National Cervical Screening Programme

Annual Monitoring Report 2002

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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 2002 Annual Report closely follows the 2001 Annual Report (as requested by the NSU).

Table of Contents

List of Figures

List of Tables

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. Part of 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 2002 annual report is the second annual monitoring report of the NCSP.

National indicators for the NCSP, established by the NSU in 2000, provide the basis for monitoring reports. This 2002 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.

Overall, both the annual number of new cervical cancer cases 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 100,000 women. Between 1996 and 2001 age-standardised cervical cancer mortality declined from 3.4 to 2.2 per 100,000 women.

At 31 December 2002, 1,033,778 women aged 20–69 years were actively enrolled on the NCSP Register. This was 94.9% 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 87.5% (hysterectomy-adjusted) and coverage was 72.2% (hysterectomy-adjusted).

Enrolment, participation and coverage varied among the NCSP regions and DHB areas. While Tairawhiti, 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 50.9%, 77.5% and 45.1%, respectively, for Maori, Other and Pacific women.

80,925 women aged 25–69 years had not had a smear during the previous six years at 31 December 2002 (non-participants). This was 7.4% of the hysterectomy-adjusted population. Auckland region had the highest non-participation rate (9.3%), as well as the lowest re-participation rate (9.5%), while Taranaki had the lowest non-participation rate (4.5%) and highest re-participation rate (16.6%). Of the three ethnic groups non-participation was highest among Pacific women.

Follow-up of HSIL cytology indicator to 31 December 2002 has previously been reported in a quarterly report. Overall, for each quarterly report, about 75% of 20–69-year-old women with a high grade cytology result had histology taken within 12 weeks of their smear and about 90% within 52 weeks of their smear. Neither of the two targets were reached by any ethnic group. The proportion of Other women who had histology taken within 12 weeks of their high grade or more serious cytology was about 15% 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 both Otago and the West Coast consistently having the highest proportion at 84% or more.

ASCUS and LSIL were the most frequently reported abnormal smear results in 2002, with women younger than 20 years of age having the highest age-specific reporting rates (53.5 and 106.1 per 1000 women screened for ASCUS and LSIL respectively). Within the programme target range HSIL was the most frequently reported histology result, with women aged 25–29 years having the highest age-specific rate (75.1 per 10,000 women).

Histology for 184 reports 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 0.92 per 10,000 women. Women aged 30–54 years had the highest age-specific histology reporting rates for invasive and micro-invasive squamous carcinoma combined, ranging from 1.21 to 1.62 per 10,000 women. The age-standardised adenocarcinoma-in-situ reporting rate for 20–69-year-old women was 0.9 per 10,000 women. Women aged 25–29 years had the highest age-specific reporting rate for adenocarcinoma-in-situ (2.3 per 10,000 women) followed by women aged 30–34 years (1.9 per 10,000 women).

Overall, the results of 413,584 satisfactory or satisfactory but limited smears reported by two hospital-based laboratories and eleven community-based laboratories were recorded on the NCSP Register during 2002. 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. Overall, the proportion of smears reported as abnormal was 7.3%, which did not exceed the target of 10%. Among the laboratories, both hospital-based laboratories and three community-based laboratories reported more than 10% of smears as abnormal.

Between 1 July 2001 and 30 June 2002, 74.8% of 3164 satisfactory smears reported as HSIL or invasive carcinoma were confirmed as an HSIL or more serious abnormality on histology (positive predictive value of HSIL). This was within the target range of 65–85%. The positive predictive value (PPV) slightly exceeded the target range for one laboratory and was clearly below the range for another.

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 early 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 six 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

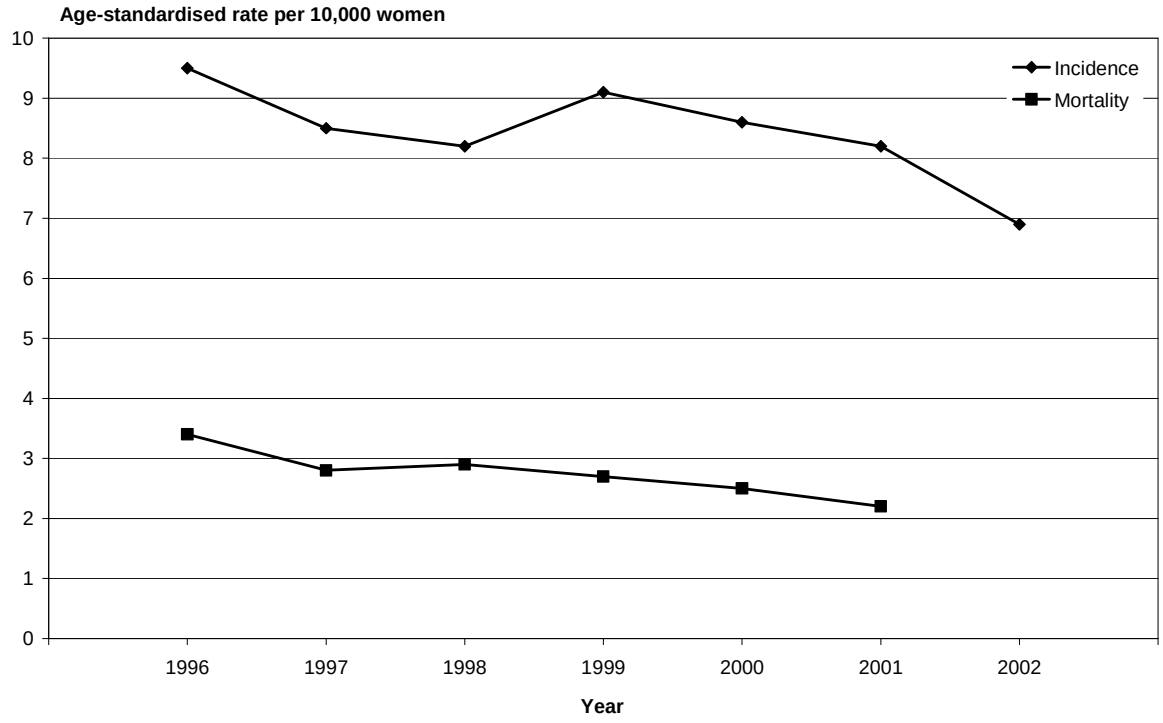
Overall, both the annual number of new cervical cancer cases and the annual number of deaths from cervical cancer have declined. Between 1996 and 2002 age-standardised cervical cancer incidence declined from 9.5 to 6.9 per 100,000 women. From 1998 to 1999, there was a small increase. Between 1996 and 2001 age-standardised cervical cancer mortality declined from 3.4 to 2.2 per 100,000 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 cervical cancer 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). The annual number of deaths from cervical cancer also 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, 1996–2000. Women aged 40–44 years had the highest incidence rate (19.1 per 100,000 women). The incidence rates for women aged 35–39 years, 45–49 years and 65–69 years were almost as high. Between 1996 and 2000, two women aged 15–19 years were registered as having cervical cancer, compared with four for the 1995–99 period.

In general, cervical cancer mortality rates increased with increasing age, with the highest rate being reported among 80–84-year-old women. No women aged less than 20 years 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.

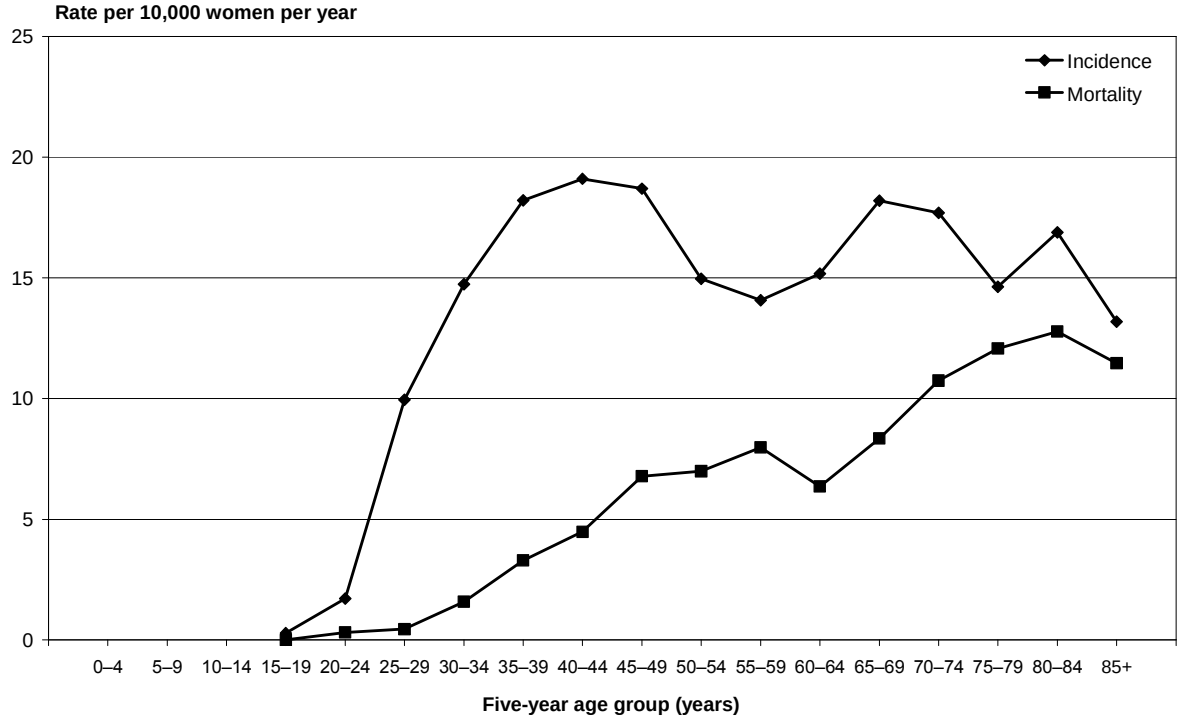
Note: Age-standardised to Segi's World Population.

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 women) by five-year age group, 1996–2000



[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 2002, 1,033,778 women aged 20–69 years were enrolled in the NCSP, an increase of 29,686 women since the end of 2001.

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 (94.9%). Among the NCSP regions enrolment for the hysterectomy adjusted population ranged from 86.5% for the West Coast to 100.0% for Wellington (74.7% and 88.3% respectively, for the unadjusted population).

Participation and coverage were both lower than enrolment. Nationally, participation was 87.5% (76.7% unadjusted) and coverage was 72.2% (63.3% unadjusted). While the targets for participation were not reached nationally, they were achieved in the Wellington, Taranaki and Tairawhiti NCSP regions.

Coverage was 72.2% nationally (63.3% unadjusted), which is slightly less than that reported at 31 December 2001 (72.7% hysterectomy-adjusted and 63.9% unadjusted).[3] The West Coast had the lowest coverage (67.1% hysterectomy-adjusted and 57.9% unadjusted). Taranaki was the only region where the hysterectomy-adjusted target for coverage was almost achieved (82.3%). 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 16 and 17). Overall, enrolment (unadjusted) was above 90% for the 25–44 year age groups and above 100% for the 30–34 year age group. Women aged 65–69 years had the lowest enrolment (55.2%). A similar pattern was observed for each NCSP region and DHB area. In several NCSP regions and DHB areas enrolment (unadjusted) was calculated to be above 100% for 25–29-year-old women and 30–34-year-old women. Women aged 25–29 years in Otago DHB had the highest calculated enrolment (112.5%), followed by women aged 30–34 years in Capital Coast DHB (110.2%). Enrolment was less than 50% for 65–69-year-old women in Canterbury and the West Coast.

Figure 3 shows enrolment, participation and coverage (hysterectomy-adjusted) 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 50.9% for Maori women and 45.1% for Pacific women.

For each ethnic group, enrolment (unadjusted) was highest for Maori women aged 30–34 years (84.3%), Other women aged 30–34 years (105.7%) and Pacific women aged 35–39 years (89.8%) (Appendix 5, Table 18). Enrolment was less than 50% for both Maori and Pacific women aged 60-69 years, and also Pacific women aged 20–24 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 23 and 28). Coverage (unadjusted) was particularly low, less than 40%, for Maori women aged 50–69 years and Pacific women aged 45–69 years.

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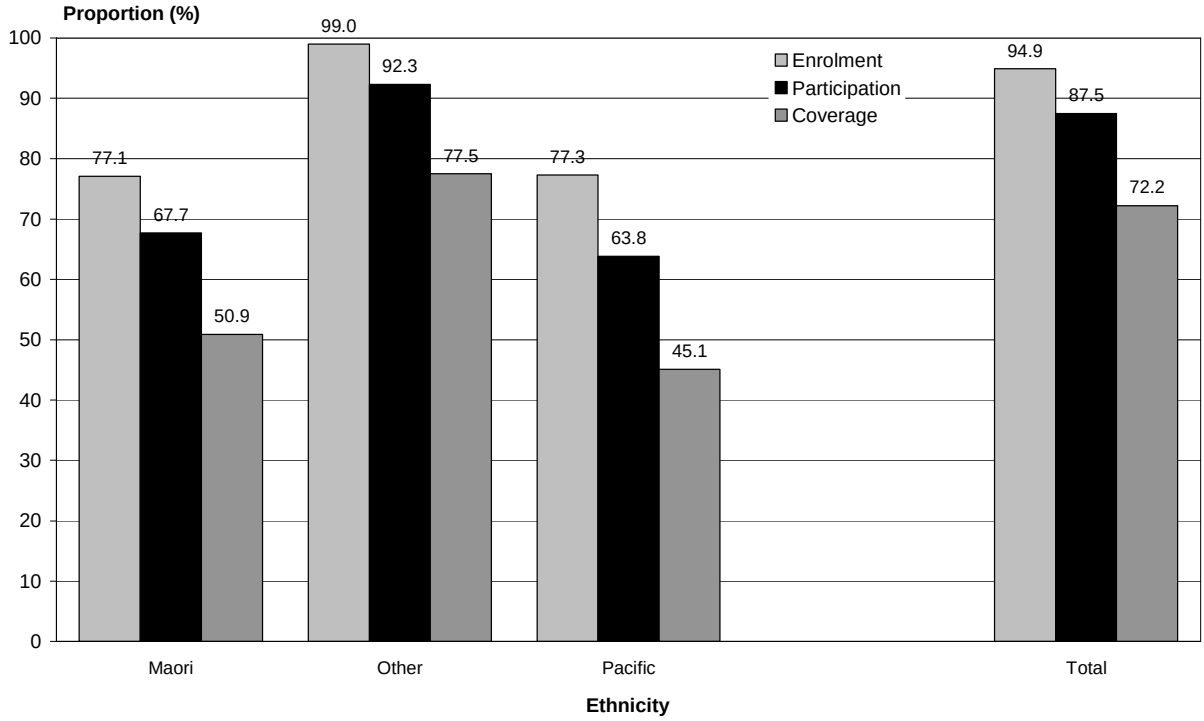
[3] Annual Monitoring Report 2001. National Cervical Screening Programme. April 2004. Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

Enrolment, participation and coverage for 20–69-year-old Maori, Other and Pacific women by NCSP region and DHB area are shown in Tables 19, 20, 24, 25, 29 and 30 (Appendix 5). For each ethnic group, the level of enrolment, participation and coverage varied widely across both the NCSP regions and DHB areas. For example among the NCSP regions, enrolment (unadjusted) for Maori women ranged from 53.2% in Canterbury to 80.8% in Tairawhiti.

Table 2 Enrolment, participation and coverage (hysterectomy-adjusted and unadjusted) for women aged 20–69 years by NCSP region, 2002

NCSP region	Enrolment no target		Participation targets: 90% adjusted 80% unadjusted		Coverage targets: 85% adjusted 80% unadjusted	
Hysterectomy	**Adjusted**	**Unadjusted**	**Adjusted**	**Unadjusted**	**Adjusted**	**Unadjusted**
Auckland	95.0	84.1	85.7	75.9	68.4	60.6
Bay of Plenty	96.7	83.9	89.6	77.7	74.8	64.9
Canterbury	91.8	80.1	86.7	75.7	73.7	64.4
Hawkes Bay	92.1	79.8	86.6	75.0	72.4	62.8
Manawatu/Wanganui	91.5	79.8	84.8	74.0	70.2	61.3
Nelson–Marlborough	91.0	78.6	86.1	74.4	74.2	64.2
Northland	93.1	80.1	84.6	72.8	69.3	59.7
Otago/Southland	93.7	81.9	88.3	77.2	76.0	66.4
Tairawhiti	96.4	84.2	91.8	80.2	73.7	64.3
Taranaki	97.3	84.3	92.8	80.4	82.3	71.2
Waikato	97.7	85.5	89.8	78.6	73.0	63.9
Wellington	100.0	88.3	91.9	81.2	76.3	67.4
West Coast	86.5	74.7	80.7	69.6	67.1	57.9
Total	**94.9**	**83.2**	**87.5**	**76.7**	**72.2**	**63.3**

Figure 3 Enrolment, participation and coverage (hysterectomy-adjusted) for women aged 20–69 years by ethnicity, 2002



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 2002, there were 80,925 non-participating women aged 25–69 years. This was 7.4% of the hysterectomy-adjusted population (6.5% unadjusted).

For women aged 25–69 years at 31 December 2002, 61,433 had not had a smear result recorded on the NCSP Register during the six years to 31 December 2001. Of these 61,433 women, 6705 (10.9%) had a smear result recorded on the register during 2002.

Table 3 shows the non-participation and re-participation rates for women aged 25–69 years for each NCSP region. Non-participation was lowest in Taranaki (4.5% hysterectomy-adjusted) and highest in Auckland (9.3% hysterectomy-adjusted). Unadjusted non-participation rates were also above 8% in Northland (8.5%) and Wellington (8.1%). Re-participation across the NCSP regions ranged from 9.5% in Auckland to 16.6% in Taranaki.

The non-participation and re-participation rates for each DHB area are shown in Table 4. These results are similar to those shown in Table 3. Auckland and Counties Manukau had high levels of non-participation, above 9% (hysterectomy-adjusted), compared with the other DHB areas.

Table 5 shows non-participation and re-participation rates for Maori, Other and Pacific women. Pacific women had the highest non-participation rates (13.4% hysterectomy-adjusted) and the lowest re-participation rate (7.9%). Re-participation rates were similar for Maori (11.5%) and Other (11.2%) women.

Overall, re-participation rates for the five-year age groups varied considerably among the NCSP regions and DHB areas (Appendix 5, Tables 31 and 32). 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 33). Compared with these two groups, re-participation rates for the five-year age groups were lower for Pacific women.

Table 3 Non-participation rates (%) and re-participation rates (%) by NCSP region, 2002 [no targets]

NCSP region	Non-participation†		Re-participation‡	
	Rate (%)	Rate (%)	Rate (%)	Number of re-participants
Hysterectomy	**Adjusted**	**Unadjusted**		
Auckland	9.3	8.2	9.5	2359
Bay of Plenty	7.1	6.2	11.9	495
Canterbury	5.1	4.4	16.0	912
Hawkes Bay	5.5	4.8	13.9	231
Manawatu/Wanganui	6.6	5.8	10.7	334
Nelson–Marlborough	4.9	4.3	14.5	204
Northland	8.5	7.3	11.8	305
Otago/Southland	5.4	4.7	10.7	354
Tairawhiti	4.6	4.0	16.4	66
Taranaki	4.5	3.9	16.6	167
Waikato	7.9	6.9	10.0	508
Wellington	8.1	7.1	9.5	729
West Coast	5.8	5.0	10.8	41
Total	**7.4**	**6.5**	**10.9**	**6705**

† Women aged 25–69 years included.

‡ Women aged 20–69 years included.

Table 4 Non-participation rates (%) and re-participation rates (%) by DHB area, 2002 [no targets]

NCSP region	Non-participation†		Re-participation‡	
	Rate (%)	Rate (%)	Rate (%)	Number of re-participants
Hysterectomy	**Adjusted**	**Unadjusted**		
Auckland	9.8	8.8	8.2	710
Bay of Plenty	6.2	5.3	13.9	332
Canterbury	4.8	4.2	16.6	802
Capital Coast	8.1	7.2	9.1	441
Counties Manukau	9.7	8.6	9.2	740
Hawkes Bay	5.5	4.8	13.9	231
Hutt Valley	7.9	6.9	9.0	195
Lakes	8.1	7.1	9.6	158
MidCentral	6.1	5.3	10.3	199
Nelson-Marlborough	4.9	4.3	14.5	204
Northland	8.5	7.3	11.8	305
Otago	5.2	4.5	9.4	184
South Canterbury	4.6	4.0	19.5	105
Southland	5.7	5.0	12.5	170
Tairawhiti	4.6	4.0	16.4	66
Taranaki	4.5	3.9	16.6	167
Waikato	7.6	6.7	10.0	508
Wairarapa	5.6	4.8	17.5	83
Waitemata	7.8	6.8	11.6	888
West Coast	5.8	5.0	10.8	41
Whanganui	7.4	6.4	13.5	127
Unspecified DHB*			3.3	49
Total	**7.4**	**6.5**	**10.9**	**6705**

† Women aged 25–69 years included.

‡ Women aged 20–69 years included.

* For 49 women the DHB area was not specified (see Methods section). These women are included in the totals.

Table 5 Non-participation rates (%) and re-participation rates (%) by ethnicity, 2002 [no targets]

NCSP region	Non-participation†		Re-participation‡	
	Rate (%)	Rate (%)	Rate (%)	Number of re-participants
Hysterectomy	**Adjusted**	**Unadjusted**		
Maori	9.4	8.5	11.5	1207
Other	6.7	5.8	11.2	5030
Pacific	13.4	12.2	7.9	468
Total	**7.4**	**6.5**	**10.9**	**6705**

† 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 result[4] 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, about 75% of 20–69-year-old women with a high grade cytology result had histology taken within 12 weeks of their smear and 90% within 52 weeks of their smear. Neither of the two targets were reached by any group and there was little change in the results for follow-up of women with HSIL cytology reported in the quarterly reports during 2002.

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 about 15% more than for both Maori and Pacific women.

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. There was little difference between the results for each reporting quarter and the target was not reached. While a higher proportion of Other women had histology within 52 weeks compared with Maori and Pacific women, this difference was much less than that for the 12-week follow-up period.

[4] 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 6. 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. These proportions were consistently lowest for Bay of Plenty at about 45% and highest for both Otago and the West Coast at 84% or more. Over the four reporting periods the proportion of women with a high grade smear who had histology within 12 weeks declined in Tairawhiti from 93% to 79% and improved in Northland from 74.9% to 83.9%. There was little change in the other NCSP regions.

Except for Bay of Plenty the proportion of women in each region who had a high grade smear results with a subsequent histology specimen taken within 52 weeks was about 90% or more. In Bay of Plenty this proportion was between 76% and 80%.

Overall, the proportion of women who did not have any histology recorded on the NCSP Register following their high grade smear decreased slightly over the four reporting periods from 8.3% to 7.6%. While there was a consistent slight decrease in the proportion of Other women with no histology (from 7.6% to 6.8%), this was not observed for Maori or Pacific women. There was little change for Maori women (from 11.1% to 10.8%) and an overall increase for Pacific women (from 13.6% to 15.6%). Of all the NCSP Regions, Bay of Plenty clearly had the highest proportion of women (about 20%) with no histology recorded (Table 7).

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, 2002 [target = 90%]

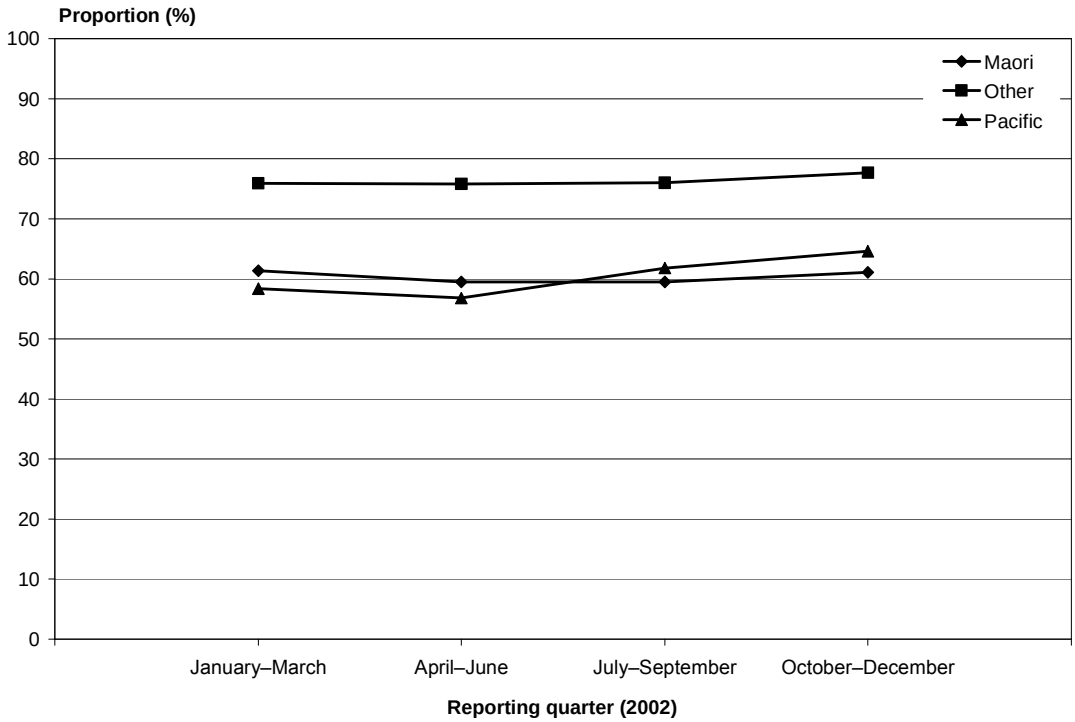


Figure 5 Proportion (%) of women with a histology report within 52 weeks of an ASCUS possible high grade or HSIL cytology result by ethnicity and reporting quarter, 2002 [target = 99%]

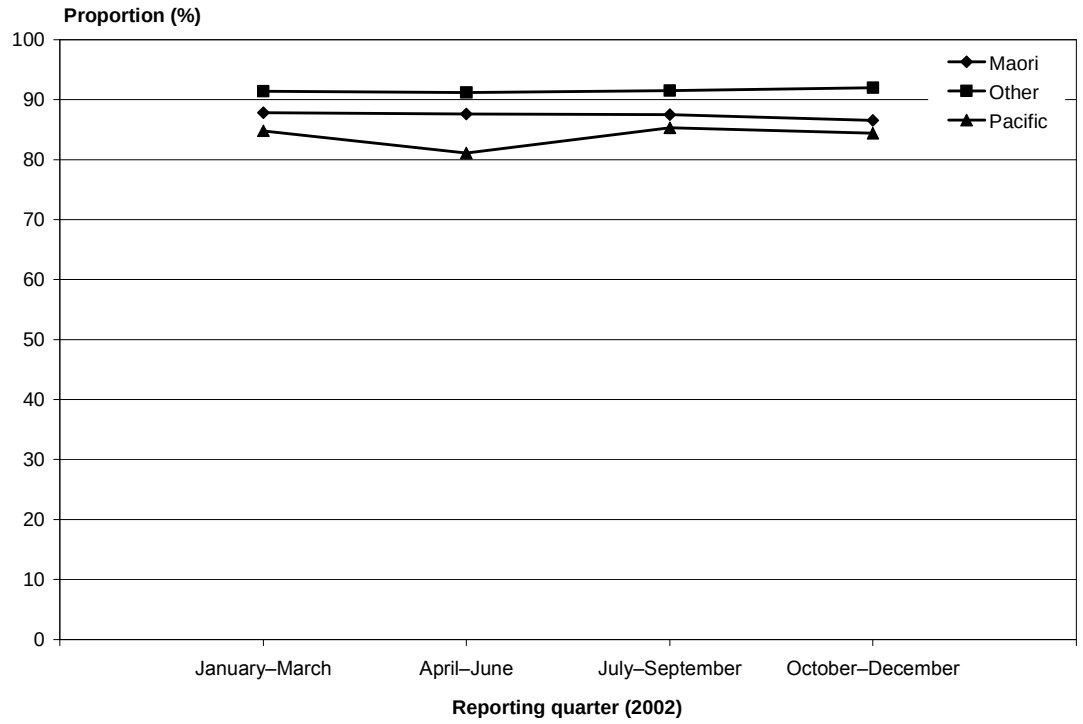


Table 6 Proportion (%) of women with a histology report within 12 weeks and within 52 weeks of an ASCUS possible high grade or HSIL cytology result by NCSP region and reporting quarter, 2002

NCSP region	Within 12 weeks				Within 52 weeks				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	75.9	75.8	76.3	78.0	92.1	91.9	92.0	91.3	6.9	6.9	7.0	7.3
Bay of Plenty	44.1	44.9	44.8	48.0	75.9	77.5	79.0	79.6	22.1	20.4	18.9	17.6
Canterbury	81.4	81.2	82.5	83.7	93.4	93.2	93.6	93.6	5.6	5.4	5.3	5.3
Hawkes Bay	74.7	74.7	73.9	76.8	94.1	94.6	94.6	93.5	5.4	4.3	4.9	5.4
Manawatu/Wanganui	79.6	78.2	77.4	77.6	91.4	91.3	90.5	90.1	8.7	8.4	8.6	8.4
Nelson–Marlborough	66.3	69.0	65.5	69.1	97.1	95.8	95.9	96.4	2.3	3.0	2.7	2.2
Northland	74.9	76.5	79.1	83.9	94.9	95.1	97.2	95.8	3.4	3.8	2.7	4.2
Otago	86.1	88.9	86.6	89.0	96.9	96.5	95.7	97.5	2.9	1.6	1.7	1.5
Southland	79.7	77.9	80.5	85.7	94.7	93.1	92.4	92.1	3.8	5.3	5.9	6.3
Tairawhiti	93.2	86.2	80.0	78.7	98.6	96.5	94.0	95.7	1.4	3.4	4.0	4.3
Taranaki	78.6	82.9	80.6	78.3	94.1	94.3	93.1	93.4	6.0	5.1	6.9	6.6
Waikato	82.1	79.6	79.3	77.4	94.8	93.8	94.4	94.4	4.1	5.1	4.6	4.6
Wellington	72.4	73.3	75.2	77.0	89.8	89.1	89.2	91.7	9.0	9.5	9.2	6.2
West Coast	92.6	85.7	89.7	83.8	96.3	92.9	93.1	97.3	3.7	7.1	6.9	2.7
Total	**73.3**	**72.7**	**73.0**	**74.8**	**90.6**	**90.5**	**90.8**	**91.0**	**8.3**	**8.3**	**8.0**	**7.6**

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 HSIL[5] 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 cervix[6]

(k) cancer not otherwise specified

(l) invasive squamous carcinoma of the cervix.

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[5] 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.

[6] Adenocarcinoma of the cervix includes adenocarcinoma not otherwise specified, adenocarcinoma probably of endocervical origin, adenocarcinoma probably of endometrial origin and adenocarcinoma probably of extra uterine origin.

Targets

There are no targets.

Results

During 2002 the results of 414,415 satisfactory or satisfactory but limited smears taken from 389,246 women were recorded on the NCSP Register.

Age-specific and age-standardised smear reporting rates for specified cytological result categories are shown in Table 7. The age-standardised reporting rate for women aged 20–69 years for a negative smear was 937.3 per 1000 women screened. Within the target age, the age-specific reporting rate for a negative smear ranged from 866.3 per 1000 for women aged 20–24 years to 978.9 per 1000 for women aged 65–69 years. Outside the target age, the age-specific reporting rates for a negative smear were 823.3 and 928.1 per 1000 women for women younger than 20 years of age and older than 85 years respectively.

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, 25.3 per 1000 women and 24.6 per 1000 women, respectively. For both these low grade abnormalities the less than 20 year age group had the highest age-specific rates, which was particularly high for LSIL (106.1 per 1000 women). Generally, age-specific rates for both ASCUS and LSIL declined with increasing age until the 70–74 year age group when the rates increased slightly, then declined again from 15.9 per 1000 women aged 70–74 years for ASCUS and from 14.4 per 1000 women aged 75–79 years for LSIL.

The age-standardised HSIL cytology rate for 20–69-year-old women was 9.7 per 1000 women. Women aged 20–24 had the highest age-specific HSIL cytology rate (19.0 per 1000 women), followed by women aged 25–29 years and 80–84 years (18.1 per 1000 women). Age-specific HSIL reporting rates declined with increasing age between the 20–24 and 65–69 year age groups.

The age-standardised cervical squamous carcinoma cytology rate for 20–69-year-old women was 0.11 per 1000 women. Age-specific cervical squamous carcinoma cytology rates increased with increasing age from no cervical squamous carcinoma cytology reported among women aged less than 20 years to 21.6 per 1000 women among the 85 years and older age group. There was also no cervical squamous carcinoma cytology reported among women aged 30–34 years.

Table 8 shows the age-standardised reported smear results per 1000 women screened 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 8.1 per 1000 women in Otago/Southland to 58.3 per 1000 women in the Bay of Plenty. Northland had the highest age-standardised HSIL cytology rate (13.4 per 1000 women), which was twice that for the West Coast (6.5 per 1000 women). Cervical squamous carcinoma cytology was reported more frequently in Taranaki (0.3 per 1000 women), Manawatu/Wanganui (0.3 per 1000 women) and Hawkes Bay (0.2 per 1000 women) compared with the other NCSP regions. Cervical squamous carcinoma cytology was not reported in Tairawhiti and the West Coast.

Table 9 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 rate (0.3 per 1000 women) compared with Maori and Other women (0.3 and 0.1, respectively).

Table 7 Reported smear results by cytological result category per 1000 women screened by five-year age group, 2002

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	823.3	866.3	907.6	934.5	946.6	952.2	955.3	965.2	974.1	977.3	978.9	964.1	941.2	936.8	928.1	937.3
AGUS favour reactive	0.1	0.4	0.6	0.8	0.7	0.7	1.4	1.4	0.7	0.7	0.7	1.7	3.3	3.0	7.2	0.8
AGUS favour dysplasia	0.0	0.1	0.2	0.1	0.2	0.0	0.3	0.2	0.0	0.3	0.2	1.4	4.4	6.0	0.0	0.2
ASCUS‡	53.5	43.9	31.1	25.0	23.6	25.1	23.9	19.4	14.5	11.8	9.8	15.9	14.4	9.0	0.0	25.3
LSIL	106.1	68.3	39.3	23.8	18.0	13.7	13.0	8.7	6.1	5.2	5.9	7.6	14.4	3.0	7.2	24.6
ASCUS possible high grade	1.6	2.0	2.7	1.9	1.9	1.4	1.1	1.1	1.4	1.1	1.0	2.4	4.4	6.0	7.2	1.7
HSIL	15.4	19.0	18.1	13.5	8.8	6.5	4.6	3.6	2.9	2.9	2.4	2.8	5.5	18.1	14.4	9.74
Squamous carcinoma of cervix	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.4	1.1	3.3	6.0	21.6	0.11
Number of women	**16,051**	**41,955**	**44,715**	**53,611**	**52,394**	**50,113**	**40,145**	**32,678**	**23,791**	**17,742**	**11,784**	**2,895**	**901**	**332**	**139**	**368,928**

* 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.

The number of women in these five-year age groups was small (HSIL: 80–84 years – 6 and ≥ 85 years – 2; squamous carcinoma of cervix: ≥85 years – 3).

Table 8 Age-standardised* reported smear results per 1000 women screened aged 20–69 years by NCSP region, 2002

Category of cytology result*	NCSP region													ASR† target age 20–69 years
	Auckland	Bay of Plenty	Canterbury	Hawkes Bay	Manawatu/ Wanganui	Nelson/ Marlborough	Northland	Otago/ Southland	Tairawhiti	Taranaki	Waikato	Wellington	West Coast	
Negative for dysplasia or malignancy	953.0	895.4	943.1	944.5	924.9	923.8	940.6	955.0	917.7	920.2	916.8	929.7	943.3	937.3
AGUS favour reactive	0.4	2.1	1.0	0.6	0.6	1.1	0.7	0.3	0.0	0.9	0.8	0.8	1.9	0.8
AGUS favour dysplasia	0.0	0.2	0.2	0.3	0.6	0.2	0.0	0.2	0.6	0.1	0.2	0.2	0.4	0.2
ASCUS‡	16.2	58.3	24.5	14.8	24.8	36.9	18.7	8.1	34.1	32.2	38.0	31.6	23.4	25.3
LSIL	19.8	30.7	19.5	25.4	34.7	24.9	24.1	21.9	38.7	33.0	35.0	26.2	20.7	24.6
ASCUS possible high grade	1.4	1.4	2.4	1.3	2.6	2.6	2.1	1.8	0.4	0.9	1.4	1.7	3.5	1.7
HSIL	8.9	11.8	8.7	12.2	11.2	10.3	13.4	11.9	8.0	12.5	7.6	9.7	6.5	9.7
Squamous carcinoma of cervix	0.1	0.0	0.1	0.2	0.3	0.1	0.1	0.1	0.0	0.3	0.2	0.0	0.0	0.1
Number of women	**119,697**	**28,192**	**46,667**	**12,474**	**19,485**	**11,852**	**11,690**	**26,444**	**4,409**	**11,061**	**29,297**	**45,240**	**2,420**	**368,928**

* 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 9 Age-standardised† reported smear results per 1000 women screened aged 20–69 years by ethnicity, 2002

Category of cytology result*	Ethnicity			
	Maori	Other	Pacific	Total
Negative for dysplasia or malignancy	914.4	939.6	946.1	937.3
AGUS favour reactive	1.1	0.8	1.0	0.8
AGUS favour dysplasia	0.1	0.2	0.5	0.2
ASCUS‡	34.1	24.5	20.5	25.3
LSIL	32.6	23.8	20.8	24.6
ASCUS possible high grade	2.0	1.7	1.9	1.7
HSIL	15.0	9.2	8.4	9.7
Squamous carcinoma of cervix	0.3	0.1	0.3	0.1
Number of women	**32,714**	**324,669**	**11,545**	**368,928**

* 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 sued 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 2002 projected population 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.

Targets

There are no targets.

Results

The results of cervical histology specimens taken from 21,560 women during 2002 were recorded on the NCSP Register. The most common histology results for these women were normal (4158), other non-neoplastic (4471) and HSIL (4123). A histological diagnosis of invasive squamous carcinoma was reported for 141 women and 93 women had a histological diagnosis of invasive adenocarcinoma of the cervix.

The age-specific and the age-standardised histology reporting rates for 2002 are shown in Table 10. 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 48).

The age-standardised atypia/HPV and LSIL histology reporting rates were similar, 24.2 per 10,000 women and 28.8 per 10,000 women, respectively. Both these abnormalities were more common in the young age groups with the 20–24 year age group having the highest rates (40.4 per 10,000 women for atypia/HPV and 59.6 per 10,000 women for LSIL). Both these low grade abnormalities decreased with increasing age (5.3 per 10,000 for atypia/HPV and 2.6 per 10,000 for LSIL for women aged 65–69 years) (Table 10 and Figure 6).

The age-standardised HSIL histology reporting rate was 34.9 per 10,000 women. Age-specific HSIL histology reporting rates were high for women aged 20–24 years (71.4 per 10,000 women) and 25–29 years (75.1 per 10,000 women). Women outside the target age range (aged 85 years and older) had the lowest HSIL reporting rates (0.6 per 10,000 women).

The histology for 141 women was reported as microinvasive or invasive cervical squamous carcinoma. Most of these women (82%) were reported as having invasive carcinoma. The age-standardised histology reporting rate for women aged 20–69 years for these two abnormalities combined was 1.0 per 10,000 women. Women aged 30–54 years had the highest age-specific histology reporting rates, ranging from 1.2 to 1.6 per 10,000 women. No women aged less than 20 years had a cervical squamous carcinoma histology report during 2002.

The age-standardised adenocarcinoma-in-situ reporting rate for 20–69-year-old women was 0.9 per 10,000 women. Women aged 25–29 years had the highest age-specific reporting rate (2.3 per 10,000) followed by women aged 30–34 years (1.9 per 10,000).

Table 11 shows the age-standardised histology reporting rates for 20–69-year-old women by NCSP region. The rates for the different histological categories varied among the NCSP regions. The reporting rate for normal cervical histology was much higher in Tairawhiti (69.4 per 10,000 women) compared with the other NCSP regions. The age-standardised atypia/HPV histology reporting rate was low in both Otago/Southland (5.6 per 10,000 women) and Hawkes Bay (7.0 per 10,000 women) and Tairawhiti had the highest rate (96.4 per 10,000 women).

Taranaki had the highest age-standardised LSIL and HSIL reporting rates per 10,000 women, 79.6 and 66.4 per 10,000 respectively. Hawkes Bay had the lowest LSIL reporting rate (9.3 per 10,000 women) and Auckland had the lowest HSIL reporting rate (25.6 per 10,000 women). The age-standardised rate for invasive squamous carcinoma was highest in Manawatu/Wanganui (1.2 per 10,000 women), while Hawkes Bay had the highest adenocarcinoma-in-situ rate (2.1 per 10,000 women) and Tairawhiti the highest invasive adenocarcinoma rate (1.3 per 10,000 women).

Table 12 shows the age-standardised histology reporting rates for women aged 20–69 years by ethnicity. Other women had the highest rates for most histological categories. Maori women had the highest age-standardised invasive and micro-invasive squamous carcinoma combined, and invasive adenocarcinoma reporting rates, 1.7 and 0.9 per 10,000 women, respectively. The age-standardised invasive and micro-invasive squamous carcinoma combined reporting rates for Other women and Pacific women were similar, and about half the rate for Maori women.

Table 10 Annual age-specific and age-standardised histology reporting rates per 10,000 women, 2002

Category of histology 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	
Normal	0.9	18.8	24.4	29.4	33.0	43.9	50.8	35.6	25.6	19.5	17.7	17.5	9.5	9.0	3.4	30.3
Other non-neoplastic	1.6	24.1	31.8	32.5	35.4	45.0	47.3	40.6	27.9	22.8	14.1	12.5	9.9	8.2	3.2	33.1
Polyp	0.1	1.0	2.6	5.8	11.2	19.7	25.6	29.9	22.5	15.4	9.2	4.7	3.1	2.6	0.3	13.0
Atypia/HPV	2.7	40.4	40.3	27.3	25.7	22.92	20.34	12.3	7.8	6.2	5.3	2.1	1.1	0.0	0.0	24.2
LSIL	4.1	59.6	50.7	34.5	25.6	23.4	18.6	12.0	7.2	5.6	2.6	1.3	0.9	0.0	0.0	28.8
HSIL	3.6	71.4	75.1	51.0	33.7	19.7	11.8	7.0	5.8	5.2	3.2	1.4	0.7	1.3	0.6	34.9
Micro-invasive squamous carcinoma*	0.0	0.1	0.2	0.5	0.5	0.3	0.1	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2
Invasive squamous carcinoma	0.0	0.2	0.2	0.9	1.0	1.0	1.5	1.0	0.8	0.5	0.6	1.0	0.7	1.0	0.9	0.7
Invasive and micro-invasive squamous carcinoma*	0.0	0.3	0.3	1.4	1.4	1.2	1.6	1.2	0.8	0.5	0.7	1.0	0.7	1.0	0.9	1.0
Adenocarcinoma-in-situ	0.1	0.5	2.3	1.9	0.8	0.5	0.5	0.3	0.0	0.1	0.7	0.2	0.2	0.0	0.0	0.9
Invasive adenocarcinoma	0.0	0.0	0.2	0.1	0.6	0.3	0.8	0.7	0.8	0.9	1.6	1.4	1.7	1.5	0.6	0.5
Number of women	**744**	**2856**	**2957**	**2834**	**2639**	**2791**	**2423**	**1729**	**995**	**655**	**383**	**271**	**155**	**96**	**32**	**21,560**

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

* Number of histology specimens reported was too small to calculate meaningful age-standardised rates.

Figure 6 Age-specific histology reporting rates per 10,000 women for atypia/HPV, LSIL and HSIL, 2002

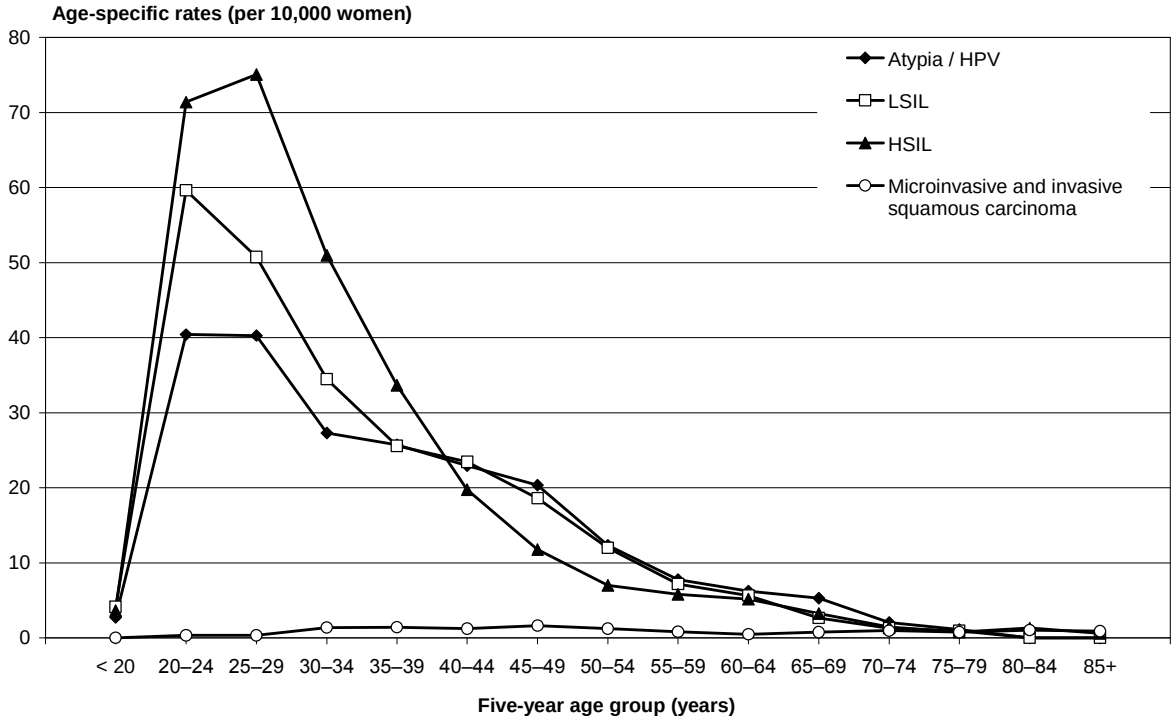


Table 11 Age-standardised† histology rates per 10,000 women aged 20–69 years by NCSP region, 2002

Category of histology result	NCSP region													Total
	Auckland	Bay of Plenty	Canterbury	Hawkes Bay	Manawatu/ Wanganui	Nelson/ Marlborough	Northland	Otago/ Southland	Tairawhiti	Taranaki	Waikato	Wellington	West Coast	
Normal	30.2	28.0	26.5	49.0	43.0	22.1	16.6	31.8	69.4	27.2	40.1	22.3	34.5	30.4
Other non-neoplastic	32.6	41.6	24.7	44.8	24.1	42.0	41.6	23.7	35.5	17.3	60.7	27.3	36.7	33.2
Polyp	14.6	4.8	14.3	5.8	20.6	13.8	16.8	13.9	15.5	20.6	3.3	14.0	11.6	13.0
Atypia/HPV	24.4	37.3	15.5	7.0	59.1	23.4	24.6	5.6	96.4	34.4	37.4	10.1	14.3	24.2
LSIL	18.6	62.7	29.4	9.3	11.31	33.1	17.4	29.3	17.9	79.6	47.6	32.2	39.4	28.8
HSIL	25.6	50.8	33.4	45.2	37.5	53.1	48.7	48.3	45.7	66.4	32.5	32.2	27.9	34.9
Microinvasive squamous carcinoma*	0.1	0.1	0.4	0.0	0.1	0.4	0.4	0.2	0.0	0.0	0.3	0.3	0.0	0.2
Invasive squamous carcinoma*	0.9	0.9	0.4	1.0	1.2	0.9	0.2	0.7	0.0	0.8	0.5	0.5	0.0	0.7
Adenocarcinoma -in-situ	0.9	0.3	1.3	2.1	1.4	0.9	1.3	0.8	0.7	0.0	0.7	0.4	0.0	0.9
Invasive adenocarcinoma	0.6	0.7	0.5	0.4	0.1	0.6	0.6	0.9	1.3	0.8	0.3	0.1	0.0	0.5
Number of women	**6164**	**1856**	**2195**	**690**	**1328**	**683**	**676**	**1310**	**361**	**724**	**2144**	**1985**	**146**	**20,262**

† Rates were standardised to Segi's world population.

* Number of histology specimens reported was too small to calculate meaningful age-standardised rates.

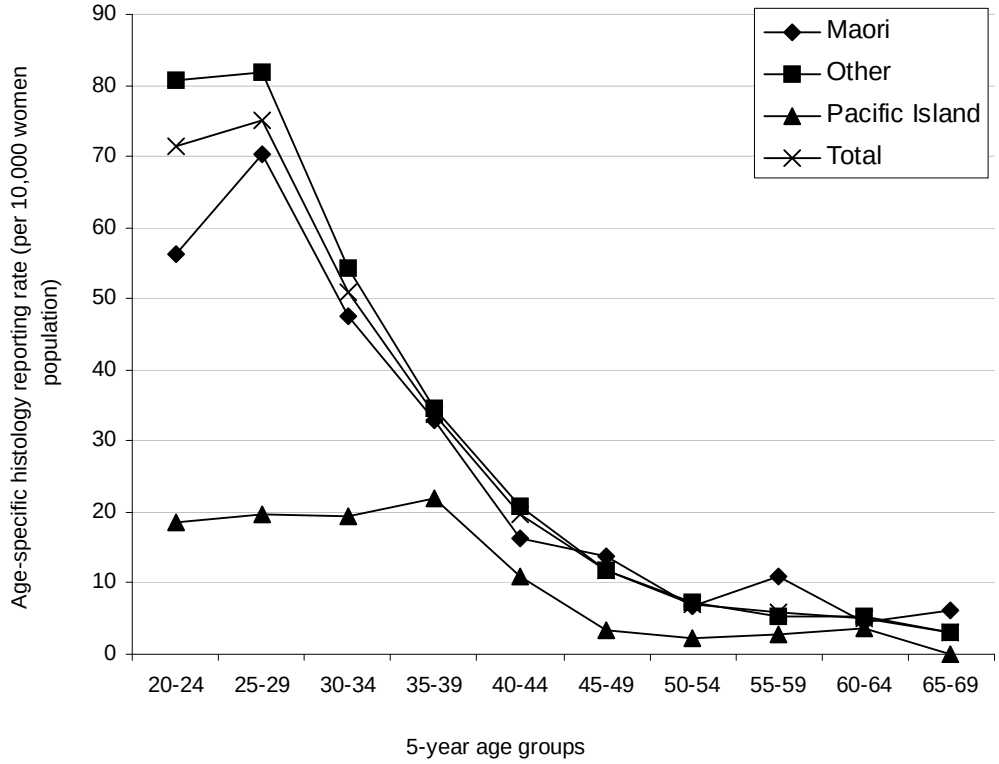
Table 12 Annual age-standardised† histology rates per 10,000 women for women aged 20–69 years by ethnicity, 2002

Category of histology result	Ethnicity			
	Maori	Other	Pacific	Total
Normal	19.5	33.4	12.8	30.4
Other non-neoplastic	24.2	36.1	13.6	33.2
Polyp	8.3	14.0	6.3	13.1
Atypia/HPV	20.3	26.2	9.9	24.2
LSIL	25.2	31.3	11.4	28.8
HSIL	32.0	37.8	12.1	34.9
Microinvasive squamous carcinoma*	0.4	0.2	0.2	0.2
Invasive squamous carcinoma	1.3	0.7	0.7	0.7
Adenocarcinoma-in-situ	0.6	1.0	0.3	0.9
Invasive adenocarcinoma	0.9	0.5	0.8	0.5
Number of women	**2,262**	**17,559**	**441**	**20,262**

† Rates were standardised to Segi's world population.

* Number of histology specimens reported was too small to calculate meaningful age-standardised rates.

Figure 7 HSIL age-specific histology reporting rates per 10,000 women aged 20–69 years by ethnicity, 2002



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 13 shows the proportion of satisfactory and satisfactory but limited smears reported during 2002 in broad cytological categories by laboratory. Two hospital-based laboratories and 11 community-based laboratories reported smears.

Overall, the results of 413,584 satisfactory or satisfactory but limited smears reported by laboratories were recorded on the NCSP Register during 2002. Both hospital-based laboratories read fewer smears (less than 10,000) than the community-based laboratories. Diagnostic Medlab Auckland read the greatest number of smears (119,906).

Of the 413,584 smears, 92.7% were reported as negative for dysplasia or malignancy. This was within the target of not more than 96%. Each laboratory met the target, but there was variation among the laboratories, ranging from 80.1% for Auckland Hospital Laboratory to 95.4% for Diagnostic Medlab Auckland.

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 7.3%, which did not exceed the target of 10%. Among the laboratories, both hospital-based laboratories and three community-based laboratories reported more than 10% of smears as abnormal: Auckland Hospital Laboratory (19.9%), Canterbury Health Laboratories (14.5%), Medical Laboratory Wellington (10.4%), Medlab Bay of Plenty (11.6%) and Medlab Hamilton (10.2%). However, the proportion of total abnormalities reported each quarter declined from above the target to less than 10% for both Medlab Bay of Plenty and Pathlab Waikato during 2002 (Table 14). The reverse was observed for both Medical Laboratory Wellington and Medlab Hamilton, whose total abnormalities reported were 10.2% and 11.1%, respectively, for the October to December 2002 quarter.

Table 13 Proportion (%) of satisfactory and satisfactory but limited smears in broad cytological categories by laboratory, 2002

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	80.1	7.9	5.6	0.3	0.1	0.9	5.9	19.9	9,654
Canterbury Health Laboratories	85.5	6.0	5.4	0.2	0.1	0.3	2.7	14.5	5,409
Community-based									
Diagnostic Medlab Auckland	95.4	1.8	2.0	0.0	0.0	0.1	0.7	4.6	119,906
Medical Laboratory Wellington	89.7	5.7	3.4	0.1	0.0	0.3	1.0	10.4	32,416
Medlab Bay of Plenty	88.4	7.0	3.2	0.2	0.0	0.1	1.1	11.6	28,795
Medlab Central, Palmerston North	91.8	3.0	3.9	0.1	0.1	0.3	1.1	8.2	30,876
Medlab Hamilton	89.8	4.2	5.1	0.1	0.0	0.1	0.8	10.2	29,386
Medlab South Christchurch	93.1	3.3	2.4	0.2	0.0	0.3	0.9	6.9	41,579
Pathlab Waikato	91.2	5.6	2.1	0.1	0.0	0.3	0.9	8.8	10,763
SCL, Christchurch	95.3	2.0	1.9	0.1	0.0	0.1	0.7	4.7	23,231
SCL, Dunedin	95.4	0.4	2.8	0.0	0.0	0.2	1.3	4.6	44,229
Taranaki Medlab	91.8	3.5	3.6	0.1	0.0	0.1	1.1	8.3	21,677
Valley Diagnostic Laboratory	94.6	1.5	2.7	0.0	0.0	0.1	1.2	5.4	15,663
Total	**92.7**	**3.1**	**2.9**	**0.1**	**0.0**	**0.2**	**1.1**	**7.3**	**413,584**

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

Table 14 Proportion (%) of satisfactory or satisfactory but limited smears in broad cytological categories by laboratory and reporting quarter, 2002

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	80.7	78.7	80.7	80.1	5.1	6.1	5.9	6.5	19.3	21.3	19.3	19.9
Canterbury Health Laboratories	85.6	87.2	85.0	85.1	3.0	2.9	2.4	2.5	14.4	12.8	15.0	14.9
Community-based												
Diagnostic Medlab Auckland	95.5	95.8	95.0	95.0	0.6	0.6	0.9	0.81	4.5	4.2	5.0	5.0
Medical Laboratory Wellington	90.1	90.8	87.9	89.8	1.0	1.1	1.4	0.8	9.9	9.2	12.1	10.2
Medlab Bay of Plenty	87.5	87.2	88.2	90.9	1.1	1.3	1.2	1.0	12.5	12.8	11.8	9.1
Medlab Central, Palmerston North	92.2	91.7	91.4	91.7	0.9	1.4	1.0	1.3	7.8	8.3	8.6	8.3
Medlab Hamilton	90.1	91.3	88.9	88.9	1.0	0.8	0.6	0.8	9.9	8.7	11.2	11.1
Medlab South Christchurch	92.7	93.3	92.5	93.9	0.9	0.8	1.1	0.8	7.3	6.7	7.5	6.1
Pathlab Waikato	89.3	91.4	91.7	92.5	0.9	0.7	1.0	1.1	10.7	8.6	8.3	7.5
SCL, Christchurch	95.0	95.7	95.6	94.6	0.8	0.7	0.4	0.9	5.1	4.3	4.4	5.4
SCL, Dunedin	95.4	95.9	95.0	94.9	1.2	1.2	1.3	1.5	4.6	4.1	5.0	5.1
Taranaki Medlab	90.5	91.6	91.9	92.8	1.5	1.1	0.7	1.0	9.5	8.5	8.1	7.2
Valley Diagnostic Laboratory	94.7	94.8	94.7	94.8	1.0	1.0	1.4	1.0	5.3	5.2	5.3	5.2
Total	**92.7**	**93.1**	**92.3**	**92.8**	**1.0**	**1.1**	**1.1**	**1.1**	**7.3**	**6.9**	**7.7**	**7.2**

† 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 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 2001 and 30 June 2002, 3526 satisfactory smears were reported as HSIL or invasive carcinoma, of which 3164 (89.7%) had a subsequent histology result recorded. Table 15 shows that 74.8% of the 3164 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) slightly exceeded the target range for Medical Southland Laboratory (85.7%) and one laboratory was clearly below the range: Pathlab Waikato (52.0%). Medical Southland Laboratory ceased reporting cervical smears in August 2001 and Pathlab Waikato in 2004.

The number of HSIL or invasive carcinoma smears with follow-up histology varied considerably among the laboratories, ranging from three for Waikato Hospital Laboratory to 600 for Diagnostic Laboratory Auckland. Medical Laboratory Southland also had a small number of HSIL or invasive carcinoma smears with follow-up histology (7). The proportion of HSIL or invasive carcinoma smears with no subsequent histology recorded on the NCSP Register also varied, ranging from none for Waikato Hospital Laboratory to 16.7% for Auckland Hospital Laboratory.

Table 15 Cytology reports predicting HSIL (positive predictive value) by laboratory, 2002 [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	254	74.0	16.7
Canterbury Health Laboratories	90	76.7	13.5
Waikato Hospital Laboratory	3	66.7	0.0
Community-based			
Diagnostic Medlab Auckland	600	78.5	10.8
Medical Laboratory Southland	7	85.7	12.5
Medical Laboratory Wellington	185	71.9	13.6
Medlab Bay of Plenty	275	65.1	12.1
Medlab Central, Palmerston North	262	70.6	8.1
Medlab Hamilton	190	77.4	7.8
Medlab South Christchurch	285	75.4	5.6
Pathlab Waikato	100	52.0	9.1
SCL, Christchurch	172	82.0	5.0
SCL, Dunedin	452	80.8	7.9
Taranaki Medlab	190	77.4	13.6
Valley Diagnostic Laboratory	99	66.7	10.8
Total	**3164**	**74.8**	**10.3**

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 (10 May 2003).
- 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 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, Tairawhiti, 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]

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[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 2002, derived from the 2001 census. These data were tabulated by ethnicity, age, NCSP region and District Health Board area. The projected 2002 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 program.

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 only presented 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]
>
> 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]

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

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

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 abnormal[11] 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 combine 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 women[13] 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."

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[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 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] The Bethesda diagnosis codes were assigned to broad cytological categories (Appendix 2). The hierarchy of broad cytological categories, with increasing severity from (a) to (i) is listed in section 4.11.

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]

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[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 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 was 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: SNOWMED 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 16 Unadjusted proportion (%) of women aged 20–69 years enrolled by five-year age group and NCSP region as at 31 December 2002 [no targets]

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	58.4	93.3	102.1	99.6	94.6	86.8	78.5	72.1	61.8	54.6	84.1	68.4
Bay of Plenty	81.1	101.3	102.2	95.7	92.4	84.1	74.0	68.1	59.2	56.3	83.9	74.8
Canterbury	71.8	100.7	98.5	93.8	88.8	79.8	69.8	64.0	55.0	49.1	80.1	73.7
Hawkes Bay	71.6	97.4	95.4	90.2	87.6	80.3	71.1	67.3	60.8	55.3	79.8	72.4
Manawatu/Wanganui	70.8	98.5	96.8	90.8	88.7	79.9	71.0	64.1	59.7	55.7	79.8	70.2
Nelson–Marlborough	69.4	93.0	95.1	88.9	87.2	80.8	70.0	65.6	59.3	55.7	78.6	74.2
Northland	72.4	97.3	95.7	91.2	89.2	81.4	72.6	67.6	59.7	58.7	80.1	69.3
Otago/Southland	69.2	105.2	99.0	93.3	89.2	83.1	72.8	69.3	62.5	57.6	81.9	76.0
Tairawhiti	80.3	96.0	99.7	92.5	91.5	86.6	76.1	69.6	61.9	59.5	84.2	73.7
Taranaki	81.9	99.5	97.7	92.1	91.8	86.1	72.9	74.1	66.6	62.0	84.3	82.3
Waikato	70.9	107.2	102.6	97.4	93.6	86.7	76.8	70.2	63.8	58.1	85.5	73.0
Wellington	70.7	102.9	108.8	100.8	97.8	89.2	78.0	73.2	64.1	56.0	88.3	76.3
West Coast	67.5	86.1	87.4	87.9	83.0	75.6	67.0	65.1	57.8	47.4	74.7	67.1
Total	**67.2**	**98.4**	**101.2**	**96.4**	**92.4**	**84.5**	**74.9**	**69.4**	**60.9**	**55.2**	**83.2**	**72.2**

Table 17 Unadjusted proportion (%) of women aged 20–69 years enrolled by five-year age group and DHB area as at 31 December 2002 [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	52.7	90.8	105.4	105.0	99.7	89.5	81.4	73.7	61.5	53.4	85.6	95.6
Bay of Plenty	77.5	97.6	98.4	92.8	90.0	81.8	73.0	66.6	57.9	56.4	81.1	93.8
Canterbury	69.5	98.9	97.6	93.0	88.2	79.0	69.1	63.2	54.6	47.8	79.3	90.6
Capital Coast	66.8	101.0	110.2	101.6	98.5	90.3	78.2	71.8	63.1	54.1	88.1	99.2
Counties Manukau	62.1	94.9	100.9	96.2	91.7	83.1	75.9	67.9	59.0	52.5	82.4	93.2
Hawkes Bay	71.6	97.4	95.4	90.2	87.6	80.3	71.1	67.3	60.8	55.3	79.8	92.1
Hutt Valley	72.4	99.4	103.2	97.9	95.0	88.6	76.9	74.5	66.0	59.1	86.8	98.8
Lakes	82.2	102.3	104.2	97.2	94.1	85.7	73.3	68.4	60.6	54.6	85.8	98.0
MidCentral	69.1	99.5	100.0	93.5	92.4	83.8	74.8	66.6	62.0	60.1	82.3	94.1
Nelson-Marlborough	69.4	93.0	95.1	88.9	87.2	80.8	70.0	65.6	59.3	55.7	78.6	91.0
Northland	72.4	97.3	95.7	91.2	89.2	81.4	72.6	67.6	59.7	58.7	80.1	93.1
Otago	67.4	112.1	102.6	97.7	91.4	85.2	74.2	72.7	65.2	58.9	83.7	95.7
South Canterbury	80.6	97.3	90.5	91.6	87.0	80.5	70.6	66.0	55.4	55.7	78.3	91.5
Southland	73.8	95.6	94.1	87.3	85.9	80.0	70.4	63.8	58.3	55.5	79.1	90.6
Tairawhiti	80.3	96.0	99.7	92.5	91.5	86.6	76.1	69.6	61.9	59.5	84.2	96.4
Taranaki	81.9	99.5	97.7	92.1	91.8	86.1	72.9	74.1	66.6	62.0	84.3	97.3
Waikato	68.4	102.6	98.0	93.2	89.6	83.2	73.6	67.6	61.5	55.9	82.0	93.7
Wairarapa	81.1	100.2	91.2	84.8	87.4	74.1	70.2	66.6	57.9	51.7	77.3	90.2
Waitemata	58.9	90.3	96.2	94.6	90.4	85.1	76.2	71.8	62.5	55.7	81.5	92.7
West Coast	67.5	86.1	87.4	87.9	83.0	75.6	67.0	65.1	57.8	47.4	74.7	86.5
Whanganui	79.4	106.1	103.4	99.0	94.1	83.0	73.8	67.5	61.9	54.3	84.1	97.4
Unspecified DHB	1,320	1,803	1,725	1,377	1,141	841	710	589	349	216	10,071	
Total	**67.2**	**98.4**	**101.2**	**96.4**	**92.4**	**84.5**	**74.9**	**69.4**	**60.9**	**55.2**	**83.2**	**72.2**

Table 18 Unadjusted proportion (%) of women aged 20–69 years enrolled by five-year age group and ethnicity as at 31 December 2002 [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	58.0	81.1	84.3	79.2	75.6	66.2	57.4	52.4	47.3	45.4	69.9	77.1
Other	72.2	104.8	105.7	99.9	95.5	87.6	77.2	71.6	62.5	56.5	86.2	99.0
Pacific	41.8	74.9	87.2	89.8	83.2	71.9	63.5	53.6	48.7	40.2	70.2	77.3
Total	**67.2**	**98.4**	**101.2**	**96.4**	**92.4**	**84.5**	**74.9**	**69.4**	**60.9**	**55.2**	**83.2**	**72.2**

Table 19 Unadjusted proportion (%) of women aged 20–69 years enrolled by ethnicity and NCSP region as at 31 December 2002 [no targets]

NCSP region	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	69.3	87.8	72.2	84.1
Bay of Plenty	72.7	88.1	65.4	83.9
Canterbury	53.2	81.9	71.0	80.1
Hawkes Bay	70.7	83.0	61.7	79.8
Manawatu/Wanganui	70.3	81.9	71.0	79.8
Nelson–Marlborough	53.5	80.7	66.0	78.6
Northland	73.9	83.2	51.6	80.1
Otago/Southland	56.0	83.8	72.0	81.9
Tairawhiti	80.8	87.3	73.5	84.2
Taranaki	70.8	86.3	68.1	84.3
Waikato	76.5	88.0	67.3	85.5
Wellington	70.2	92.6	62.9	88.3
West Coast	54.4	76.4	80.0	74.7
Total	**69.9**	**86.2**	**70.2**	**83.2**

Table 20 Unadjusted proportion (%) of women aged 20–69 years enrolled by ethnicity and DHB as at 31 December 2002 [no targets]

DHB area	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	65.9	88.9	74.1	85.6
Bay of Plenty	68.6	84.9	64.1	81.1
Canterbury	52.0	81.1	70.1	79.3
Capital Coast	64.9	93.0	61.3	88.1
Counties Manukau	74.0	86.6	74.0	82.4
Hawkes Bay	70.7	83.0	61.7	79.8
Hutt Valley	75.3	90.5	65.5	86.8
Lakes	76.0	91.0	64.1	85.8
MidCentral	73.8	83.9	71.1	82.3
Nelson-Marlborough	53.5	80.7	66.0	78.6
Northland	73.9	83.2	51.6	80.1
Otago	57.9	85.2	71.2	83.7
South Canterbury	48.1	79.8	70.0	78.3
Southland	54.3	81.4	74.0	79.1
Tairawhiti	80.8	87.3	73.5	84.2
Taranaki	70.8	86.3	68.1	84.3
Waikato	70.4	85.2	66.1	82.0
Wairarapa	66.4	79.1	60.7	77.3
Waitemata	60.9	84.8	63.0	81.5
West Coast	54.4	76.4	80.0	74.7
Whanganui	86.4	83.7	70.9	84.1
Unspecified DHB	1323	8515	233	10,071
Total	**69.9**	**86.2**	**70.2**	**83.2**

B. Participation

Table 21 Unadjusted proportion (%) of women aged 20–69 years participating by five-year age group and NCSP region as at 31 December 2002 [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	57.4	85.5	90.5	88.1	84.2	77.9	70.5	64.9	55.5	48.7	75.9	85.7
Bay of Plenty	79.1	93.4	92.5	87.8	84.8	78.1	68.8	63.5	55.7	52.8	77.7	89.6
Canterbury	71.1	93.8	91.2	88.3	84.0	75.2	66.2	60.6	52.3	46.6	75.7	86.7
Hawkes Bay	70.2	90.3	88.1	84.3	82.0	75.3	67.1	63.7	57.8	52.7	75.0	86.6
Manawatu/Wanganui	69.8	90.5	87.7	82.8	81.1	73.8	66.0	60.3	56.3	52.5	74.0	84.8
Nelson–Marlborough	68.4	87.0	88.2	83.3	82.3	76.6	66.6	62.5	56.7	53.3	74.4	86.1
Northland	70.0	87.7	85.3	81.7	79.8	73.5	67.0	62.3	55.0	54.0	72.8	84.6
Otago/Southland	68.7	97.3	90.4	87.2	84.2	78.3	68.8	65.7	59.3	54.9	77.2	88.3
Tairawhiti	78.9	90.6	92.3	87.3	87.3	83.1	72.8	66.4	59.8	58.2	80.2	91.8
Taranaki	80.9	94.4	91.1	87.4	86.7	82.2	69.4	71.9	64.3	60.4	80.4	92.8
Waikato	69.6	97.7	91.9	88.8	85.0	79.4	70.8	64.8	59.1	54.5	78.6	89.8
Wellington	70.0	95.5	97.6	91.3	88.7	81.5	71.6	67.4	59.0	52.0	81.2	91.9
West Coast	66.0	78.9	81.9	82.1	77.0	70.2	61.8	61.3	54.3	42.7	69.6	80.7
Total	**66.2**	**90.7**	**91.2**	**87.6**	**84.4**	**77.7**	**69.1**	**64.2**	**56.5**	**51.3**	**76.7**	**87.5**

Table 22 Unadjusted proportion (%) of women aged 20–69 years participating by five-year age group and DHB area as at 31 December 2002 [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	51.9	83.2	92.6	91.8	88.0	79.7	72.9	66.4	55.0	46.9	76.8	85.7
Bay of Plenty	75.6	90.2	90.1	86.1	83.2	76.7	68.5	62.9	54.9	53.3	75.7	87.7
Canterbury	68.9	92.5	90.8	87.8	83.6	74.6	65.6	60.0	51.9	45.3	75.1	85.8
Capital Coast	66.3	94.1	98.5	91.6	89.2	82.7	72.0	65.8	57.8	50.0	80.9	91.1
Counties Manukau	60.8	86.5	89.0	84.6	80.7	73.8	67.4	60.9	52.3	46.7	73.8	83.5
Hawkes Bay	70.2	90.3	88.1	84.3	82.0	75.3	67.1	63.7	57.8	52.7	75.0	86.6
Hutt Valley	71.6	91.8	93.4	89.2	86.5	80.7	70.5	68.5	60.9	55.1	79.9	90.9
Lakes	80.2	94.3	93.0	88.1	85.4	78.8	67.2	62.6	56.4	50.4	78.7	89.9
MidCentral	68.2	92.2	91.8	86.1	85.0	78.1	70.2	63.2	58.6	57.0	77.0	88.0
Nelson-Marlborough	68.4	87.0	88.2	83.3	82.3	76.6	66.6	62.5	56.7	53.3	74.4	86.1
Northland	70.0	87.7	85.3	81.7	79.8	73.5	67.0	62.3	55.0	54.0	72.8	84.6
Otago	67.0	102.8	93.6	91.6	86.6	80.7	70.7	69.8	62.2	56.5	79.1	90.5
South Canterbury	79.7	90.7	84.7	86.4	82.8	76.2	67.4	62.5	53.2	53.3	74.3	86.9
Southland	73.0	89.6	86.2	81.1	80.7	74.7	65.7	59.2	54.9	52.3	74.1	84.9
Tairawhiti	78.9	90.6	92.3	87.3	87.3	83.1	72.8	66.4	59.8	58.2	80.2	91.8
Taranaki	80.9	94.4	91.1	87.4	86.7	82.2	69.4	71.9	64.3	60.4	80.4	92.8
Waikato	67.1	93.5	87.8	84.9	81.3	76.1	67.9	62.4	57.0	52.3	75.3	86.1
Wairarapa	80.2	93.3	84.4	79.5	81.1	69.5	65.0	62.9	54.7	48.8	72.5	84.6
Waitemata	58.1	83.5	86.9	85.8	82.2	77.8	69.4	65.1	56.9	50.6	74.6	84.9
West Coast	66.0	78.9	81.9	82.1	77.0	70.2	61.8	61.3	54.3	42.7	69.6	80.7
Whanganui	78.3	98.2	93.4	89.6	86.5	76.2	67.8	62.7	58.7	50.4	77.7	90.0
Unspecified DHB	1,259	1,477	1,257	993	833	626	546	482	285	173	7,931	
Total	**66.2**	**90.7**	**91.2**	**87.6**	**84.4**	**77.7**	**69.1**	**64.2**	**56.5**	**51.3**	**76.7**	**87.5**

Table 23 Unadjusted proportion (%) of women aged 20–69 years participating by five-year age group and ethnicity as at 31 December 2002 [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	56.1	72.6	72.7	67.6	64.1	56.5	49.7	45.6	41.1	40.1	61.4	67.7
Other	71.4	97.4	96.5	92.4	88.6	81.6	71.9	66.8	58.4	52.8	80.3	92.3
Pacific	40.7	66.2	70.9	70.6	64.6	55.8	51.0	43.3	40.3	32.8	58.0	63.8
Total	**66.2**	**90.7**	**91.2**	**87.6**	**84.4**	**77.7**	**69.1**	**64.2**	**56.5**	**51.3**	**76.7**	**87.5**

Table 24 Unadjusted proportion (%) of women aged 20–69 years participating by ethnicity and NCSP region as at 31 December 2002 [target = 80% unadjusted]

NCSP region	Ethnicity			Target age 20–69 years
	Maori	**Other**	**Pacific**	
Auckland	59.6	80.4	59.1	75.9
Bay of Plenty	64.3	82.8	56.1	77.7
Canterbury	48.5	77.5	62.8	75.7
Hawkes Bay	63.5	78.9	55.4	75.0
Manawatu/Wanganui	61.9	76.7	61.6	74.0
Nelson–Marlborough	48.1	76.5	58.8	74.4
Northland	63.3	77.3	41.9	72.8
Otago/Southland	50.0	79.2	62.3	77.2
Tairawhiti	75.0	84.8	70.8	80.2
Taranaki	64.4	82.9	58.8	80.4
Waikato	66.0	82.0	57.7	78.6
Wellington	62.4	85.9	51.3	81.2
West Coast	49.1	71.4	72.0	69.6
Total	**61.4**	**80.3**	**58.0**	**76.7**

Table 25 Unadjusted proportion (%) of women aged 20–69 years participating by ethnicity and DHB as at 31 December 2002, 2002 [target = 80% unadjusted]

DHB area	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	55.7	81.1	59.2	76.8
Bay of Plenty	60.7	80.3	56.1	75.7
Canterbury	47.8	77.0	62.3	75.1
Capital Coast	57.7	86.2	49.0	80.9
Counties Manukau	63.7	79.5	61.4	73.8
Hawkes Bay	63.5	78.9	55.4	75.0
Hutt Valley	67.2	84.0	55.5	79.9
Lakes	67.4	84.7	54.6	78.7
MidCentral	65.9	79.1	62.2	77.0
Nelson-Marlborough	48.1	76.5	58.8	74.4
Northland	63.3	77.3	41.9	72.8
Otago	52.6	80.8	62.3	79.1
South Canterbury	44.4	75.8	63.3	74.3
Southland	47.7	76.7	62.3	74.1
Tairawhiti	75.0	84.8	70.8	80.2
Taranaki	64.4	82.9	58.8	80.4
Waikato	60.7	79.3	56.7	75.3
Wairarapa	59.5	74.7	49.3	72.5
Waitemata	53.1	78.2	52.6	74.6
West Coast	49.1	71.4	72.0	69.6
Whanganui	76.3	78.3	61.8	77.7
Unspecified DHB	1,323	8,515	233	10,071
Total	**61.4**	**80.3**	**58.0**	**76.7**

C. Coverage

Table 26 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2002 by five-year age group and NCSP region, 2002 [targets = 80% unadjusted and 85% adjusted]

NCSP region	Five-year age group										Target 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	49.5	65.9	70.5	68.9	66.9	62.8	57.2	53.5	45.4	39.0	60.6	68.4
Bay of Plenty	67.7	74.2	75.4	72.1	70.7	65.8	58.7	54.3	48.7	46.0	64.9	74.8
Canterbury	63.7	74.5	75.8	75.0	71.8	64.8	57.2	52.4	45.7	39.6	64.4	73.7
Hawkes Bay	61.1	72.8	71.3	68.5	68.5	63.2	57.2	55.3	50.3	46.1	62.8	72.4
Manawatu/Wanganui	60.8	69.7	69.4	67.6	66.7	62.1	56.5	51.4	48.7	45.4	61.3	70.2
Nelson–Marlborough	60.6	71.3	73.9	71.4	70.9	66.7	58.6	55.8	50.5	46.3	64.2	74.2
Northland	58.1	67.2	67.3	65.6	64.9	61.8	56.7	52.8	47.1	45.7	59.7	69.3
Otago/Southland	62.6	78.3	76.4	73.8	72.9	67.9	60.2	57.3	51.8	48.0	66.4	76.0
Tairawhiti	65.7	71.1	71.2	68.9	71.4	65.2	60.0	53.8	49.1	48.5	64.3	73.7
Taranaki	71.1	79.7	78.3	77.6	76.6	73.7	63.0	65.7	58.8	55.1	71.2	82.3
Waikato	61.1	74.1	72.0	71.2	68.4	65.3	58.8	54.6	50.3	45.4	63.9	73.0
Wellington	62.5	75.7	78.3	75.2	73.6	68.2	60.1	57.8	50.5	43.0	67.4	76.3
West Coast	57.4	64.8	66.9	69.0	63.7	58.6	51.8	50.0	46.2	34.9	57.9	67.1
Total	**58.0**	**71.1**	**73.1**	**71.2**	**69.5**	**64.8**	**58.1**	**54.6**	**48.3**	**43.2**	**63.3**	**72.2**

Table 27 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2002 by five-year age group and DHB area, 2002 [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	45.4	64.4	71.5	71.1	70.0	64.2	59.2	54.9	45.0	37.1	61.2	68.3
Bay of Plenty	64.9	71.0	74.0	71.3	70.0	65.1	59.3	53.8	48.5	46.7	63.7	73.7
Canterbury	61.9	73.6	75.8	74.8	71.5	64.3	56.8	51.9	45.5	38.6	64.0	73.1
Capital Coast	60.0	74.5	79.3	75.6	74.3	69.8	60.9	56.8	49.7	41.5	67.5	75.9
Counties Manukau	51.6	65.6	68.1	65.2	62.7	58.4	54.2	49.7	42.7	37.4	58.1	65.8
Hawkes Bay	61.1	72.8	71.3	68.5	68.5	63.2	57.2	55.3	50.3	46.1	62.8	72.4
Hutt Valley	62.4	72.8	74.3	73.2	71.1	66.4	58.0	58.4	51.5	45.5	65.7	74.8
Lakes	68.5	76.2	75.4	71.1	70.2	65.5	55.9	53.5	48.4	43.1	65.1	74.3
MidCentral	60.1	71.9	73.6	70.7	70.3	65.8	60.2	54.4	51.0	49.5	64.2	73.4
Nelson-Marlborough	60.6	71.3	73.9	71.4	70.9	66.7	58.6	55.8	50.5	46.3	64.2	74.2
Northland	58.1	67.2	67.3	65.6	64.9	61.8	56.7	52.8	47.1	45.7	59.7	69.3
Otago	61.8	81.8	80.2	78.8	75.6	70.6	62.7	61.4	54.9	49.9	68.8	78.7
South Canterbury	71.0	74.9	71.0	72.7	71.4	65.8	57.9	54.1	45.4	45.1	63.4	74.2
Southland	64.8	73.5	71.2	66.9	68.9	63.8	56.0	50.8	47.0	45.0	62.6	71.7
Tairawhiti	65.7	71.1	71.2	68.9	71.4	65.2	60.0	53.8	49.1	48.5	64.3	73.7
Taranaki	71.1	79.7	78.3	77.6	76.6	73.7	63.0	65.7	58.8	55.1	71.2	82.3
Waikato	59.0	70.9	68.8	68.1	65.4	62.6	56.4	52.5	48.4	43.7	61.3	70.0
Wairarapa	69.3	78.7	71.3	68.4	68.6	57.8	55.2	52.9	47.6	40.1	61.5	71.7
Waitemata	50.5	65.5	69.8	68.6	66.6	63.7	56.7	54.1	46.9	40.9	60.7	69.0
West Coast	57.4	64.8	66.9	69.0	63.7	58.6	51.8	50.0	46.2	34.9	57.9	67.1
Whanganui	66.3	75.7	73.0	73.5	71.2	64.5	58.1	52.7	50.4	43.5	64.1	74.2
Unspecified DHB	1,025	946	783	647	576	470	398	366	220	126	5,557	
Total	**58.0**	**71.1**	**73.1**	**71.2**	**69.5**	**64.8**	**58.1**	**54.6**	**48.3**	**43.2**	**63.3**	**72.2**

Table 28 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2002 by ethnicity and five-year age group, 2002 [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	46.3	53.5	52.8	49.5	47.0	41.9	37.2	35.0	31.7	31.5	46.1	50.9
Other	63.6	77.8	79.1	76.8	74.4	69.1	61.3	57.3	50.4	44.8	67.5	77.5
Pacific	33.4	46.3	48.1	47.3	44.6	39.4	36.1	32.2	29.5	23.7	41.0	45.1
Total	**58.0**	**71.1**	**73.1**	**71.2**	**69.5**	**64.8**	**58.1**	**54.6**	**48.3**	**43.2**	**63.3**	**72.2**

Table 29 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2002 by ethnicity and NCSP region, 2002 [targets = 80% unadjusted]

NCSP region	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	43.5	65.6	41.3	60.6
Bay of Plenty	48.7	70.9	42.4	64.9
Canterbury	38.2	66.2	48.7	64.4
Hawkes Bay	47.9	67.7	41.7	62.8
Manawatu/Wanganui	46.8	64.5	45.3	61.3
Nelson–Marlborough	38.2	66.3	45.2	64.2
Northland	47.4	65.2	29.5	59.7
Otago/Southland	40.1	68.4	48.0	66.4
Tairawhiti	55.9	71.8	47.6	64.3
Taranaki	52.3	74.2	45.0	71.2
Waikato	48.1	68.1	40.3	63.9
Wellington	47.4	72.4	36.2	67.4
West Coast	39.0	59.5	60.0	57.9
Total	**46.1**	**67.5**	**41.0**	**63.3**

Table 30 Unadjusted proportion (%) of women aged 20–69 years screened in the 36 months prior to 31 December 2002 by ethnicity and DHB, 2002 [targets = 80% unadjusted]

DHB area	Ethnicity			Target age 20–69 years
	Maori	Other	Pacific	
Auckland	41.3	65.8	40.8	61.2
Bay of Plenty	45.8	69.2	43.7	63.7
Canterbury	37.8	65.9	48.3	64.0
Capital Coast	44.3	72.8	34.4	67.5
Counties Manukau	45.6	65.0	43.2	58.1
Hawkes Bay	47.9	67.7	41.7	62.8
Hutt Valley	50.4	70.4	39.5	65.7
Lakes	51.5	72.1	40.2	65.1
MidCentral	50.7	66.7	46.0	64.2
Nelson-Marlborough	38.2	66.3	45.2	64.2
Northland	47.4	65.2	29.5	59.7
Otago	42.7	70.5	49.5	68.8
South Canterbury	36.6	64.8	52.2	63.4
Southland	37.7	65.1	44.2	62.6
Tairawhiti	55.9	71.8	47.6	64.3
Taranaki	52.3	74.2	45.0	71.2
Waikato	44.3	65.9	39.6	61.3
Wairarapa	45.9	64.1	36.0	61.5
Waitemata	40.0	64.3	37.2	60.7
West Coast	39.0	59.5	60.0	57.9
Whanganui	57.1	66.1	47.7	64.1
Unspecified DHB	1,323	8,515	233	10,071
Total	**46.1**	**67.5**	**41.0**	**63.3**

D. Re-participation

Table 31 Re-participation rate for 20–69-year-old women by five-year age group and NCSP region, 2002 [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	16.6	11.9	10.5	8.6	9.1	9.4	9.2	8.5	7.1	7.5	9.5
Bay of Plenty	15.8	13.0	10.9	13.0	11.9	13.2	9.8	11.7	8.1	12.6	11.9
Canterbury	9.3	16.4	15.2	15.1	17.9	16.1	17.7	14.5	15.2	16.5	16.0
Hawkes Bay	13.8	11.2	17.4	15.5	16.3	12.4	13.3	8.7	9.8	9.6	13.9
Manawatu/Wanganui	11.8	13.2	14.0	14.5	9.5	11.0	9.5	13.0	7.4	10.9	11.8
Nelson–Marlborough	9.1	15.4	16.2	14.7	14.2	13.2	14.9	12.2	15.6	10.9	14.5
Northland	11.1	11.2	9.7	9.6	13.2	12.5	9.4	8.8	5.7	16.8	10.7
Otago/Southland	0.0	20.0	16.3	17.9	14.1	18.4	9.7	12.9	18.8	33.3	16.4
Tairawhiti*	15.4	17.0	14.0	18.6	15.6	21.7	8.3	20.3	23.1	11.1	16.6
Taranaki	0.0	3.2	25.0	7.3	6.3	11.8	11.6	16.1	4.0	8.0	10.8
Waikato	12.7	11.2	10.7	11.4	8.9	9.6	9.1	9.2	5.9	8.6	10.0
Wellington	24.3	9.1	11.0	9.7	10.7	10.9	9.5	12.3	11.6	12.2	10.7
West Coast	25.6	11.2	10.3	8.8	9.6	8.3	10.1	9.7	6.3	5.8	9.5
Total	**15.4**	**12.4**	**11.5**	**10.5**	**10.8**	**10.9**	**10.4**	**10.2**	**8.5**	**9.9**	**10.9**

* 66 women re-participated during 2002.

\# 41 women re-participated during 2002.

Table 32 Re-participation rate for 20–69-year-old women by five-year age group and DHB area, 2002 [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	14.0	11.0	8.8	7.0	8.0	8.0	8.4	7.8	5.4	5.0	8.2
Bay of Plenty	13.3	13.3	14.5	14.9	12.0	17.2	13.6	13.3	8.6	15.0	13.9
Canterbury	13.2	17.6	16.2	15.8	18.0	16.3	18.6	15.3	13.7	16.7	16.6
Capital Coast	26.1	10.2	11.4	7.6	8.1	7.6	9.9	8.4	7.0	7.2	9.1
Counties Manukau	18.4	10.6	10.8	8.3	9.1	8.7	8.5	7.8	7.7	8.9	9.2
Hawkes Bay	13.8	11.2	17.4	15.5	16.3	12.4	13.3	8.7	9.8	9.6	13.9
Hutt Valley	23.1	11.7	7.1	9.2	10.8	8.7	9.8	9.6	2.9	4.7	9.0
Lakes	20.0	12.6	6.5	10.8	12.3	8.0	4.9	10.4	7.7	8.8	9.6
MidCentral	26.1	9.0	10.2	9.6	10.2	12.3	9.9	14.0	5.7	8.3	10.3
Nelson-Marlborough	9.1	15.4	16.2	14.7	14.2	13.2	14.9	12.2	15.6	10.9	14.5
Northland	11.8	13.2	14.0	14.5	9.5	11.0	9.5	13.0	7.4	10.9	11.8
Otago	0.0	9.7	8.6	8.0	13.5	10.3	8.5	9.6	3.0	12.9	9.4
South Canterbury	0.0	15.4	18.5	18.1	24.7	21.5	20.4	13.3	29.0	16.0	19.5
Southland	23.1	14.2	11.4	11.9	12.8	15.2	10.7	8.0	9.2	21.1	12.5
Tairawhiti*	0.0	20.0	16.3	17.9	14.1	18.4	9.7	12.9	18.8	33.3	16.4
Taranaki	15.4	17.0	14.0	18.6	15.6	21.7	8.3	20.3	23.1	11.1	16.6
Waikato	3.6	4.7	4.3	2.2	3.6	2.0	1.6	4.3	2.5	3.4	3.3
Wairarapa	12.7	11.2	10.7	11.4	8.9	9.6	9.1	9.2	5.9	8.6	10.0
Waitemata	33.3	18.3	14.3	26.2	19.5	14.5	15.0	20.0	13.6	0.0	17.5
West Coast#	20.0	15.0	12.9	11.8	10.8	11.9	10.9	9.8	8.3	8.5	11.6
Whanganui	0.0	3.2	25.0	7.3	6.3	11.8	11.6	16.1	4.0	8.0	10.8
Unspecified DHB	22.2	12.2	15.4	12.0	13.7	9.8	10.6	11.8	25.6	19.5	13.5
Total	**15.4**	**12.4**	**11.5**	**10.5**	**10.8**	**10.9**	**10.4**	**10.2**	**8.5**	**9.9**	**10.9**

* 66 women re-participated during 2002.

\# 41 women re-participated during 2002.

Table 33 Re-participation rate for 20–69-year-old women by five-year age group and ethnicity [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	17.9	12.6	12.3	12.3	11.3	10.0	9.1	11.1	6.9	8.1	11.5
Other	14.6	12.6	11.8	10.5	11.3	11.7	10.9	10.2	8.6	10.4	11.2
Pacific	7.7	9.5	8.4	8.0	6.9	7.0	7.6	8.2	9.8	6.1	7.9
Total	**15.4**	**12.4**	**11.5**	**10.5**	**10.8**	**10.9**	**10.4**	**10.2**	**8.5**	**9.9**	**10.9**

E. Short interval re-screening

Table 34 Short interval re-screening proportion (%) by five-year age group for the 33 months prior to 31 December 2002 [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*
20–24	27,358	9,156	4,382	20.8	10.3
25–29	45,727	12,516	4,520	19.4	9.8
30–34	57,873	15,575	3,993	21.5	12.2
35–39	63,330	15,950	3,471	20.8	12.5
40–44	64,735	16,188	3,157	21.2	12.8
45–49	53,982	13,663	2,577	21.6	13.4
50–54	44,538	11,165	1,736	22.0	14.0
55–59	35,478	8,172	1,072	20.6	12.7
60–64	27,711	5,541	659	18.0	10.8
65–69	20,511	3,583	385	15.9	9.0
Total	**441,243**	**111,509**	**25,952**	**20.6**	**12.1**

† A1 = satisfactory smear

‡ A2 = satisfactory but limited smear

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

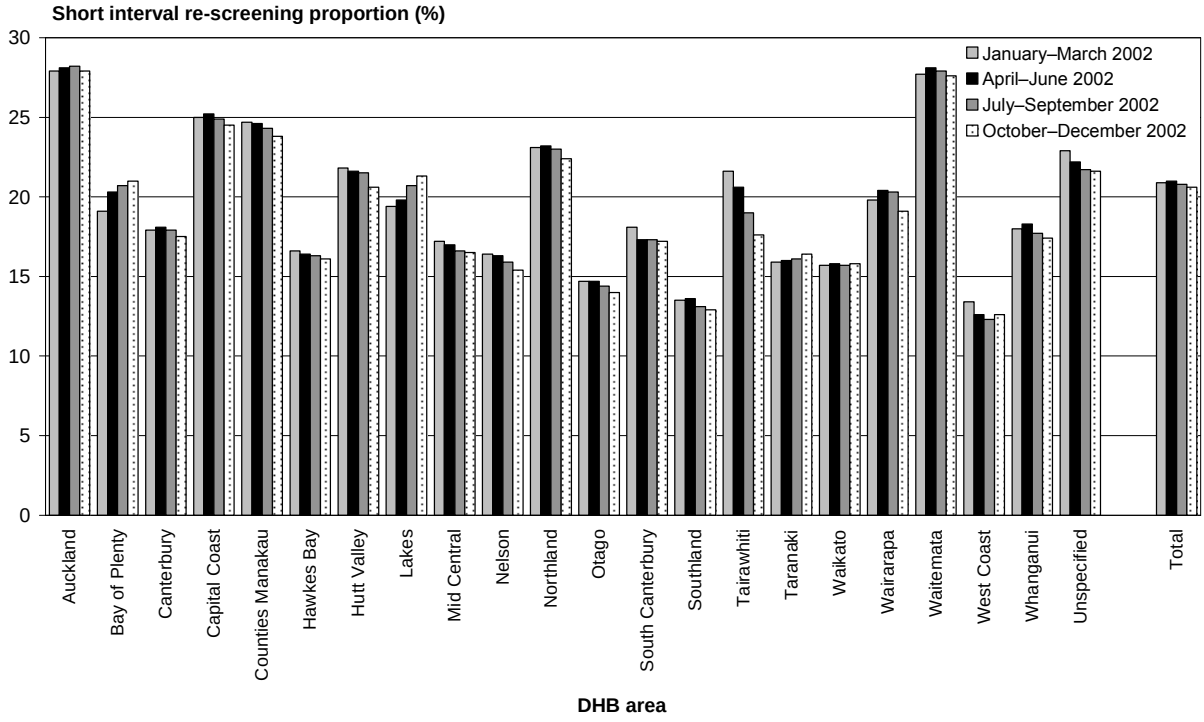
Source: Quarterly Report 9 National Cervical Screening Programme October–December 2002. Independent Monitoring Group of the National Cervical Screening Programme, University of Otago. May 2003.

Table 35 Short interval re-screening proportion (%) by five-year age group for the 33-months prior to the end of each reporting quarter, 2002 [target = less than 10%]

Five-year age group	Satisfactory or satisfactory but limited smears				Satisfactory smears			
	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
20–24	21.3	21.3	21.6	20.8	9.1	9.3	9.1	10.3
25–29	20.4	20.5	20.2	19.4	9.5	9.6	9.3	9.8
30–34	21.8	22.0	21.9	21.5	11.9	12.1	11.7	12.2
35–39	21.4	21.3	21.1	20.8	12.5	12.5	12.1	12.5
40–44	21.0	21.3	21.2	21.2	12.2	12.5	12.4	12.8
45–49	22.3	22.2	21.9	21.6	13.4	13.5	13.0	13.4
50–54	21.6	22.0	21.9	22.0	13.7	13.8	13.4	14.0
55–59	20.4	20.8	20.7	20.6	12.1	12.4	12.2	12.7
60–64	18.1	18.2	17.9	18.0	10.4	10.6	10.2	10.8
65–69	15.4	15.9	15.8	15.9	8.3	8.7	8.6	9.0
Total	**20.9**	**21.0**	**20.8**	**20.6**	**11.8**	**11.9**	**11.6**	**12.1**

Data sources: NCSP Quarterly Reports 6–9.

Figure 8 Short interval re-screening by DHB area for the 33 months prior to the end of each reporting quarter, 2002 (both satisfactory and satisfactory but limited smears included)



Data sources: NCSP Quarterly Reports 6–9.

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

Table 36 Timeliness of the most recent smear among participating women with a previous high grade or more serious abnormality by reporting quarter, 2002 [targets = 85% within 15 months and 99% within 18 months]

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Less than 15 months	72.6	72.4	71.9	71.0
15–18 months	5.1	5.3	5.5	5.4
More than 18 months	15.9	16.1	16.5	17.4
No smear	6.4	6.2	6.1	6.1
Total number smears	**23,619**	**24,507**	**25,467**	**26,357**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

G. Follow up of women with HSIL cytology

Table 37 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, 2002 [targets = 90% within 12 weeks]

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Maori	61.4	59.5	59.5	61.1
Other	75.7	75.8	76.0	77.7
Pacific	58.4	56.8	61.8	64.6
Total	**73.0**	**72.7**	**73.0**	**74.8**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

Table 38 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, 2002

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Maori	17.9	20.1	19.0	17.1
Other	11.5	11.6	11.9	10.7
Pacific	17.6	16.2	17.6	13.5
Total	**12.7**	**13.1**	**13.2**	**11.8**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

Table 39 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, 2002

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Maori	8.5	8.0	8.9	8.2
Other	4.2	3.9	3.7	3.6
Pacific	8.8	8.1	5.9	5.2
Total	**5.0**	**4.7**	**4.6**	**4.4**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

Table 40 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, 2002 [targets = 90% within 12 weeks]

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Maori	87.8	87.6	87.5	86.5
Other	91.4	91.2	91.5	92.0
Pacific	84.8	81.1	85.3	83.3
Total	**90.7**	**90.4**	**90.7**	**91.0**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

Table 41 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, 2002

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Maori	1.1	1.8	2.0	2.7
Other	1.0	1.2	1.2	1.2
Pacific	1.6	0.0	0.0	1.0
Total	**1.0**	**1.3**	**1.3**	**1.5**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

Table 42 Proportion of women with no histology report following a HSIL or ASCUS possible high grade cytology result by ethnicity and reporting quarter, 2002 [targets = 90% within 12 weeks]

Time period	Jan–Mar 2002	Apr–Jun 2002	Jul–Sep 2002	Oct–Dec 2002
Maori	11.1	10.6	10.5	10.8
Other	7.6	7.5	7.3	6.8
Pacific	13.6	18.9	14.7	15.6
Total	**8.3**	**8.3**	**8.0**	**7.6**

Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

H. Cervical cancer incidence and mortality

Table 43 Number of new cervical cancer registrations by five-year age group and ethnicity, 1996–2000 (Table 3 AMP 2002)

Five-year age group	Number of cases, 1996–2000		
	Other	Maori women	Pacific women
0–4	0	0	0
5–9	0	0	0
10–14	0	0	0
15–19	2	1	0
20–24	11	4	0
25–29	66	16	3
30–34	112	18	3
35–39	144	35	6
40–44	145	36	5
45–49	124	30	2
50–54	92	18	6
55–59	67	15	5
60–64	62	7	3
65–69	61	5	2
70–74	56	5	1
75–79	40	1	1
80–84	33	1	0
85+	23	1	0
All ages	1038	193	37
Target age 20–69 years	**884**	**184**	**35**

Table 44 Number of cervical cancer deaths by five-year age group for all women by five-year age group and ethnicity, 1996–2000

Five-year age group	Number of cases, 1996–2000		
	Other	Maori women	Pacific women
15–19	1	1	0
20–24	2	1	0
25–29	3	1	0
30–34	12	2	2
35–39	26	11	5
40–44	34	13	2
45–49	45	18	2
50–54	43	13	1
55–59	38	15	3
60–64	26	4	2
65–69	28	10	1
70–74	34	2	1
75–79	33	2	0
80–84	25	2	0
85+	20	1	0
All ages	370	96	19
Target age 20–69 years	**257**	**88**	**18**

I. Cytology abnormality reporting

Table 45 Number of reported smear results by cytological category and five-year age group, 2002

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	13,214	36,344	40,582	50,099	49,594	47,719	38,350	31,542	23,174	17,340	11,535	2,791	848	311	129	363,572
Abnormal not otherwise specified	0	0	1	0	1	4	2	2	1	3	2	0	2	0	0	18
ASCUS†	859	1,841	1,391	1,338	1,236	1,260	959	634	345	210	115	46	13	3	0	10,250
LSIL	1,703	2,864	1,758	1,274	941	686	522	284	146	93	69	22	13	1	1	10,377
AGUS favour reactive	2	16	26	44	35	35	56	45	17	13	8	5	3	1	1	307
AGUS favour dysplasia	0	4	8	7	10	0	13	5	1	5	2	4	4	2	0	65
ASCUS possible high grade	26	84	122	101	99	70	45	36	33	20	12	7	4	2	1	662
HSIL	247	797	809	726	459	328	184	117	68	51	28	8	5	6	2	3,835
Adenocarcinoma-in-situ	0	4	16	20	10	5	3	2	0	1	2	0	0	0	0	63
Adenocarcinoma (excluding cervical)	0	0	1	2	2	1	4	5	2	2	5	8	5	2	1	40
Adenocarcinoma of cervix	0	0	0	0	0	0	1	0	0	0	1	0	1	1	0	4
Cancer not otherwise specified	0	0	0	0	1	0	0	0	0	0	0	1	0	1	1	4
Squamous carcinoma of cervix	0	1	1	0	6	5	6	6	4	4	5	3	3	2	3	49
Total	**16,051**	**41,955**	**44,715**	**53,611**	**52,394**	**50,113**	**40,145**	**32,678**	**23,791**	**17,742**	**11,784**	**2,895**	**901**	**332**	**139**	**389,246**

† Excludes ASCUS possible high grade.

Table 46 Reported smear results by cytological result category per 1000 smears by five-year age group, 2002

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	813.4	855.6	898.9	927.8	941.2	947.8	950.8	960.9	970.8	973.6	975.3	957.9	940.9	929.5	924.0	931.24
ASCUS‡	57.7	48.9	34.4	27.4	25.8	27.31	26.8	22.1	16.4	13.6	12.1	19.0	15.0	8.1	0.0	28.18
LSIL	110.9	72.6	42.9	26.3	19.9	15.0	14.2	9.6	7.1	6.7	6.6	9.0	14.0	2.7	6.3	26.8
AGUS favour reactive	0.1	0.4	0.7	0.9	0.8	0.7	1.4	1.4	0.7	0.8	0.7	1.9	3.0	2.7	6.33	0.8
AGUS favour dysplasia	0.0	0.1	0.3	0.2	0.2	0.0	0.4	0.2	0.0	0.	0.2	1.61	4.0	5.4	0.0	0.2
ASCUS possible high grade	1.6	2.6	2.9	2.3	2.2	1.6	1.2	1.2	1.5	1.3	1.2	3.2	4.0	10.8	6.3	1.9
HSIL	16.2	19.7	19.5	14.6	9.5	7.2	4.8	4.0	3.1	3.1	2.6	3.5	8.01	21.	19.0	10.4
Squamous carcinoma of cervix	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.4	1.0	3.0	5.4	19.0	0.1
Number of women	**17,532**	**45,765**	**48,448**	**57,412**	**55,470**	**52,795**	**42,157**	**34,189**	**24,766**	**18,440**	**12,220**	**3,114**	**999**	**369**	**158**	**413,834**

* 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 47 Number of reported smear results by cytological category for women aged 20–69 years by NCSP region, 2002

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	Tairawhiti	Taranaki	Waikato	Wellington	West Coast	
Negative for dysplasia or malignancy	114,134	25,343	44,049	11,850	18,041	10,873	11,233	25,258	4,075	10,223	26,876	42,027	2,297	346,279
Abnormal not otherwise specified	7	0	3	2	0	0	1	3	0	0	0	0	0	16
ASCUS†	1,908	1,645	1,133	171	496	412	213	219	146	359	1,127	1,448	52	9,329
LSIL	2,308	785	875	274	651	243	233	568	153	330	996	1,182	39	8,637
AGUS favour reactive	49	59	60	8	10	16	8	9	0	10	23	38	5	295
AGUS favour dysplasia	2	5	9	4	9	3	0	6	2	1	5	8	1	55
ASCUS possible high grade	163	41	115	16	50	29	23	49	1	9	41	77	8	622
HSIL	1,088	308	410	139	213	111	137	317	30	125	220	452	17	3,567
Adenocarcinoma-in-situ	16	3	6	5	9	2	2	11	1	0	1	6	1	63
Adenocarcinoma (excluding cervical)	9	2	3	1	0	0	1	2	1	0	4	1	0	24
Adenocarcinoma of cervix	0	0	1	1	0	0	0	0	0	0	0	0	0	2
Cancer not otherwise specified	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Squamous carcinoma of cervix	13	1	3	3	5	1	1	2	0	4	4	1	0	38
Total	**119,697**	**28,192**	**46,667**	**12,474**	**19,485**	**11,690**	**11,852**	**26,444**	**4,409**	**11,061**	**29,297**	**45,240**	**2,420**	**368,928**

† Excludes ASCUS possible high grade.

Table 48 Number of reported smear results by cytological category for women aged 20–69 years by ethnicity, 2002

Category of cytology result	Ethnicity			
	Maori	Other	Pacific	Total
Negative for dysplasia or malignancy	29,554	305,841	10,884	346,279
Abnormal not otherwise specified	2	13	1	16
ASCUS†	1,228	7,859	242	9,329
LSIL	1,242	7,122	273	8,637
AGUS favour reactive	25	263	7	295
AGUS favour dysplasia	4	48	3	55
ASCUS possible high grade	70	532	20	622
HSIL	572	2,886	109	3,567
Adenocarcinoma-in-situ	9	52	2	63
Adenocarcinoma (excluding cervical)	3	20	1	24
Adenocarcinoma of cervix	0	2	0	2
Cancer not otherwise specified	0	1	0	1
Squamous carcinoma of cervix	5	30	3	38
Total	**32,714**	**324,669**	**11,545**	**368,928**

† Excludes ASCUS possible high grade.

J. Histology abnormality reporting

Table 49 Number of histology reports in each histological category by five-year age group, 2002

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	66	351	459	613	658	825	791	500	298	190	140	125	56	38	12	5,122
Other non neoplastic	106	435	563	675	721	837	745	566	323	220	104	87	55	32	12	5,481
Polyp	4	14	35	93	181	316	355	377	231	136	65	33	17	10	1	1,868
Atypia / HPV	207	743	711	563	547	464	358	188	109	64	45	16	8	0	0	4,023
CIN NOS	7	29	22	29	17	23	11	11	7	2	2	4	0	0	0	164
LSIL	296	1,037	907	705	554	470	335	171	92	62	21	10	7	2	0	4,669
HSIL	296	1,365	1,446	1,174	795	458	229	123	81	67	37	12	5	6	4	6,098
Glandular dysplasia	0	1	4	3	1	1	2	0	1	0	0	0	0	0	0	13
Adenocarcinoma-in-situ	8	6	44	43	18	15	10	5	1	1	9	1	1	0	0	162
Other cancer	0	0	0	1	1	0	1	0	2	3	0	2	3	0	1	14
Invasive adenocarcinoma	0	0	3	3	11	6	11	10	10	8	11	10	10	9	2	104
Adenosquamous carcinoma	0	0	0	2	0	1	0	0	0	0	1	1	0	1	0	6
Microinvasive squamous carcinoma	0	1	4	7	9	6	1	4	0	0	1	0	0	0	0	33
Invasive squamous carcinoma	0	4	2	17	20	20	30	20	10	4	5	6	6	4	3	151
Metastatic carcinoma	0	0	0	0	0	0	0	0	1	2	5	1	1	3	0	13

† Excludes ASCUS possible high grade.

K. Laboratory cytology turnaround time

Table 50 Timeliness of reporting smears by laboratory, 2002 [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	9,896	97.9	2.0	100.0	0.0
Canterbury Health Laboratories	5,481	99.9	0.1	100.0	0.0
Community-based					
Diagnostic Medlab Auckland	120,350	100.0	0.0	100.0	0.0
Medical Laboratory Wellington	33,179	86.7	13.3	100.0	0.0
Medlab Bay of Plenty	28,954	95.0	5.1	100.0	0.0
Medlab Central, Palmerston North	31,056	99.2	0.8	100.0	0.0
Medlab Hamilton	29,524	98.8	1.2	100.0	0.0
Medlab South Christchurch	41,928	100.0	0.0	100.0	0.0
Pathlab Waikato	10,840	99.6	0.3	99.9	0.1
SCL† Christchurch	23,307	97.0	3.0	100.0	0.0
SCL† Dunedin	44,542	97.9	2.1	99.9	0.1
Taranaki Medlab	22,103	98.19	1.8	100.0	0.0
Valley Diagnostic Laboratory	15,943	90.88	8.3	99.2	0.9
Total	**417,103**	**97.5**	**2.4**	**100.0**	**0.1**

† SCL = Southern Community Laboratory.

Table 51 Timeliness of reporting smears within seven working days by laboratory and reporting quarter, 2002 [target = 90% within seven working days]

Laboratory	2002 reporting quarter				2002 reporting year
	Jan–Mar†	Apr–Jun†	Jul–Sep†	Oct–Dec†	
Hospital-based					
Auckland Hospital Laboratory	99.6	100.0	96.8	95.6	97.9
Canterbury Health Laboratories	99.9	99.9	100.0	99.8	99.9
Community-based					
Diagnostic Medlab Auckland	100.0	100.0	100.0	100.0	100.0
Medical Laboratory Wellington	82.9	75.6	86.8	98.4	86.7
Medlab Bay of Plenty	99.3	86.1	98.5	96.7	95.0
Medlab Central, Palmerston North	96.6	100.0	100.0	100.0	99.2
Medlab Hamilton	99.9	99.7	100.0	95.3	98.8
Medlab South Christchurch	100.0	100.00	100.0	100.0	100.0
Pathlab Waikato	100.0	99.0	99.7	99.9	99.6
SCL‡ Christchurch	97.2	93.4	98.8	100.0	97.0
SCL‡ Dunedin	97.7	95.9	98.4	99.8	97.9
Taranaki Medlab	95.4	99.3	98.5	99.6	98.2
Valley Diagnostic Laboratory	96.4	89.8	97.5	96.5	90.9
Total	**97.5**	**96.1**	**98.3**	**99.0**	**97.5**

† Data sources: Quarterly Reports 6–9, Independent Monitoring Group of the National Cervical Screening Programme, University of Otago.

‡ SCL = Southern Community Laboratory.

L. Laboratory histology turnaround time

Table 52 Timeliness of reporting histology by laboratory, 2002 [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	1,442	68.4	24.4	7.2
Canterbury Health Laboratories	2,235	98.2	1.5	0.3
Diagnostic Medlab Auckland	3,900	99.3	0.6	0.2
Healthlab Otago	339	71.7	21.8	6.5
Hutt Hospital Laboratory	488	86.7	10.7	2.7
Medical Laboratory Southland	158	100.0	0.0	0.0
Medical Laboratory Wellington	831	92.9	5.9	1.2
Medlab Bay of Plenty	2,303	97.0	2.7	0.4
Medlab Central, Palmerston North	1,947	94.7	5.2	0.2
Medlab Hamilton	337	96.1	3.6	0.3
Medlab South Christchurch	197	100.0	0.0	0.0
Medlab South working for Timaru	419	99.5	0.2	0.2
Memorial Hospital Hastings Lab	529	94.3	3.4	2.3
Middlemore Hospital Laboratory	1,011	99.6	0.4	0.0
Nelson Diagnostic Laboratory	230	94.8	3.9	1.3
Nelson Hospital Laboratory	461	92.4	5.2	2.4
North Shore Hospital Laboratory	1,618	99.6	0.3	0.1
Northland Pathology Laboratory	357	87.1	9.5	3.4
Pathlab Waikato	784	99.4	0.6	0.0
Rotorua Hospital Laboratory	500	83.0	7.6	9.4
SCL† Christchurch	700	99.9	0.1	0.0
SCL† Dunedin	1,314	99.2	0.6	0.2
SCL† Hawkes Bay	126	99.2	0.0	0.8
Southland Hospital Laboratory	549	93.4	6.2	0.4
Taranaki Base Hospital Laboratory	687	80.5	13.7	5.8
Taranaki Medlab	252	99.2	0.4	0.4
Valley Diagnostic Laboratory	356	97.5	2.5	0.0
Waikato Hospital Laboratory	2,301	93.8	5.7	0.6
Wanganui Hospital Laboratory	297	90.2	9.4	0.3
Wellington Hospital Laboratory	1,128	68.9	24.3	6.8
Whangarei Hospital Laboratory	577	93.1	5.6	1.4
Total	**28,373**	**93.3**	**5.3**	**1.4**

† SCL = Southern Community Laboratory.

M. Satisfactory but limited and unsatisfactory smears by laboratory

Table 53 Number and proportion (%) of satisfactory but limited or unsatisfactory smears reported by laboratory, 2002

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	9,896	1,943	19.6	242	2.4
Canterbury Health Laboratories	5,481	869	15.9	72	1.3
Community-based					
Diagnostic Medlab Auckland	120,350	25,105	20.9	444	0.4
Medical Laboratory Wellington	33,179	8,444	25.4	763	2.3
Medlab Bay of Plenty	28,954	5,252	18.1	159	0.5
Medlab Central, Palmerston North	31,056	5,194	16.7	180	0.6
Medlab Hamilton	29,524	4,257	14.4	138	0.5
Medlab South Christchurch	41,928	7,344	17.5	349	0.8
Pathlab Waikato	10,840	1,789	16.5	77	0.7
SCL† Christchurch	23,307	2,551	10.9	76	0.3
SCL† Dunedin	44,542	2,203	4.9	313	0.7
Taranaki Medlab	22,103	4,191	19.0	426	1.9
Valley Diagnostic Laboratory	15,943	3,144	19.7	280	1.8
Total	**417,103**	**72,286**	**17.3**	**3519**	**0.8**

† SCL = Southern Community Laboratory.

N. Satisfactory but limited and unsatisfactory smears by smear taker

Table 54 Quality of smears reported by smear taker group, 2002

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	34	88.2	11.8	0.0
	30–100	0	0.0	0.0	0.0
	> 100	0	0.0	0.0	0.0
	Total	34	88.2	11.8	0.0
Medical	< 30	14,199	76.5	22.2	1.3
	30–100	73,865	80.5	18.5	1.0
	> 100	184,595	81.2	18.1	0.8
	Total	272,659	80.7	18.4	0.9
Midwife	< 30	566	68.0	30.6	1.4
	30–100	395	72.9	25.8	1.3
	> 100	1,011	89.6	10.0	0.4
	Total	1,972	80.1	19.1	0.9
Nurse	< 30	5,151	82.1	17.4	0.5
	30–100	36,435	84.2	15.2	0.5
	> 100	63,636	85.3	14.2	0.6
	Total	105,222	84.8	14.7	0.6
Specialist	< 30	551	76.4	20.7	2.9
	30–100	3,177	75.3	22.3	2.4
	> 100	33,488	82.3	16.3	1.4
	Total	37,216	81.6	16.9	1.5
Total		**417,103**	**81.8**	**17.3**	**0.8**

Table 55 Proportion (%) of smears taken by each smear taker group and DHB area, 2002

DHB area	Number of smears	Smear taker group				
		Lay†	Medical	Midwife	Nurse	Specialist
Auckland	45,667	0.0	77.6	0.2	11.7	10.5
Bay of Plenty	20,922	0.0	51.7	0.5	42.1	5.7
Canterbury	47,224	18.0	72.5	0.0	15.5	11.9
Capital Coast	32,624	0.0	77.4	0.0	16.0	6.6
Counties Manukau	37,460	0.0	74.3	0.3	18.2	7.2
Hawkes Bay	13,824	0.0	56.6	1.1	35.9	6.4
Hutt Valley	14,358	0.0	79.3	0.4	10.2	10.1
Lakes	11,197	0.0	65.1	1.2	28.5	5.1
MidCentral	15,902	0.0	38.7	2.4	47.6	11.3
Nelson-Marlborough	12,984	0.0	61.8	0.0	32.8	5.4
Northland	13,452	0.0	59.5	0.0	34.4	6.1
Otago	19,226	0.0	61.2	0.6	26.5	11.7
South Canterbury	5,270	1.0	58.0	0.0	27.6	14.4
Southland	11,205	0.0	57.4	0.2	36.0	6.4
Tairawhiti	5,070	0.0	49.7	4.7	35.0	10.7
Taranaki	12,645	0.0	33.0	0.0	59.9	7.0
Waikato	33,067	15.0	45.6	0.8	44.5	9.1
Wairarapa	3,811	0.0	80.2	0.1	13.7	6.0
Waitemata	49,525	0.0	78.0	0.5	10.9	10.6
West Coast	2,711	0.0	33.0	0.0	58.1	9.0
Whanganui	6,135	0.0	48.6	0.1	46.7	4.5
Unspecified DHB‡	2,824	0.0	62.7	0.5	24.5	12.3
Total	**417,103**	**34.0**	**65.4**	**0.5**	**25.2**	**8.9**

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

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