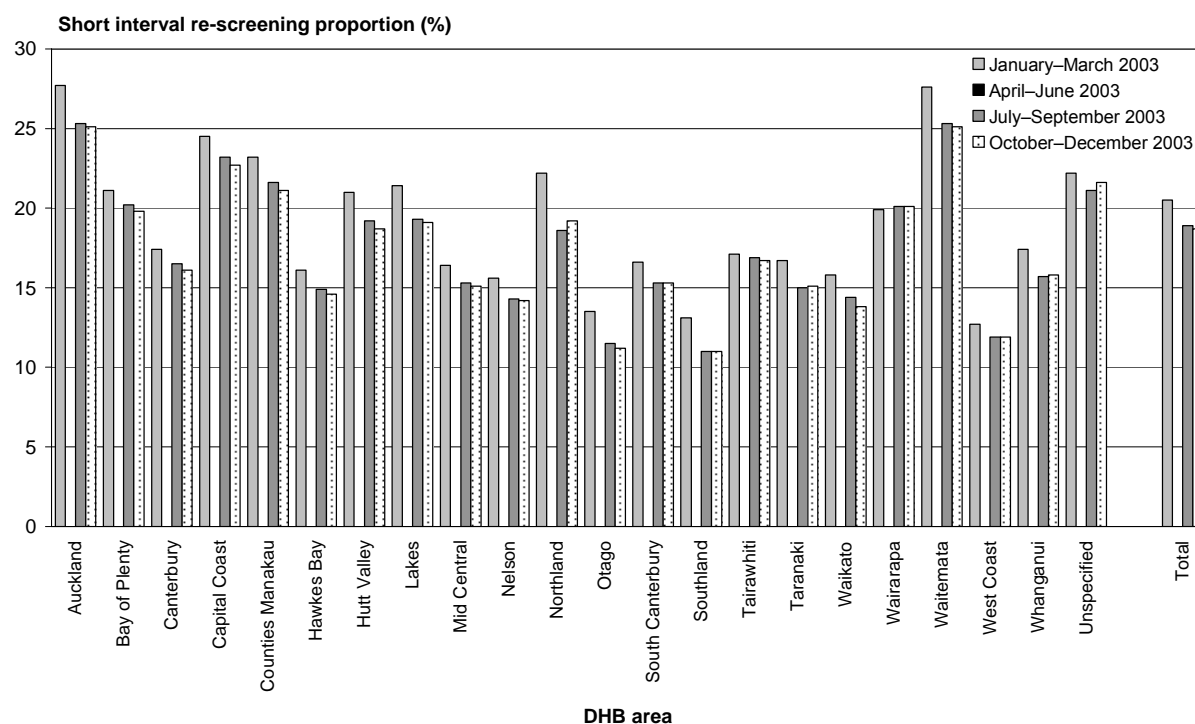


Table 38 Short interval re-screening proportion (%) women aged 20–69 years by ethnicity for the 33 months prior to 31 December 2003 [target = less than 10%]

Five-year age group	No. of women with a normal history and at least one A1 [†] or A2 [‡] smear	No. of women with more than one A1 [†] or A2 [‡] smear	No. of women with an abnormal (ASCUS more serious) A1 [†] or A2 [‡] smear	Proportion (%) with >1 A1 [†] or A2 [‡] smear among women with a normal history*	Proportion (%) with >1 A1 [†] smear among women with a normal history*
Maori	32,962	5,256	2,889	15.9	6.3
Other	372,535	70,447	18,747	18.9	9.9
Pacific	12,791	2,352	621	18.4	7.2
Total	418,288	78,055	22,257	18.7	9.6

† A1 = satisfactory smear

‡ A2 = satisfactory but limited smear

* = (column 3 – column 4) x 100/(column2 – column 4)

Source: Draft Quarterly Report 13 National Cervical Screening Programme October–December 2003. Dr Mona Jeffreys, Centre for Public Health Research, Massey University. September 2004.

F. Delayed re-screening for women with a high grade abnormality

Table 39 Timeliness of the most recent smear among participating women with a previous high grade or more serious abnormality by reporting quarter, 2003 [targets = 85% within 15 months and 99% within 18 months]

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Less than 15 months	71.1	Nil data	70.7	71.1
15–18 months	5.3	Nil data	5.7	5.2
More than 18 months	17.6	Nil data	17.5	17.5
No smear	6.0	Nil data	6.1	6.2
Total number smears	27,310	Nil data	29,958	31,530

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

Table 40 Timeliness of the most recent smear among participating women with a previous high grade or more serious abnormality for the reporting period prior to 31 December 2003 by ethnicity [targets = 85% within 15 months and 99% within 18 months]

Ethnicity	Time period				
	<15 months %	15–18 months %	Within 18 months cumulative %	>18 months %	No smear %
Maori (n=4666)	54.4	6.2	60.6	27.3	12.1
Other (n=26,231)	74.5	5.0	79.4	15.5	5.0
Pacific (n=633)	55.1	5.2	60.4	26.5	13.1
Total (n=31,530)	71.1	5.2	76.3	17.5	6.2

Data sources: Draft Quarterly Reports 13, Mona Jeffreys, Centre for Public Health, Massey University.

G. Follow up of women with HSIL cytology

Table 41 Proportion of women with a histology report within 12 weeks of a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2003 [targets = 90% within 12 weeks]

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Maori	66.3	66.6	66.0	67.0
Other	79.6	80.2	80.5	80.8
Pacific	68.8	65.5	66.2	61.6
Total	77.2	77.7	77.8	78.0

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Quarterly Report 11, Mona Jeffreys, Centre for Public Health, Massey University; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

Table 42 Proportion of women with a histology report within 13–26 weeks of a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2003

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Maori	15.3	14.0	15.0	15.1
Other	10.0	10.0	9.6	9.3
Pacific	11.5	12.4	10.3	13.8
Total	10.9	10.6	10.4	10.4

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Quarterly Report 11, Mona Jeffreys, Centre for Public Health, Massey University; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

Table 43 Proportion of women with a histology report within 27–52 weeks of a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2003

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Maori	8.5	9.1	7.4	7.5
Other	3.3	3.7	3.7	3.7
Pacific	6.3	6.2	6.6	6.5
Total	4.2	4.6	4.4	4.4

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Quarterly Report 11, Mona Jeffreys, Centre for Public Health, Massey University; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

Table 44 Proportion of women with a histology report within 52 weeks of a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2003 [targets = 90% within 12 weeks]

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Maori	90.1	89.7	88.4	89.6
Other	92.9	93.9	93.8	93.8
Pacific	86.5	84.1	83.1	81.9
Total	92.3	92.9	93.9	93.9

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Quarterly Report 11, Mona Jeffreys, Centre for Public Health, Massey University; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

Table 45 Proportion of women with a histology report within after 52 weeks of a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2003

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Maori	1.7	2.0	2.2	2.2
Other	1.3	1.1	1.1	0.8
Pacific	0.0	0.9	2.2	2.2
Total	1.3	1.3	1.3	1.1

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Quarterly Report 11, Mona Jeffreys, Centre for Public Health, Massey University; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

Table 46 Proportion of women with no histology report following a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2003 [targets = 90% within 12 weeks]

Time period	Jan–Mar 2003	Apr–Jun 2003	Jul–Sep 2003	Oct–Dec 2003
Maori	8.2	8.3	9.4	8.2
Other	5.8	5.0	5.1	5.3
Pacific	13.5	15.0	14.7	15.9
Total	6.4	5.8	6.1	6.1

Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago; Quarterly Report 11, Mona Jeffreys, Centre for Public Health, Massey University; Draft Quarterly Reports 12 and 13, Mona Jeffreys, Centre for Public Health, Massey University.

H. Cervical cancer incidence and mortality

Table 47 Number of new cervical cancer registrations by five-year age group and ethnicity, 1997–2001

Five-year age group	Number of cases, 1997–2001		
	Other	Maori women	Pacific women
0–4	0	0	0
5–9	0	0	0
10–14	0	0	0
15–19	1	1	0
20–24	15	5	0
25–29	74	15	3
30–34	115	20	3
35–39	143	33	5
40–44	134	33	4
45–49	106	27	2
50–54	96	20	6
55–59	60	10	5
60–64	62	7	3
65–69	61	4	2
70–74	57	5	1
75–79	41	1	1
80–84	34	1	0
85+	24	1	0
Target age 20–69 years	866	174	33
All ages	1023	183	35

Table 48 Number of cervical cancer deaths by five-year age group by ethnicity, 1997–2001

Five-year age group	Number of cases, 1997–2001		
	Other	Maori women	Pacific women
15–19	0	0	0
20–24	2	1	0
25–29	3	1	0
30–34	6	0	2
35–39	18	8	3
40–44	33	12	2
45–49	45	16	3
50–54	43	13	1
55–59	37	13	3
60–64	21	5	1
65–69	28	8	1
70–74	33	3	1
75–79	38	3	0
80–84	22	2	0
85+	22	1	0
Target age 20–69 years	236	77	16
All ages	348	85	17

I. Cytology abnormality reporting

Table 49 Number of reported smear results by cytological category by five-year age group, 2003

Category of cytology result	Five-year age group															All ages
	< 20	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	≥ 85	
Negative for dysplasia or malignancy	11,664	35,565	38,868	48,924	48,793	48,493	39,319	31,837	24,787	17,198	11,500	2,427	741	300	91	360,507
Abnormal not otherwise specified	0	1	0	1	2	2	1	2	1	3	5	0	0	0	1	19
ASCUS [†]	714	1,795	1,332	1,297	1,184	1,162	946	572	309	187	127	47	12	3	4	9,691
LSIL	1,612	3,203	1,869	1,341	982	803	596	305	156	102	65	23	9	3	0	11,069
AGUS favour reactive	1	11	36	31	36	42	38	26	16	13	8	1	1	1	1	262
AGUS favour dysplasia	0	3	5	15	9	7	15	10	8	5	2	3	4	0	0	86
ASCUS possible high grade	19	102	108	123	87	60	55	32	26	12	11	2	4	2	1	644
HSIL	277	829	871	771	456	357	158	115	65	46	30	12	6	3	2	3,998
Adenocarcinoma-in-situ	0	4	13	10	13	11	7	3	2	1	2	0	0	0	0	66
Adenocarcinoma (excluding cervical)	0	0	0	0	1	3	1	4	2	4	7	4	3	2	2	33
Adenocarcinoma of cervix	0	1	1	0	0	0	0	0	1	0	1	0	0	0	0	4
Cancer not otherwise specified	0	0	0	0	0	1	0	1	1	1	1	0	1	0	0	6
Squamous carcinoma of cervix	0	0	1	4	4	3	5	5	5	11	1	3	2	1	1	46
Total	14,287	41,514	43,104	52,517	51,567	50,944	41,141	32,912	25,379	17,583	11,760	2,522	783	315	103	368,421

[†] Excludes ASCUS possible high grade.

Table 50 Reported smear results by cytological result category per 1000 smears by five-year age group, 2003

Category of cytology result*	Five-year age group															ASR† target age 20–69 years
	< 20	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	≥ 85	
Negative for dysplasia or malignancy	803.8	846.2	891.8	923.8	940.7	946.6	950.8	963.7	973.4	974.4	973.4	954.2	943.2	941.9	880.3	928.67
ASCUS‡	55.9	47.9	34.9	27.8	25.0	25.2	25.7	19.3	13.8	12.2	12.7	22.0	15.1	14.5	42.7	27.18
LSIL	118.6	81.8	47.3	28.3	21.1	17.7	16.0	10.2	7.3	7.2	7.5	10.4	12.8	8.7	0.0	29.68
AGUS favour reactive	0.1	0.3	0.9	0.6	0.9	0.9	1.0	0.8	0.7	0.8	0.8	0.4	2.32	5.8	17.1	0.76
AGUS favour dysplasia	0.0	0.1	0.2	0.3	0.2	0.1	0.4	0.3	0.3	0.3	0.2	1.1	4.6	0.0	0.0	0.23
ASCUS possible high grade	1.9	2.9	3.0	2.8	1.8	1.4	1.4	1.2	1.2	0.8	1.2	2.2	4.6	8.7	8.6	1.94
HSIL	19.8	20.6	21.5	16.2	9.9	7.7	4.4	4.0	2.9	3.1	2.7	7.1	9.3	8.7	17.1	11.04
Squamous carcinoma of cervix	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.8	0.1	1.1	2.3	2.9	8.6	0.13
Number of smears	15,596	45,330	46,601	55,952	54,286	53,471	43,059	34,292	26,224	18,163	12,157	2,687	862	344	117	409,141

* Rates for 'abnormal not otherwise specified', adenocarcinoma-in-situ, adenocarcinoma (both cervical and non-cervical) and carcinoma not otherwise specified were not calculated as the number of smears in each of these categories was too small.

† ASR = age-standardised rates. Rates were standardised to Segi's world population.

‡ Excludes ASCUS possible high grade.

Table 51 Number of reported smear results by cytological category for women aged 20–69 years by NCSP region, 2003

Category of cytology result	NCSP region													Target age 20–69 years
	Auckland	Bay of Plenty	Canterbury	Hawkes Bay	Manawatu/Wanganui	Nelson–Marlborough	Northland	Otago/Southland	Tairāwhiti	Taranaki	Waikato	Wellington	West Coast	
Negative for dysplasia or malignancy	112,116	25,095	43,470	11,932	17,804	11,349	11,492	25,723	3,844	10,061	26,719	43,388	2,291	345,284
Abnormal not otherwise specified	6	0	5	1	0	0	0	6	0	0	0	0	0	18
ASCUS†	2,436	1,610	1,147	146	373	338	190	197	82	368	802	1,176	46	8,911
LSIL	2,675	812	934	399	918	240	252	648	140	240	847	1,275	42	9,422
AGUS favour reactive	34	61	49	3	7	12	4	17	1	3	23	39	4	257
AGUS favour dysplasia	4	19	13	5	6	3	2	13	1	0	7	6	0	79
ASCUS possible high grade	168	43	115	23	11	21	29	75	5	10	40	67	9	616
HSIL	1,217	272	406	169	202	121	146	365	46	102	268	364	20	3,698
Adenocarcinoma-in-situ	20	4	9	5	4	1	3	8	2	0	1	8	1	66
Adenocarcinoma (excluding cervical)	10	2	2	2	0	1	1	2	0	1	1	0	0	22
Adenocarcinoma of cervix	1	1	0	0	0	0	0	0	1	0	0	1	0	4
Cancer not otherwise specified	2	0	0	0	2	1	0	0	0	0	0	0	0	5
Squamous carcinoma of cervix	13	5	2	0	4	1	1	1	1	2	6	3	0	39
Total	118,702	27,924	46,152	12,685	19,331	12,088	12,120	27,055	4,123	10,787	28,714	46,327	2,413	368,421

† Excludes ASCUS possible high grade.

Table 52 Number of reported smear results by cytological category for women aged 20–69 years by ethnicity, 2003

Category of cytology result	Ethnicity			
	Maori	Other	Pacific	Total
Negative for dysplasia or malignancy	29,702	304,682	10,900	345,284
Abnormal not otherwise specified	1	16	1	18
ASCUS [†]	1,113	7,510	288	8,911
LSIL	1,308	7,804	310	9,422
AGUS favour reactive	18	235	4	257
AGUS favour dysplasia	7	69	3	79
ASCUS possible high grade	60	538	18	616
HSIL	583	3,002	113	3,698
Adenocarcinoma-in-situ	7	57	2	66
Adenocarcinoma (excluding cervical)	6	13	3	22
Adenocarcinoma of cervix	1	3	0	4
Cancer not otherwise specified	2	2	1	5
Squamous carcinoma of cervix	8	28	3	39
Total	32,816	323,959	11,646	368,421

† Excludes ASCUS possible high grade.

J. Histology abnormality reporting

Table 53 Number of histology reports in each histological category by five-year age group, 2003

Category of histology report	Five-year age group															All ages
	< 20	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	≥ 85	
Normal	72	346	406	563	613	799	777	456	272	185	119	107	71	31	6	4823
Other non neoplastic	106	447	545	614	628	764	665	471	242	168	108	84	55	31	21	4949
Polyp	5	12	31	80	165	354	453	368	227	119	68	25	23	6	6	1942
Atypia / HPV	216	773	692	573	467	431	299	186	102	51	36	9	5	5	0	3845
CIN NOS	11	29	26	23	19	8	12	11	6	7	5	0	0	0	0	157
LSIL	305	1056	833	662	477	411	256	122	59	25	20	11	1	1	0	4239
HSIL	345	1447	1414	1232	685	495	256	132	78	62	35	20	8	4	1	6214
Glandular dysplasia	1	1	0	2	0	0	0	0	0	1	1	0	0	0	0	6
Adenocarcinoma-in-situ	0	10	26	26	19	13	11	2	3	1	4	1	0	0	0	116
Other cancer	0	1	2	4	3	0	1	5	3	1	3	4	0	1	1	29
Invasive adenocarcinoma	0	0	4	6	2	7	9	9	5	7	12	7	1	5	1	75
Adenosquamous carcinoma	0	0	0	1	2	0	0	0	0	0	1	0	0	0	0	4
Microinvasive squamous carcinoma	0	0	2	5	2	8	3	2	7	1	0	0	0	0	0	30
Invasive squamous carcinoma	1	3	5	16	18	18	14	17	14	14	7	7	7	6	5	152
Metastatic carcinoma	0	0	0	0	0	1	2	3	2	2	0	2	2	2	2	18

K. Laboratory cytology turnaround time

Table 54 Timeliness of reporting smears by laboratory, 2003 [targets = 90% within seven working days and 100% within 14 working days]

Laboratory	Number of smear results	Within 7 working days (%)	From 8–14 working days (%)		More than 14 working days (%)
				Cumulative	
Hospital-based					
Auckland Hospital Laboratory	10,468	99.7	0.3	100.0	0.1
Canterbury Health Laboratories	6,368	99.9	0.1	100.0	0.0
Community-based					
Diagnostic Medlab Auckland	118,382	100.0	0.0	100.0	0.0
Medical Laboratory Wellington	40,376	95.8	4.2	100.0	0.0
Medlab Bay of Plenty	25,696	67.0	32.9	99.9	0.1
Medlab Central, Palmerston North	30,529	94.7	5.2	99.9	0.1
Medlab Hamilton	30,950	95.6	4.4	100.0	0.0
Medlab South Christchurch	41,272	100.0	0.0	100.0	0.0
Pathlab Waikato	8,433	86.3	13.7	100.0	0.0
SCL [†] Christchurch	20,763	99.9	0.1	100.0	0.0
SCL [†] Dunedin	47,538	99.8	0.1	100.0	0.1
Taranaki Medlab	15,967	98.0	2.0	100.0	
Valley Diagnostic Laboratory	15,642	66.3	32.8	99.1	1.0
Total	412,384	95.1	4.8	99.9	0.1

† SCL = Southern Community Laboratory.

Table 55 Timeliness of reporting smears within seven working days by laboratory, 2003 [target = 90% within seven working days]

Laboratory	2003 reporting quarter				2003 reporting year
	Jan–Mar [†]	Apr–Jun [†]	Jul–Sep [†]	Oct–Dec [†]	
Hospital-based					
Auckland Hospital Laboratory	100.0	100.0	99.3	99.8	99.7
Canterbury Health Laboratories	100.0	100.0	100.0	99.8	99.9
Community based					
Diagnostic Medlab Auckland	100.0	100.0	100.0	100.0	100.0
Medical Laboratory Wellington	98.9	88.3	98.9	97.3	95.8
Medlab Bay of Plenty	96.6	86.8	22.7	62.1	67.0
Medlab Central, Palmerston North	99.9	99.8	99.9	76.8	94.7
Medlab Hamilton	100.0	99.4	98.5	86.0	95.6
Medlab South Christchurch	100.0	100.0	100.0	100.0	100.0
Pathlab Waikato	99.6	82.1	73.7	n/a	86.3
SCL [‡] Christchurch	99.9	100.0	100.0	99.9	99.9
SCL [‡] Dunedin	99.7	99.9	99.9	99.9	99.8
Taranaki Medlab	99.9	97.5	99.7	93.7	98.0
Valley Diagnostic Laboratory	35.1	39.4	96.4	98.8	66.3
Total	97.1	94.8	94.0	94.0	95.1

† Data sources: Quarterly Report 10, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago. Quarterly Report 11, Dr Mona Jeffreys, Centre for Public Health Research, Massey University. Quarterly Reports 12 and 13.

‡ SCL = Southern Community Laboratory.

L. Laboratory histology turnaround time

Table 56 Timeliness of reporting histology by laboratory, 2003 [targets = 90% within five working days and 100% within a reasonable period of time]

Laboratory	Number of histology specimens	Within 5 working days (%)	6–10 working days (%)	11 or more working days (%)
Auckland Hospital Laboratory	1,049	60.3	31.4	8.3
Canterbury Health Laboratories	3,699	94.1	5.1	0.8
Diagnostic Medlab Auckland	671	99.1	0.8	0.1
Hutt Hospital Laboratory	256	86.5	12.7	0.8
Medical Laboratory Southland	365	97.8	2.2	0.0
Medical Laboratory Wellington	616	92.9	6.4	0.7
Medlab Bay of Plenty	181	98.3	1.6	0.1
Medlab Central, Palmerston North	1,641	93.5	6.2	0.2
Medlab Hamilton	266	93.7	5.4	0.9
Medlab South Christchurch	222	100.0	0.0	0.0
Medlab South working for Timaru	1,102	99.8	0.0	0.2
Memorial Hospital Hastings Lab	238	92.9	4.9	2.2
Middlemore Hospital Laboratory	1,917	99.4	0.5	0.2
Nelson Diagnostic Laboratory	966	97.7	1.2	1.1
Nelson Hospital Laboratory	698	93.0	5.3	1.7
North Shore Hospital Laboratory	1,598	99.1	0.9	0.0
Northland Pathology Laboratory	2,054	91.0	7.4	1.6
Pathlab Waikato	2,083	98.8	1.2	0.0
Rotorua Hospital Laboratory	857	83.9	10.7	5.4
SCL [†] Christchurch	504	99.8	0.0	0.1
SCL [†] Dunedin	645	99.2	0.5	0.3
SCL [†] Hawkes Bay	1,780	100.0	0.0	0.0
Southland Hospital Laboratory	713	92.7	5.8	1.5
Taranaki Base Hospital Laboratory	124	97.5	2.2	0.3
Taranaki Medlab	354	98.8	1.2	0.0
Valley Diagnostic Laboratory	413	97.7	1.9	0.4
Waikato Hospital Laboratory	345	91.2	7.9	0.9
Wanganui Hospital Laboratory	276	96.0	3.6	0.4
Wellington Hospital Laboratory	1,431	80.7	14.7	4.6
Total	27,064	93.7	5.2	1.1

† SCL = Southern Community Laboratory.

M. Satisfactory but limited and unsatisfactory smears by laboratory

Table 57 Number and proportion (%) of satisfactory but limited or unsatisfactory smears reported by laboratory, 2003

Laboratory	Number of smears processed	Satisfactory but limited smears target: not more than 20%		Unsatisfactory smears target: 0.5–2.0%	
		Number	(%)	Number	(%)
Hospital-based					
Auckland Hospital Laboratory	10,468	2,077	19.8	217	2.1
Canterbury Health Laboratories	6,368	1,004	15.8	84	1.3
Community-based					
Diagnostic Medlab Auckland	118,382	25,338	21.4	551	0.5
Medical Laboratory Wellington	40,376	6,871	17.0	539	1.3
Medlab Bay of Plenty	25,696	4,177	16.3	124	0.5
Medlab Central, Palmerston North	30,529	5,187	17.0	102	0.3
Medlab Hamilton	30,950	4,257	13.8	139	0.4
Medlab South Christchurch	41,272	7,772	18.8	465	1.1
Pathlab Waikato	8,433	1,323	15.7	45	0.5
SCL [†] Christchurch	20,763	2,194	10.6	119	0.6
SCL [†] Dunedin	47,538	3,291	6.9	597	1.3
Taranaki Medlab	15,967	3,090	19.4	291	1.8
Valley Diagnostic Laboratory	15,642	2,645	16.9	186	1.2
Total	412,384	69,226	16.8	3,459	0.8

† SCL = Southern Community Laboratory.

N. Satisfactory but limited and unsatisfactory smears by smear taker

Table 58 Quality of smears reported by smear taker, 2003 year

Smear taker groups	Annual volume of smears per smear taker	Number of smears taken	Satisfactory smears (%)	Satisfactory but limited smears (%) target: not more than 20%	Unsatisfactory smears (%) target: 0.5–2.0%
Lay	< 30	19	84.2	15.8	0.0
	30–100	32	87.5	9.4	3.1
	> 100	0	0.0	0.0	0.0
	Total	51	86.3	11.8	2.0
Medical	< 30	15,510	76.6	22.0	1.4
	30–100	72,912	81.0	18.0	1.0
	> 100	176,176	81.9	17.3	0.8
	Total	264,598	81.4	17.8	0.9
Midwife	< 30	486	72.0	27.0	1.0
	30–100	445	81.1	18.7	0.2
	> 100	676	88.2	10.7	1.2
	Total	1,607	81.3	17.8	0.9
Nurse	< 30	5,496	81.5	17.6	0.9
	30–100	40,667	83.8	15.5	0.7
	> 100	65,286	85.8	13.7	0.6
	Total	111,449	84.9	14.5	0.6
Specialist	< 30	575	74.3	22.1	3.7
	30–100	3,058	77.9	20.7	1.4
	> 100	31,046	82.8	15.9	1.2
	Total	34,679	82.2	16.4	1.3
Total		412,384		16.8	0.8

Table 59 Proportion (%) of smears taken by each smear taker group by DHB area

DHB area	Number of smears	Smear taker group				
		Lay [†]	Medical	Midwife	Nurse	Specialist
Auckland	44,582	0	78.5	11.3	10.0	0.1
Bay of Plenty	20,244	0	48.1	45.9	5.7	0.3
Canterbury	46,552	11	71.4	17.6	11.0	0.0
Capital Coast	32,741	0	75.7	18.3	6.0	0.0
Counties Manukau	37,340	0	74.8	18.8	6.2	0.2
Hawkes Bay	14,018	0	54.9	37.6	6.4	1.1
Hutt Valley	14,005	0	76.7	14.1	8.9	0.3
Lakes	10,600	0	61.5	35.2	3.3	0.0
MidCentral	15,960	0	35.3	50.8	11.8	2.1
Nelson-Marlborough	13,260	0	62.8	31.6	5.5	0.0
Northland	13,609	0	55.8	38.3	5.9	0.0
Otago	19,923	0	61.2	28.6	9.4	0.7
South Canterbury	5,228	8	54.0	31.4	14.5	0.0
Southland	10,965	0	56.3	37.4	6.1	0.2
Tairāwhiti	4,746	0	49.4	36.6	10.3	3.8
Taranaki	12,199	0	29.4	63.7	6.9	0.0
Waikato	31,983	32	41.5	49.1	8.5	0.8
Wairarapa	4,006	0	75.2	19.0	5.8	0.0
Waitemata	49,215	0	78.1	10.6	10.8	0.4
West Coast	2,705	0	35.4	56.4	8.2	0.0
Whanganui	5,773	0	51.2	43.0	5.0	0.8
Unspecified DHB [‡]	2,730	0	60.8	26.1	12.6	0.5
Total	412,384	51	64.2	27.0	8.4	0.4

† Numbers are presented as the numbers were too small to calculate a proportion.

‡ See Methods section.