

Quarterly Monitoring Report 27

National Cervical Screening Programme

April to June 2007

*Independent Monitoring Group
of the National Cervical Screening Programme*

Centre for Public Health Research
Massey University
Wellington

Technical Report No. 22

Prepared in October 2007

Finalised in March 2008

by Fiona McKenzie, Naomi Brewer, Juliet Irvine, and
Lis Ellison-Loschmann on behalf of the IMG NCSP
Centre for Public Health Research, Massey University
PO Box 756, Wellington, New Zealand

ISSN 1177-8822 (Print)

ISSN 1177-8830 (Online)

This document is available on the National Screening Unit website:
<http://www.nsu.govt.nz/Health-Professionals/1063.asp>



The National Cervical Screening Programme Independent Monitoring Group (IMG)

Ms Naomi Brewer

Ms Donna Cormack

Dr Elana Curtis

Dr Mona Jeffreys (Chair)

Mr Abed Kader

Dr Margaret Lovell-Smith

Ms Fiona McKenzie

Dr Edwin Ozumba

Dr Reena Ramsaroop (Deputy Chair)

Ms Judi Strid

Dr Christine van Dalen

National Screening Unit, Ministry of Health ex-officio representatives

Dr Hazel Lewis, Clinical Leader, National Cervical Screening Programme

Diane Casey, Manager, National Cervical Screening Programme

Eileen Hewer, Quality Assurance Manager, National Screening Unit

Technical terms are used throughout this report, and an understanding of these terms may be necessary to interpret some parts of this report.

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1. Executive Summary

This report provides data on performance indicators of the National Cervical Screening Programme (NCSP) for the period 1 April 2007 to 30 June 2007. In July 2005 the NCSP adopted the Revised Bethesda Coding Standard 2001 which meant that the cytology adequacy category of 'satisfactory but limited' ceased to be used. Therefore some of the tables and figures reported here are not the same as those in reports for periods prior to July 2005. Comparisons cannot be made between previous reports and the current report for these indicators. Where these changes have occurred, they are described in the text.

Follow-up of women with high grade cytology

In total, 5,239 women had a high grade cytology result recorded on the NCSP Register between 1 July 2005 and 30 June 2006. Three-quarters (74.8%) of these women were recorded as having had a histology specimen taken within 12 weeks of their high grade cytology being taken. This was less than the target of 90%. The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was also below the 99% target (90.5%). For 418 (8.0%) of the 5,239 women, a subsequent histology result was not recorded on the NCSP Register. This is similar to the proportions reported in the previous two quarters (8.1% and 8.0%). The proportions of women who had no histology recorded on the NCSP Register varied amongst the NCSP Regions.

Ethnic disparities

When looking at the timeliness of histology reports following high grade cytology results there continue to be large differences between ethnic groups. For example, at 12 weeks, the proportion of non-Māori, non-Pacific women (77.2%) having reports of histological specimens is higher than those for Pacific (53.8%) and Māori women (66.7%). For women who had no histology results recorded on the NCSP Register following a high grade cytology, there are also differing patterns by ethnicity. The proportion of Māori women (40.0%) that did not have a subsequent cytology after their high grade cytology report was higher than those of non-Māori, non-Pacific (20.3%) and Pacific women (26.1%).

Laboratory smear reporting

Nine laboratories reported cervical cytology during this quarter. Overall, of the 101,055 satisfactory smears processed during the quarter, 8.5% were reported as abnormal, which was within the target of not more than 10%. Three laboratories reported abnormalities outside this target, with the highest reporting abnormalities in 22.4% of smears read. The overall proportion of smears reported as negative for dysplasia or malignancy was 91.5%, and all of the laboratories met the target of not more than 96%. The overall proportion of smears reported as high grade squamous intra-epithelial lesion (HSIL) was 0.8%, which met the target of not less than 0.6%. Two laboratories reported outside this target, with the lowest reporting 0.4% of the smears that they read as HSIL.

Laboratory cytology turn around time

Four of the nine laboratories reporting cervical cytology met the seven-day cytology turn around time target (90%) in this reporting quarter. Two laboratories met the 14-day turn around time target of 100%. The laboratory with the lowest reported proportion of smears read within 14 days had read 49.4% of their smears in that time.

Ethnic disparities

There appear to be differences in cytology turnaround times between ethnic groups. The proportions of Māori women (80.9%) and non-Māori, non-Pacific women (81.7%) who had smears reported within seven working days were less than that of Pacific women (88.4%). The proportion of non-Māori, non-Pacific women (3.2%) who had a smear reported outside 14 working days was more than those of Māori (2.7%) and Pacific women (2.4%).

Laboratory histology turn around time

Twenty-one laboratories reported cervical histology during the quarter. Seven laboratories did not meet the five-day histology turn around time target of 90%. Eight laboratories reported 100% of histology results within 10 working days of the specimen arriving at the laboratory.

Ethnic disparities

There continue to be differences in histology turnaround times between ethnic groups. The proportion of Pacific women (76.5%) who had histology reported within five

working days was less than those of Māori women (86.1%) and non-Māori, non-Pacific women (89.6%).

Unsatisfactory smears

The targets for unsatisfactory smears are currently under review due to the introduction of the Revised Bethesda Coding System 2001. As the satisfactory but limited smear category is no longer in use, it is expected that both unsatisfactory and satisfactory rates will increase.

Overall, 3,936 (3.7%) of the 104,991 smears processed were reported as unsatisfactory for evaluation.

Colposcopic assessment

The colposcopy service indicators were unable to be calculated because the data required were not available. One colposcopy unit did not provide any data for this reporting period. For any colposcopy unit, the highest reported number of women with a high grade cytology abnormality waiting longer than four weeks at the end of each month for their first colposcopic assessment was 40. For any unit, the highest reported number of women with a low grade cytology abnormality waiting longer than 26 weeks at the end of each month was 137.

Short interval re-screening

The overall proportion of short interval re-screening was 11.2% for this reporting period, which is above the target of not more than 10%. Women aged 20 to 24 years were most likely to be re-screened within a short interval (14.8%), while women aged 65 to 69 years were least likely to be re-screened within a short interval (8.1%). Short interval re-screening varied considerably among the DHBs, ranging from 5.7% to 17.1%. There was little variation by ethnic group, with Māori, Pacific, and non-Māori, non-Pacific women all being below the target of not more than 10%.

Positive predictive value of high grade cytology

Overall, the positive predictive value (PPV) of the programme (77.7%) was within the recommended target range of 65 to 85%. One laboratory reported a PPV below the lower limit of the target range.

2. Background

The National Cervical Screening Programme (NCSP) was established in 1990. The aim of the NCSP is to reduce the incidence and mortality rate of cervical cancer amongst women in New Zealand.

The NCSP is co-ordinated by the National Screening Unit (NSU) of the Ministry of Health (MoH), and involves women, smear takers, cytology laboratories, histology laboratories, colposcopists and regional NCSP offices. The NCSP Register records the cervical cytology and histology results for women who have ever been enrolled in the Programme, unless they have formally withdrawn from the Programme. Information on the Register is used to help to ensure that women enrolled receive smears at the recommended intervals and that they are referred for assessment and treatment when necessary. Aggregate information is also used to monitor the performance of the overall NCSP against national indicators and targets.

The NSU, through a committee of experts and a consultation process, established national indicators for the NCSP in 2000. Where it was considered appropriate and feasible, the NSU set targets for some indicators. For other indicators, changes over time are assessed. Some indicators, targets, and reporting frequencies have been updated due to further information obtained through the monitoring process.

The Independent Monitoring Group (IMG) of the NCSP has been responsible for providing independent quantitative monitoring of the NCSP since 2001. Part of this responsibility is to produce quarterly and annual reports of the national indicators for the NCSP.

In 2005 the Centre for Public Health Research (CPHR), Massey University was appointed through an open tender process to carry out the independent monitoring. The raw data from which the indicators (with the exception of the colposcopy indicators) included in these reports are calculated were provided to the CPHR by the NSU, in the form of an anonymised extract from the NCSP Register. The data extract

was taken six weeks after the end of the period to which this report relates. The colposcopy data were provided by the NSU and reformatted by the CPHR.

3. Abbreviations

The following abbreviations are used in this report:

ASC-H:	Atypical squamous cells of undetermined significance, cannot exclude high grade
ASC-US:	Atypical squamous cells (ASC) of undetermined significance (ASC-US), excluding ASC cannot exclude high grade (ASC-H)
CIN:	Cervical intra-epithelial neoplasia; I: low grade; II, III: high grade
CPHR:	Centre for Public Health Research, Massey University
DHB:	District Health Board
HPV:	Human papilloma virus
HSIL:	High grade squamous intra-epithelial lesion
IMG:	Independent Monitoring Group
ISC:	Invasive squamous carcinoma
LSIL:	Low grade squamous intra-epithelial lesion
MoH:	Ministry of Health
NCSP:	National Cervical Screening Programme
NSU:	National Screening Unit of the Ministry of Health
PPV:	Positive predictive value
SIR:	Short interval re-screening
SCL:	Southern Community Laboratories
SNOMED:	Systematised Nomenclature of Medicine

4. Recommendations

4.1 Current recommendations

The IMG recommends that the NCSP Advisory Group review the NSU's responses to the recommendations made by this IMG.

Section 6.1 Follow-up of women with a high grade cytology

1. The NSU is to investigate all women with a high grade smear and no subsequent histology result recorded on the NCSP Register individually. Priority is to be given to women with no subsequent smear, Māori women, Pacific women, and then by Region, starting with Tairāwhiti.
2. The IMG notes with concern the persistent ethnic inequalities for histological follow-up within 12 weeks of a high grade cytology result.
3. The IMG requests that the NSU's Indicator Review Group review what this indicator is actually trying to measure (colposcopy waiting times or overall waiting times), produce a precise calculation methodology, and set a suitable target for what is being measured. It is recommended that the indicator should be reported by ethnicity.

Section 6.2 Laboratory smear reporting

4. The IMG requests an explanation for the low HSIL rates reported by Diagnostic MedLab Auckland and Aotea Pathology.
5. The IMG notes the high total abnormalities rates for MedLab Bay of Plenty and MedLab Central and will maintain watchful waiting as these rates appear to be declining.

Section 6.3 Laboratory cytology turn around time

6. The IMG acknowledge receipt of the response from Auckland Hospital Laboratory to the recommendation made in Quarterly Report 25 (published in 2007) and accept the explanation.
7. The IMG note the dramatic decrease in seven and 14 day turnaround times for SCL Christchurch, and seek a further explanation to that received in response to the consultation draft of Quarterly Report 26. In particular the IMG would like to know the dates over which the staffing problem occurred. The NSU is requested

to investigate the error rates (define further i.e.: lab results error when attempting upload to NCSP-R database) for this time period in order to assess their impact, and to seek further clarification from SCL Christchurch.

Section 6.4 Laboratory histology turn around time

8. The IMG is **still** awaiting a response to previous recommendations from Wellington Hospital for low histology turnaround times (Quarterly Reports 14, 15&16, 18&19, 22, 23, 24, 25 and 26, published from 2005). The IMG requests that Wellington Hospital respond to these recommendations. The IMG notes with concern the worsening trend for Wellington Hospital and requests that this matter be followed-up by the NSU.
9. The IMG requests that the NSU's Indicator Review Group review the timeliness of laboratory reporting of histology with a view to separating cervical smears and oncology specimens by procedural codes.

Sections 6.7 and 6.8 Waiting time for colposcopic assessment

10. The IMG is concerned about the potential incompleteness of colposcopy data and requests the NSU to review the data provided to the IMG.
11. The IMG is also concerned by the continuing unavailability of data needed to report on both the targets for waiting times for colposcopic assessment, and ethnicity specific waiting times. The IMG requests that the NSU continues to seek solutions to these problems.

Section 6.9 Short interval re-screening

12. The IMG notes high rates of short interval re-screening and recommends that the NSU continue to work to address this.

4.2 Previous recommendations

Recommendations made at the 3 September 2007 meeting based on discussions about Report 26, January to March 2007:

Section 6.1 Follow-up of women with a high grade cytology

1. The NSU is to investigate all women with a high grade smear and no subsequent histology result recorded on the NCSP Register individually. Priority is to be given to women with no subsequent smear, Māori women, Pacific women, and then by Region, starting with Manawatu/Whanganui, Wellington and Tairāwhiti.

Section 6.2 Laboratory smear reporting

2. The IMG notes with concern the low ASC-US, ASC-H and total abnormalities rates for SCL Dunedin and SCL Christchurch and is awaiting responses from a previous recommendation in Quarterly Report 25 (published in August 2007).
3. The IMG notes the high total abnormalities rate for MedLab Bay of Plenty and will maintain watchful waiting until Quarterly Report 27 (to determine whether a trend is developing).

Section 6.3 Laboratory cytology turn around time

4. The IMG requests an explanation for the low proportion of smears reported on within seven days by Aotea Pathology, Auckland Hospital Laboratory, MedLab Central and SCL Christchurch.
5. The IMG requests an explanation for the high number of smears reported on after more than 14 days by Auckland Hospital Laboratory, Diagnostic MedLab Auckland, SCL Christchurch and SCL Dunedin.
6. The IMG notes with concern the continuing ethnic disparities in the timeliness of smear reporting and is awaiting further ongoing analyses by the NSU in response to a previous recommendation (Quarterly Monitoring Report 23, published in 2006).

Section 6.4 Laboratory histology turn around time

7. The IMG is still awaiting a response to previous recommendations from Wellington Hospital for low histology turnaround times (Quarterly Reports 14, 15&16, 18&19, 22, 23, 24 and 25, published from 2005). The IMG notes with concern a worsening trend for Wellington Hospital and would like this matter flagged for NSU attention.
8. The IMG requests an explanation from Memorial Hospital Hastings and Waikato Hospital for low histology turnaround times.
9. The IMG has previously requested an explanation from the NSU for the differences in timeliness of reporting histology by ethnicity (Quarterly Report 24, published in 2007), and is awaiting the results of ongoing analyses.

Sections 6.7 and 6.8 Waiting time for colposcopic assessment

10. The IMG is concerned about the potential incompleteness of colposcopy data and requests the NSU to review the data provided to the IMG.
11. The IMG is also concerned by the continuing unavailability of data needed to report on both the targets for waiting times for colposcopic assessment, and

ethnicity specific waiting times. The IMG requests that the NSU continues to seek solutions to these problems.

Section 6.9 Short interval re-screening

12. The IMG notes high rates of short interval re-screening and is awaiting a response from a previous recommendation in Quarterly Report 25 (published in August 2007).
13. The IMG request the NSU to clarify the meaning of the Unspecified DHB category and to review how it is used, with a view to decreasing the proportion of women in this category.

5. Methods

Each indicator is described in the results section under separate headings that identify the specific indicators. The results for each indicator are discussed in relation to the set targets. For indicators with and without a target, changes over time are described.

To calculate the indicators for this report, anonymised data provided by the NSU of women enrolled on the NCSP Register were used. This report includes results for Māori and Pacific women. Both the National Kaitiaki Group and the Pacific Women's Data Advisory Group approved the use of data for enrolled women recorded as identifying with Māori and Pacific ethnic groups, respectively, on the NCSP Register. For the purposes of the monitoring reports, women recorded on the NCSP Register as being not Māori or Pacific were grouped together as the non-Māori, non-Pacific group. This group includes women whose ethnic group was unknown, estimated as 7% of the total number of women on the NCSP Register. Therefore, ethnic disparities shown in these monitoring reports are likely to be underestimated due to the probable underestimation of the number of Māori and Pacific women on the NCSP Register. Chi² tests were used to examine the statistical significance of the differences between ethnicities and Regions.

Following consultation with the National Kaitiaki Group and the Pacific Women's Data Advisory Group, values of fewer than 10 women will not be published when data is broken down by age group or Region for Māori or Pacific women's data in IMG Reports to avoid the possibility of these women being identifiable.

Unless otherwise stated, a woman's age at the end of the reporting quarter was used when calculating the indicators. The registration status and demographic details of each woman at the time of the data download were used for all calculations. Women were assigned to both a NCSP Region and a District Health Board (DHB) area by the NCSP Register. Each woman was allocated to the NCSP Region and DHB area in which they lived, with two exceptions. Women whose address was unknown were allocated to the NCSP Region according to their last known smear taker, or according to the NCSP regional service office if the smear taker has indicated that the woman is

no longer a patient there. 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 a DHB area, then they were allocated to that DHB, otherwise the DHB area in which they lived was recorded as unspecified.

6. Results

6.1 Follow-up of women with high grade cytology

Definition

High grade cytology is defined as a cytology result of atypical squamous cells of undetermined significance, cannot exclude high grade (ASC-H), HSIL or more serious abnormality according to the hierarchy of the Revised Bethesda Coding System (2001) (Appendix 1). The timeliness of the follow-up of women with a high grade cytology result is estimated using the time elapsed before a histology specimen is taken following the date that the high grade cytology was taken.

Targets

The targets for the follow-up of women with high grade cytology are as follows:

- 90% of women should have a histology specimen taken within 12 weeks of the smear being taken

and

- 99% of women should have a histology specimen taken within 52 weeks of the smear being taken.

Calculation

The number of enrolled women aged 20 to 69 years at 30 June 2007 who had a high grade cytology result recorded on the NCSP Register between 1 July 2005 and 30 June 2006 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 (including specimens taken up to five days before the smear) 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 ASC-H, HSIL or more serious cytology result were expressed as proportions of the total number of women with a high grade cytology taken between 1 July 2005 and 30 June 2006. The number and proportion of women with no histology result recorded on the NCSP Register following their high grade cytology were also calculated. Women without a subsequent histology recorded on the NCSP Register were also described in two

ways: whether they had been signed back into the Programme since their high grade smear and whether they had a subsequent smear taken by either a non-specialist or specialist. This indicator was calculated for women of all ethnic groups, and separately for Māori, Pacific and non-Māori, non-Pacific women. It was also calculated for each NCSP Region.

Results

The timeliness with which a histology specimen was taken amongst women who had a high grade cytology result is shown in Table 1. Between 1 July 2005 and 30 June 2006, 5,239 women had a high grade cytology result. Of these, 3,921 (74.8%) had a histological specimen taken within 12 weeks of the abnormal cytology, below the target of 90%. This value is similar to that reported in the previous two quarters (75.1% and 75.0%). The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was 90.5% (n=4,740). This value is similar to those reported in the previous two quarters (90.5% and 90.8%), and is below the target of 99%. There was no histology reported on the NCSP Register for 418 (8.0%) women who had a high grade cytological abnormality.

The timeliness of having a histological specimen taken following a high grade smear differed by ethnicity, as shown in Table 2. Compared to non-Māori, non-Pacific women, Māori and Pacific women were less likely to have a histological specimen taken within the recommended time periods. For example, at 12 weeks, 77.2% of non-Māori, non-Pacific women had a report of a histological specimen, compared to 66.7% of Māori and 53.8% of Pacific women. These proportions are similar to those reported in the last quarter (77.8%, 65.2% and 53.2%, respectively). Differences by ethnicity persisted for all time periods following a high grade smear. Statistical tests showed that the differences between the groups are very unlikely to be due to chance ($P < 0.001$).

The timeliness of having a histological specimen taken following a high grade smear differed by NCSP Region, see Table 3. No Region achieved the target of 90% of women having a histological specimen taken within 12 weeks of the smear. The Region with the highest proportion of women who had a histological report within this time period was Otago/Southland (84.5%, n=370). The poorest performer was

Tairāwhiti (66.7%, n=48). For all Regions combined the proportion of women who had histological reports within 12 weeks of the smear was 74.8%.

No Region reached the target of 99% of women having a histological specimen taken within 52 weeks of a high grade smear. The Region with the highest proportion of women who had a histological report within this time period was Nelson/Marlborough (97.5%, n=156). The poorest performer was Manawatu/Whanganui (84.9%, n=287). For all Regions combined the proportion of women who had a high grade smear result with a subsequent histology taken within 52 weeks was 90.5%. Statistical tests showed that the differences between Regions are very unlikely to be due to chance ($P < 0.001$).

To investigate whether the differences in timeliness of histology reporting are explained by differences in the proportion of women from each ethnic group across the Regions, the results from Table 3 are presented in Appendix 2 separately for Māori, Pacific and non-Māori, non-Pacific women. From these tables, it is clear that the differences across Regions are not explained by the different proportions of women from each ethnic group in each Region. This does not negate the importance of the disparities by ethnic group, which persist in each Region.

A relatively large number of women (n=418, 8.0%) had no histology report recorded on the NCSP Register following a high grade smear. The absence of such a report was more common in Māori (9.7%) and Pacific (12.4%) women compared to non-Māori, non-Pacific women (7.5%), see Table 2. There were also differences by Region in the absence of a histological report following a high grade smear, see Table 3. Such an absence was common (above 10%) in Manawatu/Whanganui, and Tairāwhiti.

Further details of the 418 women who had no histology result recorded on the NCSP Register following a high grade smear are shown in Table 4. Of these, 101 (24.2%) had no subsequent smear recorded and 142 (34.0%) had a follow-up smear taken by a non-specialist. Of these 243 women who had either no follow-up smear or a smear taken by a non-specialist, 124 (51.0%) were recorded on the register as having been 'signed in' following their high grade smear result, indicating that they had been recalled by the NCSP. The remaining 119 (49.0%) women did not appear to have

been signed in, indicating that their follow-up was less clear. Statistical tests showed that the differences between Register status are very unlikely to be due to chance ($P=0.001$).

Possible reasons for these women not being signed in include having:

- had further investigations and treatment, but their histology reports were erroneously omitted from the NCSP Register
- moved overseas and had follow-up there
- no indications for biopsy at colposcopic examination.

Ethnic disparities

The breakdown of subsequent smears by ethnicity for women who had a high grade cytology result but no histology report is shown in Table 5. There is some evidence of ethnic disparities in the follow-up of women with high grade cytology reports. A higher proportion of Māori women (40.0%) had no subsequent smear recorded on the NCSP Register after their high grade cytology report compared to non-Māori, non-Pacific (20.3%) and Pacific women (26.1%). Fewer Māori women (30.7%) had a subsequent smear taken by a specialist than non-Māori, non-Pacific women (44.7%) and Pacific women (39.1%). The proportion of Māori women (29.3%) who had a subsequent smear taken by a non-specialist was less than those for non-Māori, non-Pacific women (35.0%) and Pacific women (34.8%). These disparities between ethnic groups were statistically significant ($P=0.01$).

Recommendations

1. The NSU is to investigate all women with a high grade smear and no subsequent histology result recorded on the NCSP Register individually. Priority is to be given to women with no subsequent smear, Māori women, Pacific women, and then by Region, starting with Tairāwhiti.
2. The IMG notes with concern the persistent ethnic inequalities for histological follow-up within 12 weeks of a high grade cytology result.
3. The IMG requests that the NSU's Indicator Review Group review what this indicator is actually trying to measure (colposcopy waiting times or overall waiting times), produce a precise calculation methodology, and set a suitable target for what is being measured. It is recommended that the indicator should be reported by ethnicity.

Table 1: Timeliness of a histological follow-up after a high grade cytology result recorded between 1 July 2005 and 30 June 2006 for 20 to 69 year old women

Time period	n	Proportion %	Cumulative Proportion %
Within 12 weeks ¹	3,921	74.8	74.8
13 to 26 weeks	575	11.0	85.8
27 to 52 weeks ²	244	4.7	90.5
More than 52 weeks	81	1.5	92.0
Subtotal	4,821		
No histology recorded on NCSP Register	418	8.0	100
Total	5,239		

Target: ¹90% with histology report within 12 weeks, ²99% within 52 weeks of a high grade smear

Table 2: Ethnic disparities in timeliness of a histological follow-up after a high grade cytology result recorded between 1 July 2005 and 30 June 2006 for 20 to 69 year old women

Time Period	Māori women			Pacific women			Non-Māori, non-Pacific women		
	n	Proportion %	Cumulative Proportion %	n	Proportion %	Cumulative Proportion %	n	Proportion %	Cumulative Proportion %
Within 12 weeks ¹	514	66.7	66.7	100	53.8	53.8	3,307	77.2	77.2
13 to 26 weeks	104	13.5	80.2	36	19.4	73.1	435	10.2	87.4
27 to 52 weeks ²	50	6.5	86.7	21	11.3	84.4	173	4.0	91.4
More than 52 weeks	28	3.6	90.3	6	3.2	87.6	47	1.1	92.5
Subtotal	696			163			3,962		
No histology recorded on NCSP Register	75	9.7	100.0	23	12.4	100.0	320	7.5	100.0
Total	771			186			4,282		

Difference between ethnic groups $P < 0.001$

Target: ¹ 90% with histology report within 12 weeks, ² 99% within 52 weeks of a high grade smear

Note: the follow-up of the 418 women with no histology recorded on the NCSP Register is shown in Table 4

Table 3: Timeliness of a histological follow-up after a high grade cytology result recorded between 1 July 2005 and 30 June 2006 for 20 to 69 year old women by NCSP Region

NCSP Region	Time Periods										
	Within 12 weeks ¹		13 to 26 weeks		27 to 52 weeks		Within 52 weeks ²		No Histology		Total
	n	%	n	%	n	%	n	%	n	%	
Auckland	1,183	70.1	211	12.5	100	5.9	1,494	88.5	169	10.0	1,688
Bay of Plenty	332	72.0	69	15.0	15	3.3	416	90.2	40	8.7	461
Canterbury	511	81.2	54	8.6	30	4.8	595	94.6	28	4.5	629
Hawke's Bay	141	77.1	14	7.7	8	4.4	163	89.1	16	8.7	183
Manawatu/Whanganui	243	71.9	25	7.4	19	5.6	287	84.9	44	13.0	338
Nelson/Marlborough	123	76.9	30	18.8	3	1.9	156	97.5	3	1.9	160
Northland	118	83.1	7	4.9	5	3.5	130	91.6	7	4.9	142
Otago/Southland	370	84.5	35	8.0	10	2.3	415	94.7	17	3.9	438
Tairāwhiti	48	66.7	8	11.1	6	8.3	62	86.1	8	11.1	72
Taranaki	93	75.6	16	13.0	5	4.1	114	92.7	7	5.7	123
Waikato	340	79.3	35	8.2	19	4.4	394	91.8	29	6.8	429
Wellington	392	72.9	65	12.1	22	4.1	479	89.0	47	8.7	538
West Coast	27	71.1	6	15.8	2	5.3	35	92.1	3	7.9	38
Total	3,921	74.8	575	11.0	244	4.7	4,740	90.5	418	8.0	5,239

Difference between NCSP Regions $P < 0.001$

Target: ¹ 90% with histology report within 12 weeks, ² 99% within 52 weeks of a high grade smear

Table 4: Women with a high grade cytology report recorded between 1 July 2005 and 30 June 2006 but no histological follow-up recorded, by NCSP Register status and source of any subsequent smear

Subsequent smear	Women's status since high grade cytology result					
	Not signed in		Signed in		Total	
	n	%	n	%	n	%
No subsequent smear	37	19.7	64	27.8	101	24.2
Subsequent smear taken by non-specialist	82	43.6	60	26.1	142	34.0
Smear taken by specialist	69	36.7	106	46.1	175	41.9
Total	188		230		418	

Difference between NCSP Register status P=0.001

Table 5: Ethnic disparities in the follow-up of women with a high grade cytology report recorded between 1 July 2005 and 30 June 2006 but no histology result recorded, by NCSP Register status and source of any subsequent smear

Subsequent smear	Women's status since high grade cytology result																	
	Not signed in						Signed in						Total					
	Māori women		Pacific women		Non-Māori, non-Pacific women		Māori women		Pacific women		Non-Māori, non-Pacific women		Māori women		Pacific women		Non-Māori, non-Pacific women	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
No subsequent smear	8	26.7	4	33.3	25	17.1	22	48.9	2	18.2	40	23.0	30	40.0	6	26.1	65	20.3
Smear by non-specialist	14	46.7	3	25.0	65	44.5	8	17.8	5	45.5	47	27.0	22	29.3	8	34.8	112	35.0
Smear taken by specialist	8	26.7	5	41.7	56	38.4	15	33.3	4	36.4	87	50.0	23	30.7	9	39.1	143	44.7
Total	30		12		146		45		11		174		75		23		320	

Difference between ethnic groups P=0.01

Figure 1: Timeliness of a histology report after a high grade cytology result for enrolled 20 to 69 year old women

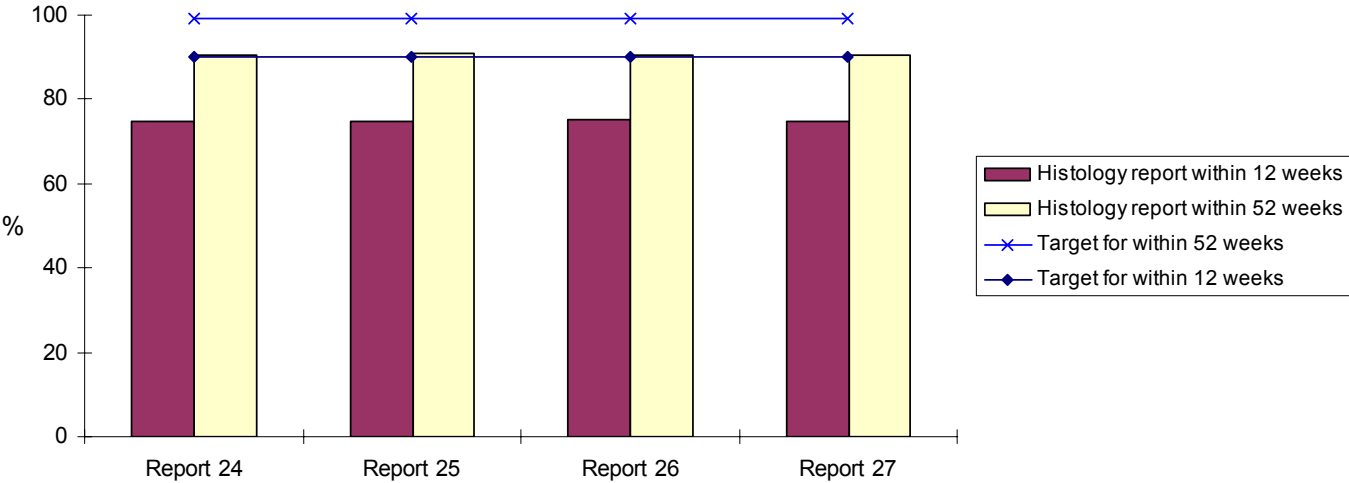


Figure 2: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

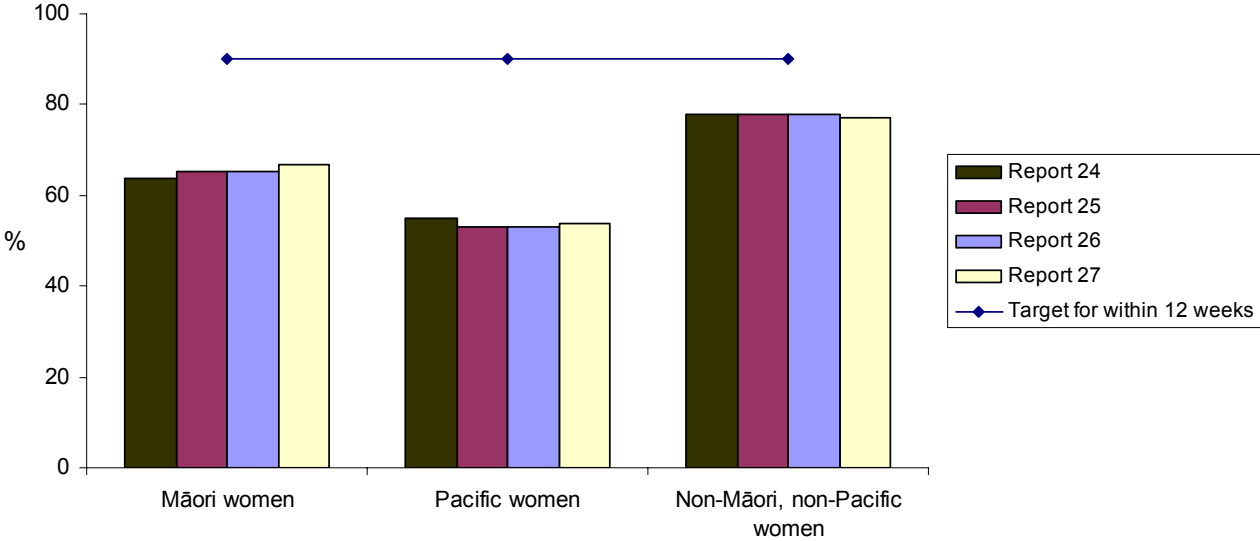


Figure 3: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

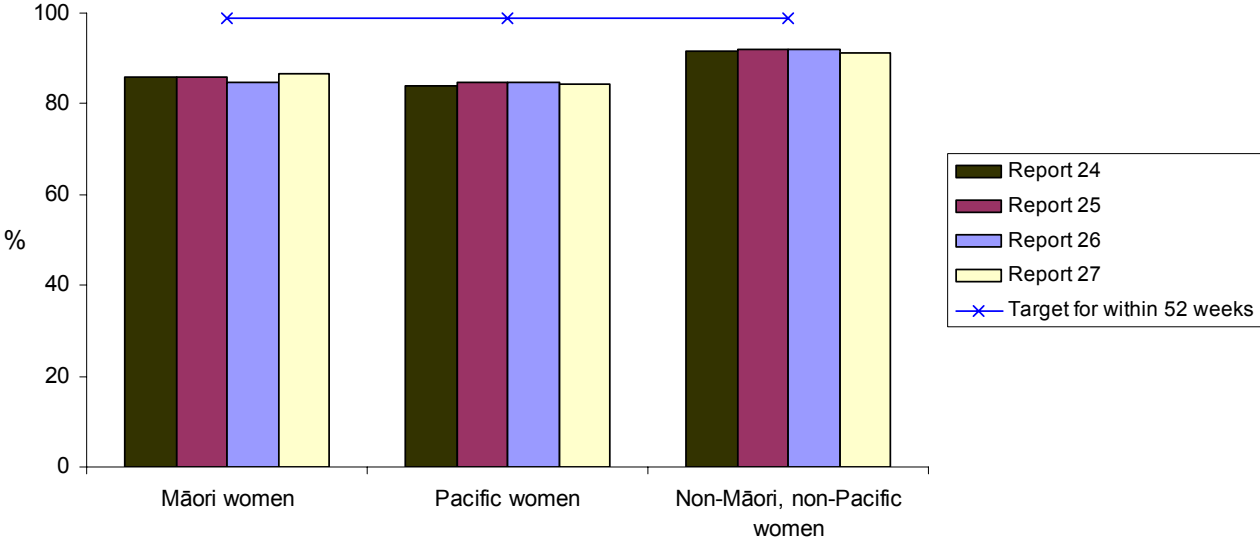


Figure 4: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

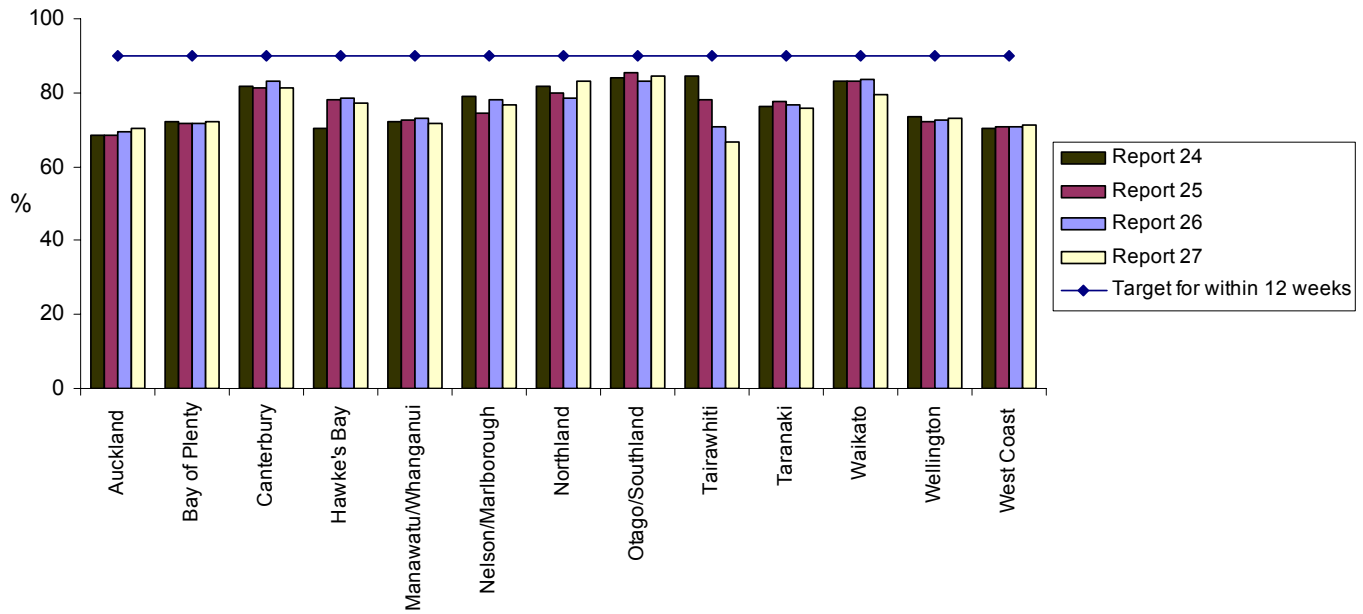


Figure 5: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

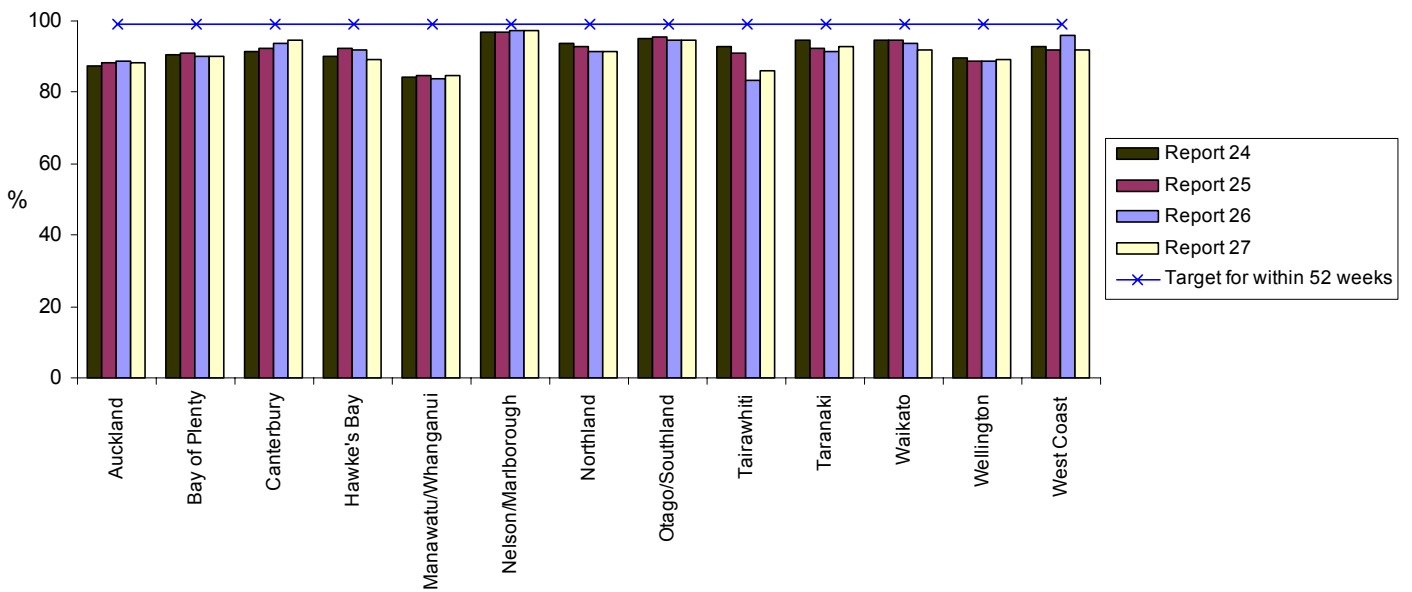
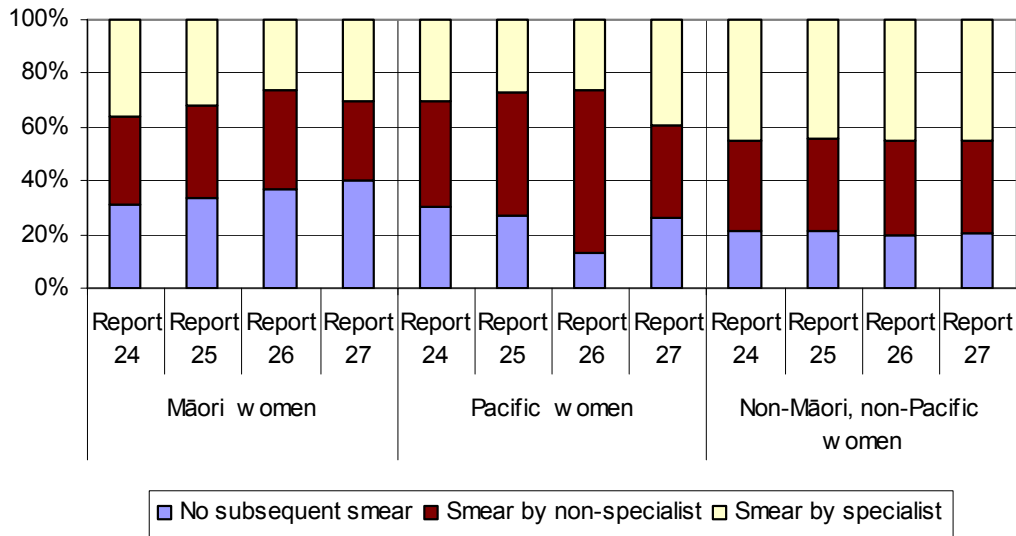


Figure 6: Ethnic disparities in the follow-up of women with a high grade cytology report but no histology result recorded, by NCSF Register status and source of any subsequent smear



6.2 Laboratory smear reporting

Definition

Laboratory smear reporting is measured by the number and proportion of satisfactory smears in the following broad cytological categories:

1. Negative for dysplasia or malignancy
2. ASC-US
3. ASC-H
4. LSIL (CIN 1 and/or HPV)
5. HSIL
6. Total abnormalities (smears reported as ASC-US or more serious, including glandular abnormalities)

Targets

There are targets for laboratory smear reporting for three of the broad categories:

1. Negative for dysplasia or malignancy: not more than 96%
2. HSIL: not less than 0.6%
3. Total abnormalities: not more than 10%

Calculation

The Bethesda diagnosis codes, as recorded on the NCSP Register, of satisfactory smears taken during the reporting quarter (1 April 2007 to 30 June 2007) were used to calculate the number of smears in each broad cytological category for each laboratory. These smears in each cytological category were expressed as proportions of the total number of satisfactory smears reported by each laboratory. Where a single smear had more than one diagnosis code, the most serious ranked code was used according to the hierarchy of codes (see Appendix 1). Total abnormalities included all smears with a diagnosis code of ASC of undetermined significance (ASC-US), or more serious abnormality (including glandular abnormalities) according to the hierarchy of broad cytological categories. Smear results for women of all ages were included. Smears recorded as being unsatisfactory for evaluation were excluded.

Please note that this indicator previously included smears that were either satisfactory but limited or satisfactory for evaluation. Since the adoption of the 2001 revision of the Bethesda Coding Standard the category of satisfactory but limited has ceased to be used. The targets for this indicator are therefore currently under evaluation.

Results

During the quarter 101,055 satisfactory smears were taken. The results of these, by laboratory, are shown in Table 6. The number of such smears reported by each laboratory ranged from 4,096 for SCL Christchurch to 32,671 for Diagnostic MedLab Auckland. Overall, 92,471 (91.5%) smears were reported as negative for dysplasia or malignancy, which was similar to the proportion reported in the last two quarters (92.0% and 92.6%). None of the laboratories exceeded the target of not more than 96% of smears being negative for dysplasia or malignancy.

The proportion of smears reported with a HSIL abnormality was 0.8% for all laboratories combined. This figure met the target of not less than 0.6% and was identical to that reported for the previous two reporting quarters (0.8% and 0.8%). Two laboratories; Diagnostic MedLab Auckland (n=157, 0.5%), and Aotea Pathology (n=40, 0.4%) did not meet the target for smears reported with a HSIL abnormality.

For all laboratories combined, the target of not more than 10% of smears reported as abnormal was not exceeded. This proportion was 8.5%, similar to the previous two quarters (8.0% and 7.4%). Auckland Hospital Laboratory reported 1,329 (22.4%) smears processed as abnormal, and has reported high proportions for the previous two quarters (18.8% and 19.3%). MedLab Bay of Plenty (10.5%) and MedLab Central (10.2%) also exceeded the 10% total abnormalities target.

The proportion of smears reported as LSIL varied between laboratories, but was between 2.1% and 3.4% for all laboratories, with the exception of Auckland Hospital Laboratory (5.6%), Canterbury Health Laboratories (4.5%), MedLab Bay of Plenty (4.6%) and MedLab Central (5.2%). Note that no target is set for the proportion of smears reported as LSIL.

Recommendations

4. The IMG requests an explanation for the low HSIL rates reported by Diagnostic MedLab Auckland and Aotea Pathology.
5. The IMG notes the high total abnormalities rates for MedLab Bay of Plenty and MedLab Central and will maintain watchful waiting as these rates appear to be declining.

Table 6: The number and proportion of satisfactory smears in broad cytological categories for each laboratory between 1 April 2007 and 30 June 2007

Laboratory	Negative for dysplasia or malignancy ¹		ASC-US		ASC-H		LSIL		HSIL ²		Total Abnormalities ^{3§}		Total smears
	n	%	n	%	n	%	n	%	n	%	n	%	n
Auckland Hospital Lab.	4,607	77.6	579	9.8	226	3.8	332	5.6	154	2.6	1,329	22.4	5,936
Canterbury Health Lab.	9,110	91.8	188	1.9	57	0.6	445	4.5	109	1.1	815	8.2	9,925
Diagnostic MedLab Auckland	30,069	92.0	1,088	3.3	229	0.7	1,079	3.3	157	0.5	2,602	8.0	32,671
MedLab Bay of Plenty	8,221	89.5	396	4.3	74	0.8	418	4.6	52	0.6	963	10.5	9,184
MedLab Central	6,094	89.8	195	2.9	65	1.0	351	5.2	62	0.9	690	10.2	6,784
MedLab Christchurch	4,112	90.8	188	4.2	56	1.2	129	2.8	34	0.8	415	9.2	4,527
Aotea Pathology	10,371	93.3	268	2.4	50	0.4	383	3.4	40	0.4	747	6.7	11,118
SCL* Christchurch	3,904	95.3	63	1.5	15	0.4	88	2.1	24	0.6	192	4.7	4,096
SCL* Dunedin	15,983	95.1	111	0.7	73	0.4	420	2.5	211	1.3	831	4.9	16,814
Total	92,471	91.5	3,076	3.0	845	0.8	3,645	3.6	843	0.8	8,584	8.5	101,055

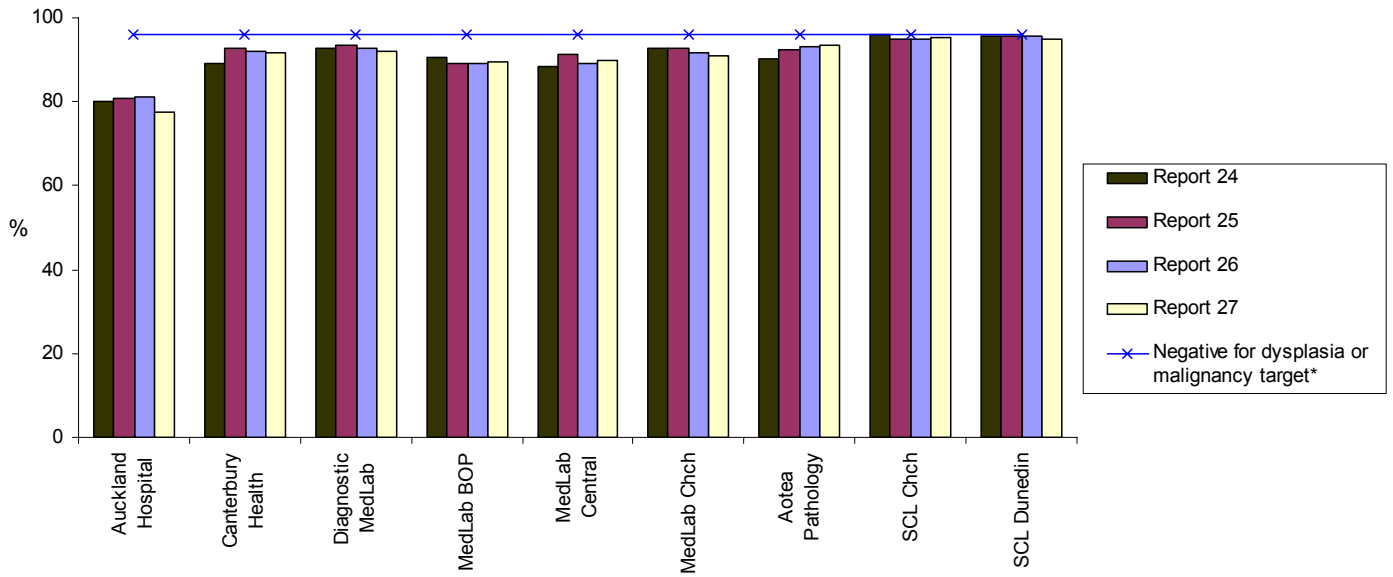
SCL*: Southern Community Laboratories

§ Total abnormalities includes glandular abnormalities

Targets are: ¹ not more than 96%, ² not less than 0.6%, ³ not more than 10%

Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

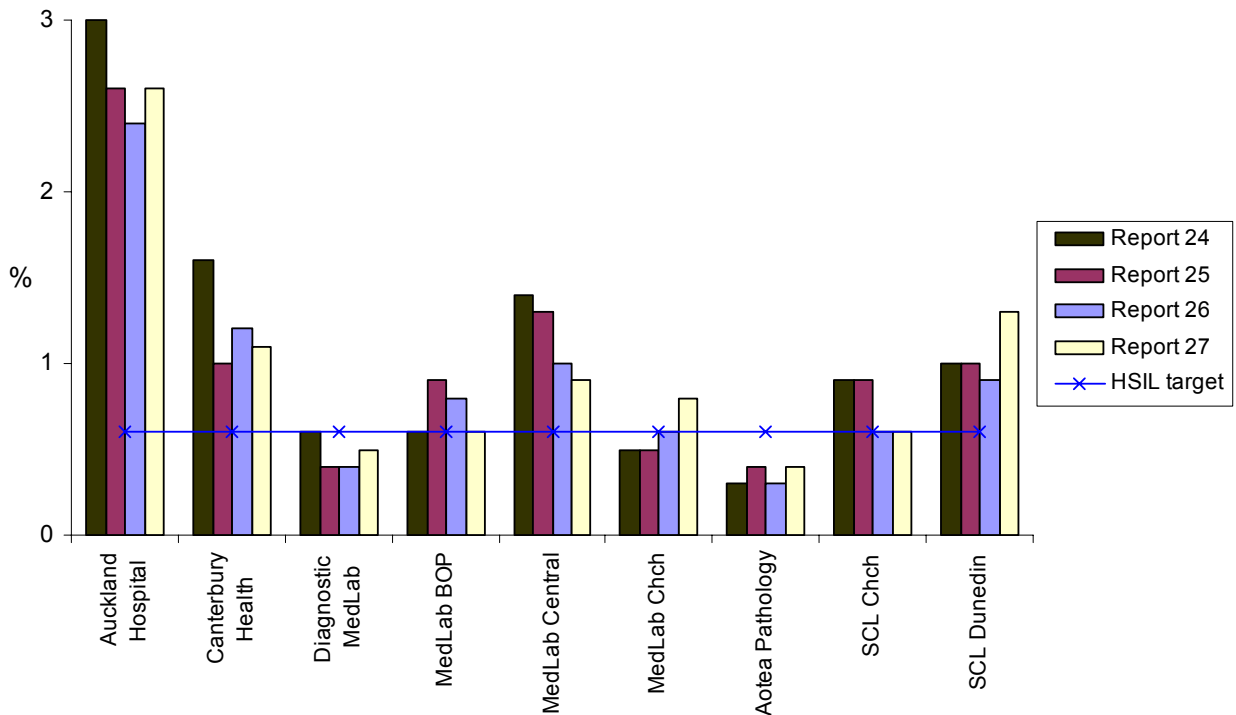
Figure 7: The proportion of satisfactory smears reported as negative for dysplasia or malignancy for each laboratory



*Negative for dysplasia or malignancy target is not more than 96% so laboratories should be under the target line

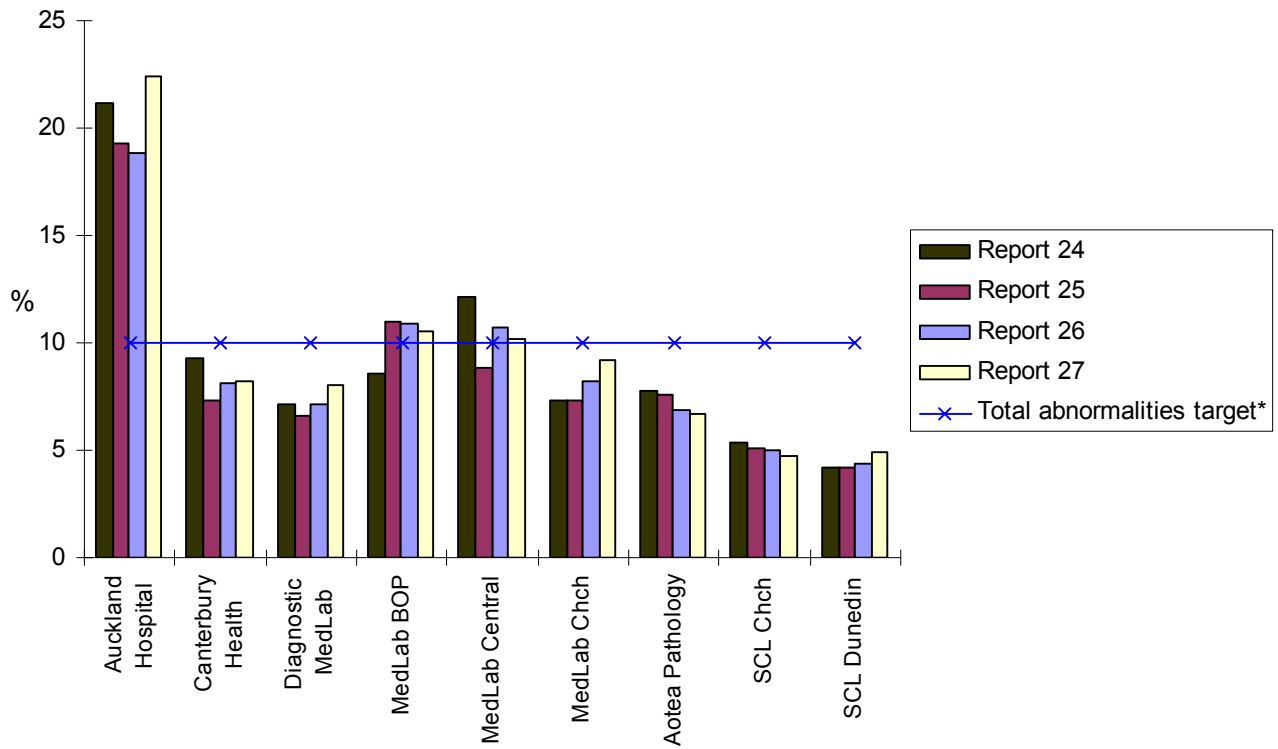
Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Figure 8: The proportion of satisfactory smears reported as HSIL for each laboratory



Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Figure 9: The proportion of satisfactory smears reported as total abnormalities for each laboratory



* Total abnormalities target is not more than 10% so laboratories should be under the target line

Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

6.3 Laboratory cytology turn around time

Definition

Laboratory cytology turn around time is the period of time between a smear being received by the laboratory and the report being issued by the laboratory to the smear taker.

Targets

The targets for the laboratory cytology turn around time are:

- 90% of cytology reports issued to the smear taker within seven working days of the smear being received by the laboratory
- and
- 100% of cytology 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 to the smear taker, as recorded by the NCSP Register, was used to measure the laboratory turn around time. The numbers of smears reported within seven working days (Monday to Friday), 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 the laboratory during the quarter. Smears taken from enrolled women of all ages during the reporting period as recorded on the NCSP Register were included.

Results

The proportion of smears received and reports issued within specified time periods during the period 1 April 2007 to 30 June 2007 for each laboratory processing cervical cytology are shown in Table 7. Overall, 81.9% of the 104,991 smears received by laboratories were reported within seven working days. This did not meet the target of 90%, and nor did the proportion reported in the last two quarters (86.8% and 87.1%). Four of the nine reporting laboratories achieved the seven-day target of 90%. Auckland Hospital Laboratory (46.7%), Canterbury Health Laboratories

(39.3%), MedLab Central (74.3%), Aotea Pathology (78.6%), and SCL Christchurch (13.4%) did not meet this target.

Overall, the 14-day target of 100% was not achieved (96.9%). Two of the nine reporting laboratories achieved the 100% target, MedLab Central, and MedLab Christchurch. SCL Christchurch reported 2,085 smears outside 14 working days. The other laboratories to report smears outside this target were, Auckland Hospital Laboratory (n=723), Canterbury Health Laboratories (n=68), Diagnostic MedLab Auckland (n=136), MedLab Bay of Plenty (n=5), MedLab Central (n=1), Aotea Pathology (n=13), and SCL Dunedin (n=242). The reporting time for the 3,273 smears that were outside the 14-day target, ranged from 15 to 70 days, with the median time being 18 days.

Ethnic disparities

The proportion of smears received and reports issued within specified time periods during the period 1 April 2007 to 30 June 2007 by ethnicity are shown in Table 8. The proportions of Māori women (80.9%) and non-Māori, non-Pacific women (81.7%) who had a smear reported within seven working days were less than that of Pacific women (88.4%). These differences were statistically significant, $P < 0.001$. The proportion of non-Māori, non-Pacific women (3.2%, n=2,913) who had a smear reported outside 14 working days was more than those of Māori (2.7%, n=265) and Pacific women (2.4%, n=95). Statistical tests showed that the differences between the groups are unlikely to be due to chance ($P=0.001$).

Recommendations

6. The IMG acknowledge receipt of the response from Auckland Hospital Laboratory to the recommendation made in Quarterly Report 25 (published in 2007) and accept the explanation.
7. The IMG note the dramatic decrease in seven and 14 day turnaround times for SCL Christchurch, and seek a further explanation to that received in response to the consultation draft of Quarterly Report 26. In particular the IMG would like to know the dates over which the staffing problem occurred. The NSU is requested to investigate the error rates (define further i.e.: lab results error when attempting upload to NCSP-R database) for this time period in order to assess their impact, and to seek further clarification from SCL Christchurch.

Table 7: Timeliness of the reporting of smears between 1 April 2007 and 30 June 2007 by laboratory

Laboratory	Number of smears processed n	Within 7 working days ¹		From 8 to 14 working days		Within 14 working days ² (cumulative %)		More than 14 working days	
		n	%	n	%	n	%	n	%
Auckland Hospital Lab.	6,197	2,892	46.7	2,582	41.7	5,474	88.3	723	11.7
Canterbury Health Lab.	10,195	4,004	39.3	6,123	60.1	10,127	99.3	68	0.7
Diagnostic MedLab Auckland	34,652	34,365	99.2	151	0.4	34,516	99.6	136	0.4
MedLab Bay of Plenty	9,621	9,437	98.1	179	1.9	9,616	99.9	5	0.1
MedLab Central	6,883	5,114	74.3	1,768	25.7	6,882	100.0	1	0.0
MedLab Christchurch	4,694	4,694	100.0	0	0.0	4,694	100.0	0	0.0
Aotea Pathology	11,391	8,952	78.6	2,426	21.3	11,378	99.9	13	0.1
SCL* Christchurch	4,123	552	13.4	1,486	36.0	2,038	49.4	2,085	50.6
SCL* Dunedin	17,235	15,935	92.5	1,058	6.1	16,993	98.6	242	1.4
Total	104,991	85,945	81.9	15,773	15.0	101,718	96.9	3,273	3.1

SCL*: Southern Community Laboratories

Targets are: ¹ 90% within seven working days, ² 100% within 14 working days

Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Table 8: Timeliness of the reporting of smears between 1 April 2007 and 30 June 2007 by ethnicity

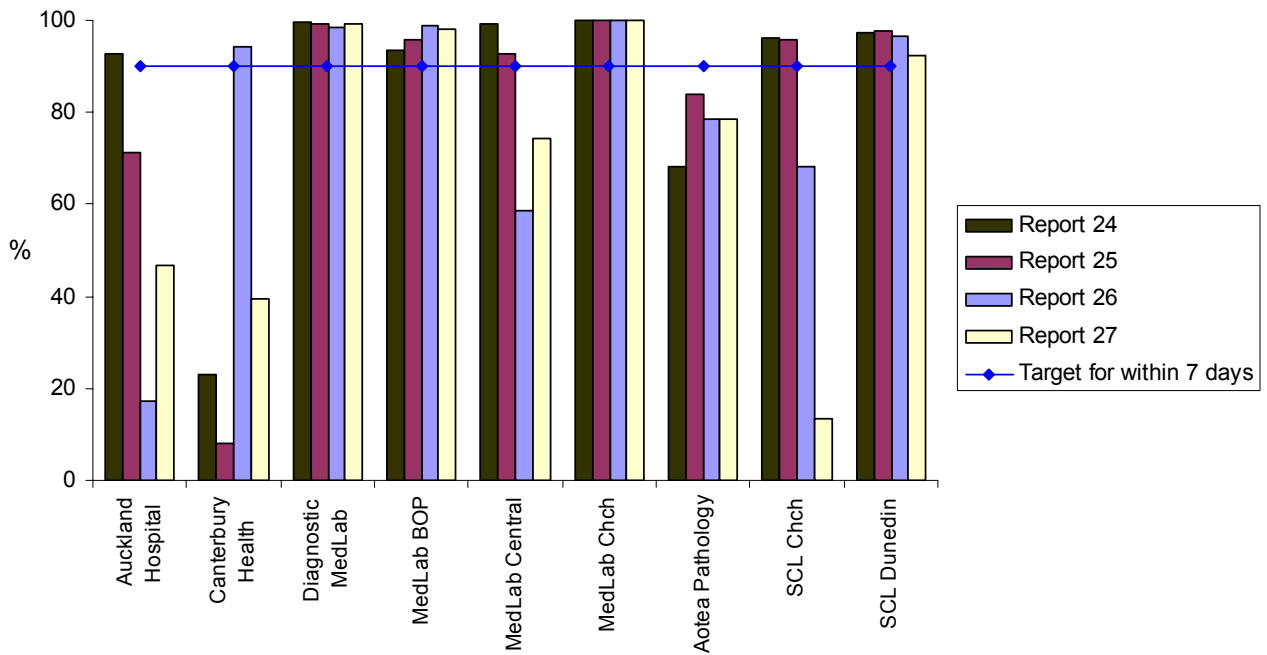
Ethnicity	Number of smears processed	Within 7 working days ¹		From 8 to 14 working days		Within 14 working days ² (cumulative %)		More than 14 working days	
	n	n	%	n	%	n	%	n	%
Māori	9,799	7,923	80.9	1,611	16.4	9,534	97.3	265	2.7
Pacific	3,917	3,461	88.4	361	9.2	3,822	97.6	95	2.4
Non-Māori, non-Pacific	91,275	74,561	81.7	13,801	15.1	88,362	96.8	2,913	3.2
Total	104,991	85,945	81.9	15,773	15.0	101,718	96.9	3,273	3.1

Difference between ethnic groups for smears reported within seven working days P<0.001

Difference between ethnic groups for smears reported outside 14 working days P=0.001

Targets are: ¹ 90% within seven working days, ² 100% within 14 working days

Figure 10: Proportion of smears reported on within seven working days



Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Figure 11: Proportion of smears reported on within seven working days by ethnicity

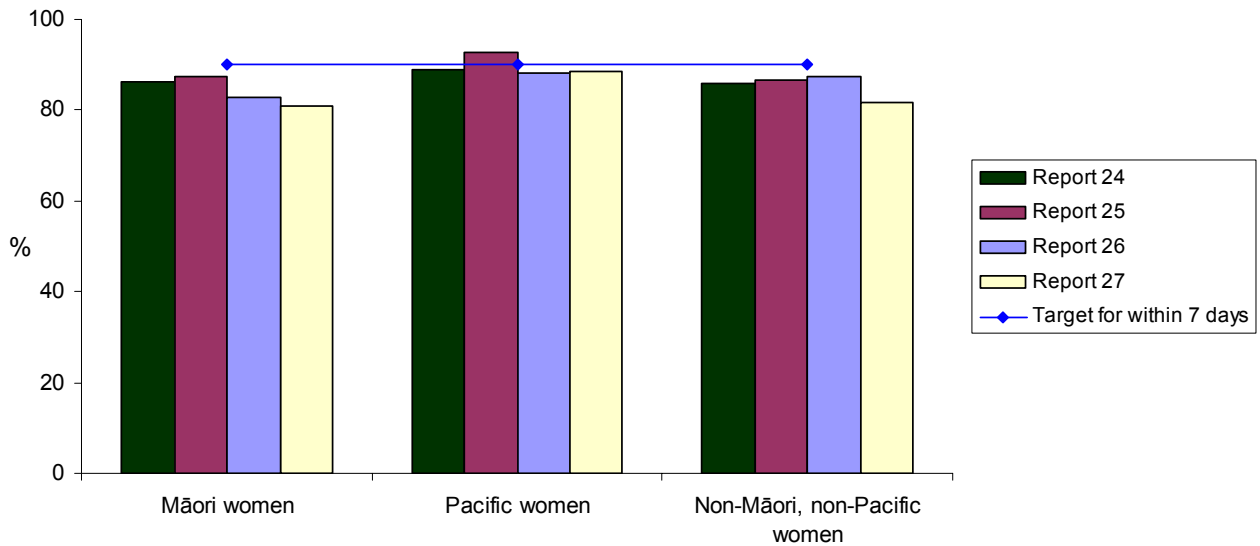
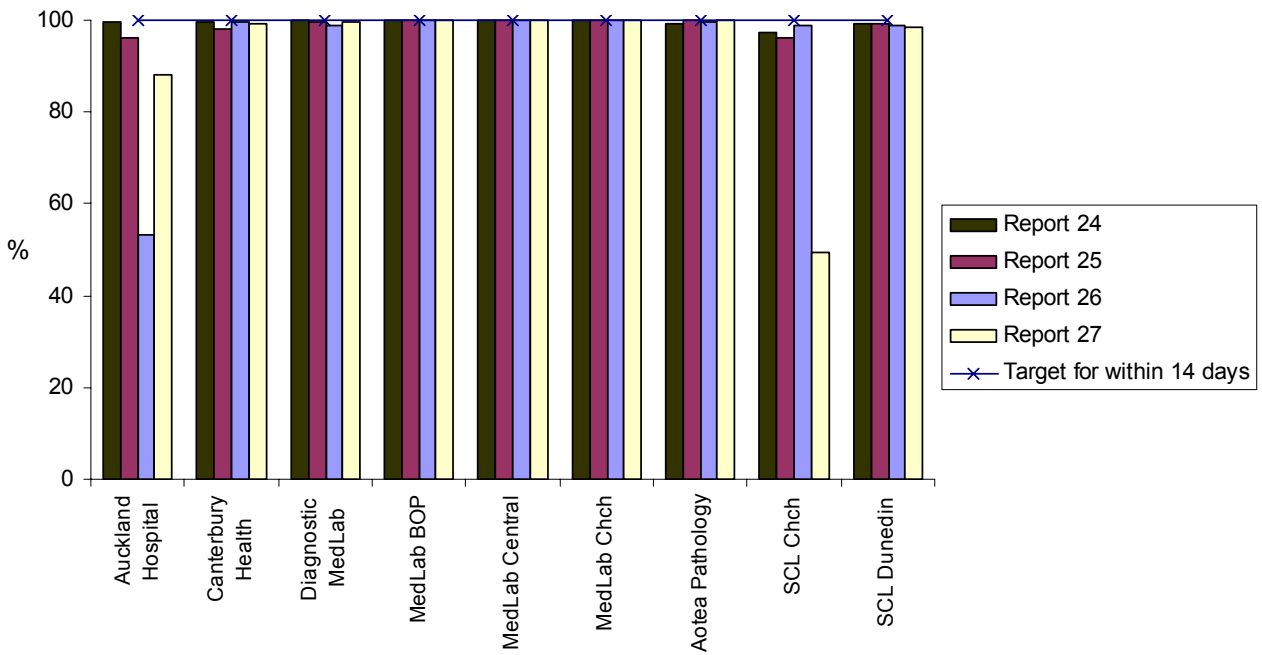
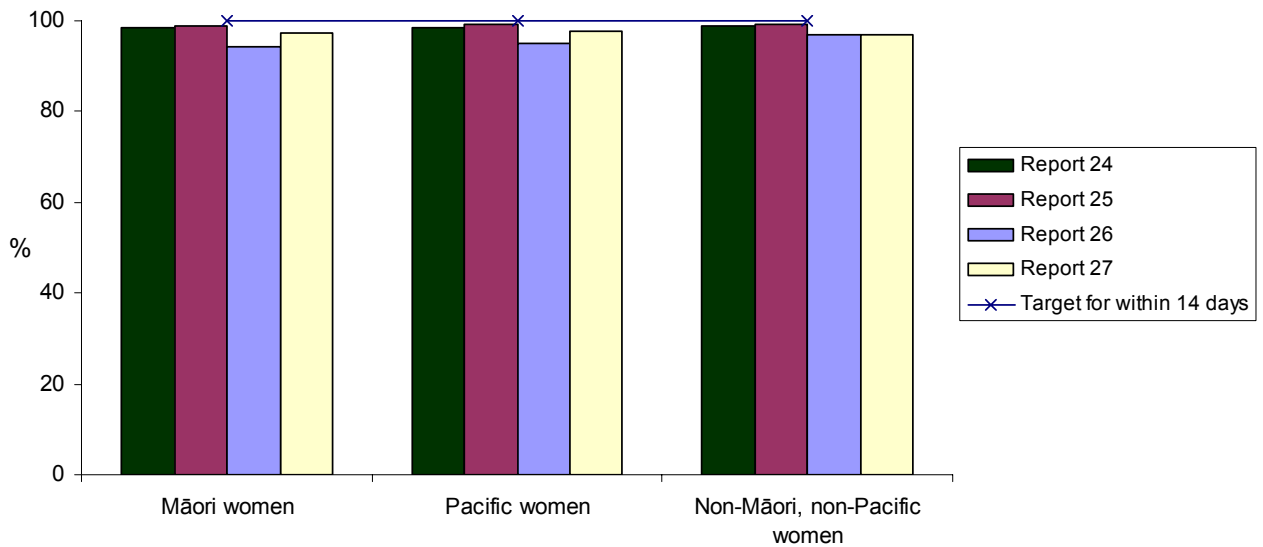


Figure 12: Proportion of smears reported on within 14 working days



Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Figure 13: Proportion of smears reported on within 14 working days by ethnicity



6.4 Laboratory histology turn around time

Definition

Laboratory histology turn around time is the period of time between a cervical or vaginal histology specimen being received in the laboratory and the report being issued by the laboratory to the clinician. Histology specimens include diagnostic biopsies, treatment biopsies, cervical polyps and cervical tissue of total hysterectomy specimens.

Targets

The targets for the laboratory histology turn around 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 being received by the laboratory. A reasonable time period is not defined, but the NCSP Interim Operational Policy and Quality Standards Manual (2000) states that “If it is likely to take more than 10 days for the result to be reported, the colposcopist should be informed”.

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 to the clinician, as recorded on the NCSP Register, was calculated for each laboratory that processed cervical histology. For each laboratory, the numbers of cervical histology specimens received during the quarter and reported within five working days (Monday to Friday), six to 10 working days, or more than 10 working days were expressed as proportions of the total number of cervical histology specimens received by each laboratory during the quarter. Cervical histology specimens taken from enrolled women of all ages during the reporting period as recorded on the NCSP Register were included.

Results

The timeliness of histology reporting by the 21 laboratories that provided results to the NCSP Register in this quarter is shown in Table 9. There were a total of 5,976

histology specimens recorded on the NCSP Register, compared to 5,254 in the previous quarter. The number of specimens reported by each laboratory varied considerably, ranging from 28 in Wanganui Hospital to 1,045 in Diagnostic MedLab Auckland. For all laboratories combined, the proportion of histological specimens reported on within five working days was 88.9%, which was below the target of 90%, and less than the figure reported in the previous two quarters (92.1%, 89.3%).

Seven laboratories did not meet the five-day 90% target. Waikato Hospital only issued reports within five days for 22 of the 43 (51.2%) histology specimens received. The other laboratories that did not meet the five-day 90% target this quarter were Auckland Hospital Laboratory (69.5%), Hutt Hospital (70.4%), Aotea Pathology (84.2%), Nelson Hospital (76.9%), SCL Dunedin (87.1) and Wellington Hospital (54.0%). In the previous quarter, Auckland Hospital Laboratory (71.7%), Aotea Pathology (89.4%), Waikato Hospital (69.0%) and Wellington Hospital (56.5%) did not meet this target.

Auckland Hospital Laboratory (21.4%), Hutt Hospital (25.5%), Nelson Hospital (21.6%), Waikato Hospital (37.2%) and Wellington Hospital (38.6%) reported the greatest proportions of histology results six to 10 working days from the specimens being received. Overall, 122 (2.0%) specimens were reported more than 10 working days after the time that they were received by the laboratory. The reporting time for the 122 specimens ranged from 11 to 42 days, with the median time being 12 days.

Ethnic disparities

The timeliness of histology reporting by ethnicity is shown in Table 10. The five-day 90% target was not met for any of the ethnic groups. The proportions of Māori (86.1%) and Pacific (76.5%) women who had histology reported within five working days were less than that of non-Māori, non-Pacific women (89.6%). Statistical tests showed that the differences between the groups are unlikely to be due to chance ($P < 0.001$). The proportions of Māori (2.8%) and Pacific (5.1%) women with histology reported outside 10 working days were more than that of non-Māori, non-Pacific women (1.9%). These differences also reached levels of statistical significance and are therefore unlikely to be due to chance ($P = 0.011$).

Recommendations

8. The IMG is **still** awaiting a response to previous recommendations from Wellington Hospital for low histology turnaround times (Quarterly Reports 14, 15&16, 18&19, 22, 23, 24, 25 and 26, published from 2005). The IMG requests that Wellington Hospital respond to these recommendations. The IMG notes with concern the worsening trend for Wellington Hospital and requests that this matter be followed-up by the NSU.
9. The IMG requests that the NSU's Indicator Review Group review the timeliness of laboratory reporting of histology with a view to separating cervical smears and oncology specimens by procedural codes.

Table 9: Timeliness of the reporting of histology between 1 April 2007 and 30 June 2007 by laboratory

Laboratory	Number of specimens processed n	Within 5 working days ¹		6 to 10 working days		11 or more working days	
		n	%	n	%	n	%
Auckland Hospital Lab.	622	432	69.5	133	21.4	57	9.2
Canterbury Health Lab.	580	524	90.3	49	8.4	7	1.2
Diagnostic MedLab Auckland	1,045	1,029	98.5	16	1.5	0	0.0
Hutt Hospital	98	69	70.4	25	25.5	4	4.1
MedLab Bay of Plenty	628	617	98.2	10	1.6	1	0.2
MedLab Central	430	421	97.9	8	1.9	1	0.2
MedLab Christchurch	49	49	100.0	0	0.0	0	0.0
MedLab Taranaki	127	125	98.4	2	1.6	0	0.0
MedLab Timaru	103	103	100.0	0	0.0	0	0.0
Aotea Pathology	221	186	84.2	28	12.7	7	3.2
Memorial Hospital Hastings	134	128	95.5	3	2.2	3	2.2
Middlemore Hospital	32	32	100.0	0	0.0	0	0.0
Nelson Hospital	208	160	76.9	45	21.6	3	1.4
Northland Pathology	220	206	93.6	14	6.4	0	0.0
North Shore Hospital	430	411	95.6	13	3.0	6	1.4
Rotorua Hospital	113	104	92.0	8	7.1	1	0.9
SCL* Christchurch	202	202	100.0	0	0.0	0	0.0
SCL* Dunedin	326	284	87.1	40	12.3	2	0.6
Waikato Hospital	43	22	51.2	16	37.2	5	11.6
Wanganui Hospital	28	27	96.4	1	3.6	0	0.0
Wellington Hospital	337	182	54.0	130	38.6	25	7.4
Total	5,976	5,313	88.9	541	9.1	122	2.0

SCL*: Southern Community Laboratories

Targets: ¹ 90% within five working days, and 100% within a reasonable period of time

Southland Hospital ceased reporting in the previous quarter

Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Table 10: Timeliness of the reporting of histology between 1 April 2007 and 30 June 2007 by ethnicity

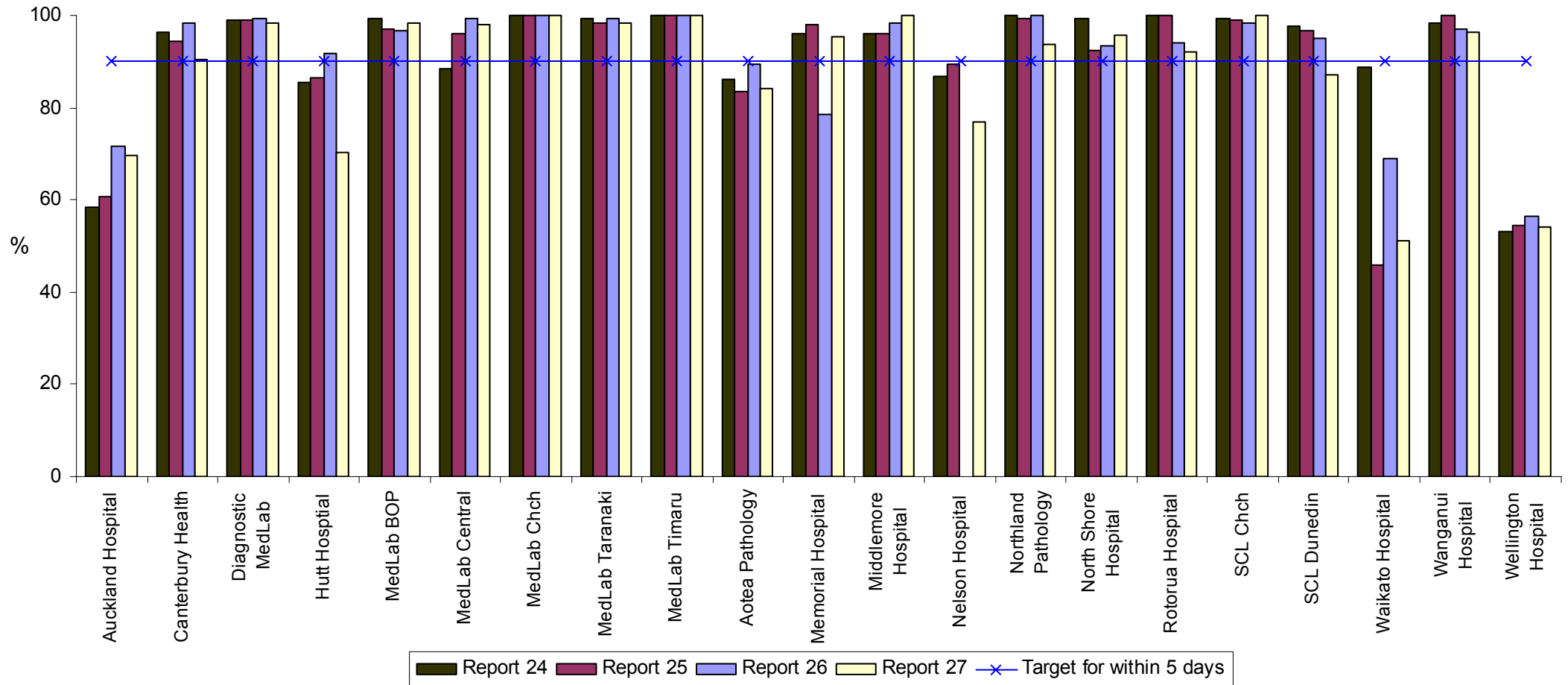
Ethnicity	Number of specimens processed n	Within 5 working days ¹		6 to 10 working days		11 or more working days	
		n	%	n	%	n	%
Māori	612	527	86.1	68	11.1	17	2.8
Pacific	136	104	76.5	25	18.4	7	5.1
Non-Māori, non-Pacific	5,228	4,682	89.6	448	8.6	98	1.9
Total	5,976	5,313	88.9	541	9.1	122	2.0

Difference between ethnic groups for histology reported within five working days $P < 0.001$

Difference between ethnic groups for histology reported outside 10 working days $P = 0.011$

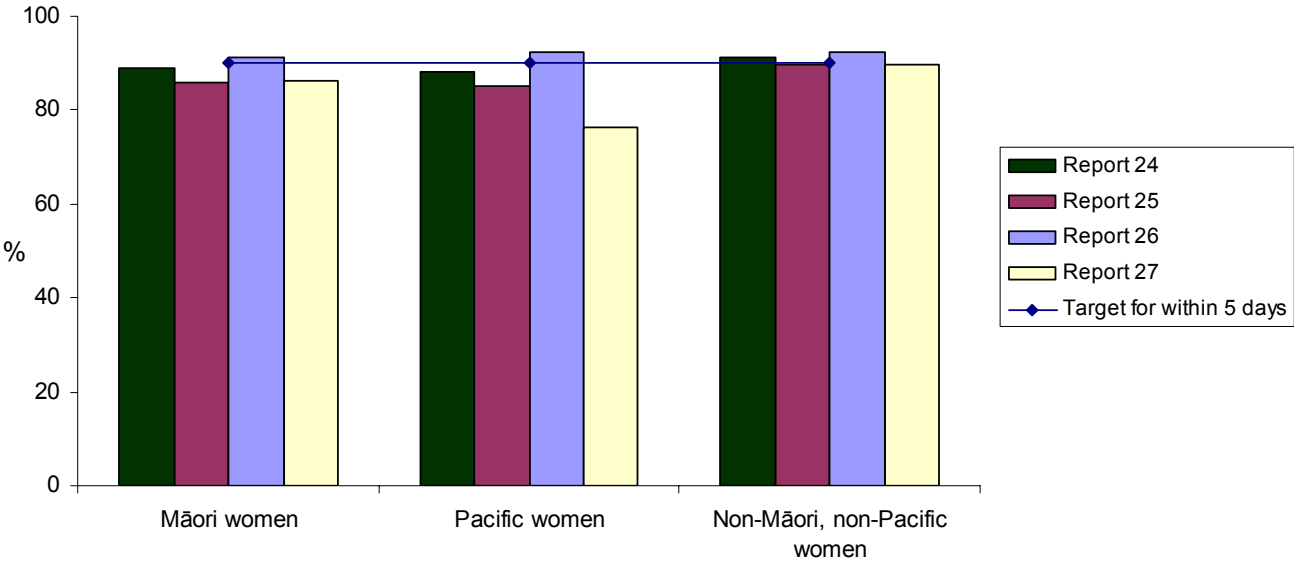
Targets: ¹90% within five working days, and 100% within a reasonable period of time

Figure 14: Laboratory histology five-day turn around time



Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Figure 15: Histology five-day turn around time by ethnicity



6.5 Unsatisfactory smears by laboratory

Definition

Unsatisfactory smears are those smears reported with a Bethesda adequacy of UA, UB, UC, UD, UE, UF, or UG (Revised Bethesda Coding System, 2001). It is important to note that the adequacy coding of a smear is influenced by both smear taking technique and laboratory reporting practice. The NCSP has adopted the revised Bethesda Coding System 2001 (from July 2005), and this no longer includes a satisfactory but limited category. It is expected that unsatisfactory and satisfactory rates will increase, and therefore these are not directly comparable with those from quarters prior to July 2005.

Targets

The target for unsatisfactory smears was previously not less than 0.5% and not more than 2.0% of all smears reported for a given laboratory but this is now under review due to the introduction of the 2001 revision of the Bethesda Coding System.

Calculation

All smears taken during the reporting quarter for which there was a result recorded on the NCSP Register were used to calculate this indicator. The number of unsatisfactory smears reported was expressed as a proportion of the total number of smears processed during the quarter by each cytology reporting laboratory.

Results

The number and proportion of unsatisfactory smears taken during the quarter and reported by each cytology laboratory is shown in Table 11. Overall, 3,936 (3.7%) of the 104,991 smears processed were reported as unsatisfactory for evaluation. Auckland Hospital (4.2%), Diagnostic MedLab Auckland (5.7%), and MedLab Bay of Plenty (4.5%) reported the highest proportions of unsatisfactory smears. Diagnostic MedLab Auckland (6.8%) and MedLab Bay of Plenty (5.0%) also reported the highest proportions of unsatisfactory smears in the previous quarter.

Reasons for the 3,936 smears reported as unsatisfactory are shown by laboratory in Table 12. Overall, the highest proportion of unsatisfactory smears was as a result of insufficient squamous cells (66.7%, n=2,627). Diagnostic MedLab Auckland (10.9%, n=215) and Aotea Pathology (8.1%, n=22) had the greatest proportion of smears recorded as unsatisfactory for evaluation with free text.

Recommendations

No recommendations.

Table 11: The number and proportion of unsatisfactory smears between 1 April 2007 and 30 June 2007 by laboratory

Laboratory	Smears processed	Unsatisfactory smears							
		Unsatisfactory smears ¹		Combination (conventional & liquid based)		Conventional pap smear		Liquid based cytology	
		n	%	n	%	n	%	n	%
Auckland Hospital Lab.	6,197	261	4.2	5	2.5	217	4.3	39	4.0
Canterbury Health Lab.	10,195	270	2.6	0	0.0	35	9.9	235	2.4
Diagnostic MedLab Auckland	34,652	1,981	5.7	7	2.3	1,457	7.0	517	3.8
MedLab Bay of Plenty	9,621	437	4.5	4	6.6	391	5.8	42	1.5
MedLab Central	6,883	99	1.4	0	0.0	98	1.5	1	0.5
MedLab Christchurch	4,694	167	3.6	0	0.0	164	3.7	3	1.6
Aotea Pathology	11,391	273	2.4	2	1.3	245	2.6	26	1.4
SCL* Christchurch	4,123	27	0.7	0	0.0	27	0.7	0	0.0
SCL* Dunedin	17,235	421	2.4	0	0.0	397	2.5	24	2.5
Total	104,991	3,936	3.7	18	1.8	3,031	4.1	887	2.9

SCL*: Southern Community Laboratories

Target: ¹under review, but previously 0.5 to 2.0%

Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

Table 12: The number and proportion of unsatisfactory smears between 1 April 2007 and 30 June 2007 by reason

Laboratory	Reason for smear being unsatisfactory														Total
	Insufficient squamous cell		Poor fixation/preservation		Foreign material obscures cells		Inflammation obscures cells		Blood obscures cells		Cytolysis/autolysis		Free text		
Auckland Hospital Lab.	127	48.7	18	6.9	6	2.3	60	23.0	34	13.0	14	5.4	2	0.8	261
Canterbury Health Lab.	265	98.1	3	1.1	0	0.0	0	0.0	0	0.0	2	0.7	0	0.0	270
Diagnostic MedLab Auckland	1,351	68.2	20	1.0	0	0.0	177	8.9	58	2.9	160	8.1	215	10.9	1,981
MedLab Bay of Plenty	255	58.4	21	4.8	6	1.4	92	21.1	51	11.7	12	2.7	0	0.0	437
MedLab Central	49	49.5	3	3.0	1	1.0	15	15.2	7	7.1	24	24.2	0	0.0	99
MedLab Christchurch	106	63.5	4	2.4	1	0.6	33	19.8	11	6.6	8	4.8	4	2.4	167
Aotea Pathology	136	49.8	16	5.9	18	6.6	33	12.1	27	9.9	21	7.7	22	8.1	273
SCL* Christchurch	19	70.4	0	0.0	0	0.0	3	11.1	5	18.5	0	0.0	0	0.0	27
SCL* Dunedin	319	75.8	5	1.2	1	0.2	47	11.2	37	8.8	11	2.6	1	0.2	421
Total	2,627	66.7	90	2.3	33	0.8	460	11.7	230	5.8	252	6.4	244	6.2	3,936

SCL*: Southern Community Laboratories

Note: MedLab Wellington merged with Valley Diagnostic Laboratory and became Aotea Pathology

6.6 Unsatisfactory smears by smear taker

Definition

Definitions and a description of the issues surrounding unsatisfactory smears are given on Page 52.

Targets

The target for unsatisfactory smears was previously not less than 0.5% and not more than 2.0% of all smears reported by each smear taker group but this is now under review due to the introduction of the revised Bethesda Coding System (2001).

Please note that this indicator previously included smears that were satisfactory, satisfactory but limited or unsatisfactory for evaluation. Since the adoption of the 2001 revision of the Bethesda Coding Standard the category of satisfactory but limited has ceased to be used. The targets for this indicator are therefore currently under evaluation.

Calculation

Smears taken from enrolled women of all ages during the reporting quarter for which there was a result recorded on the NCSP Register were used to calculate this indicator. The total number of smears recorded by each smear taker group for the 12 months prior to the end of the reporting quarter was used to calculate the annual volume of smears taken by each smear taker group. For each group, the number of unsatisfactory smears was expressed as a proportion of the total number of smears taken by that group.

Results

The numbers and proportions of satisfactory and unsatisfactory smears taken in this quarter by annual volume of smears taken by each smear taker group are shown in Table 13. Overall, 104,991 smears were taken during the reporting quarter, of which 10 (<1%) were taken by lay smear takers, 59,012 (56%) by medical smear takers, 37,049 (35%) by nurses, 8,390 (8%) by specialists and 530 (<1%) by midwives. These proportions are similar to those reported in the last quarter.

Lay smear takers reported one smear as unsatisfactory for assessment (10%). With the exception of lay smear takers, the proportions of unsatisfactory smears were greatest for medical (4.5%) and specialist (3.7%) smear takers.

Recommendations

No recommendations.

Table 13: The number and proportion of unsatisfactory smears for each smear taker group between 1 April 2007 and 30 June 2007

	Annual volume of smears	Total number of smears	Satisfactory smears		Unsatisfactory smears ¹	
	n	n	n	%	n	%
Lay	<30	4	4	100.0	0	0.0
	30-100	0	0	0.0	0	0.0
	>100	6	5	83.3	1	16.7
	Total	10	9	90.0	1	10.0
Medical	<30	5,070	4,809	94.9	261	5.1
	30-100	16,586	15,854	95.6	732	4.4
	>100	37,356	35,718	95.6	1,638	4.4
	Total	59,012	56,381	95.5	2,631	4.5
Nurse	<30	2,544	2,456	96.5	88	3.5
	30-100	13,694	13,331	97.3	363	2.7
	>100	20,811	20,282	97.5	529	2.5
	Total	37,049	36,069	97.4	980	2.6
Specialist	<30	158	148	93.7	10	6.3
	30-100	898	861	95.9	37	4.1
	>100	7,334	7,070	96.4	264	3.6
	Total	8,390	8,079	96.3	311	3.7
Midwife	<30	76	73	96.1	3	3.9
	30-100	111	106	95.5	5	4.5
	>100	343	338	98.5	5	1.5
	Total	530	517	97.5	13	2.5
Total	104,991	101,055	96.3	3,936	3.7	

Target: ¹under review, but previously 0.5 to 2.0%

6.7 Waiting time for colposcopic assessment for HSIL or ASC-H

Definition

The waiting time for colposcopic assessment for HSIL or ASC-H 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.

Targets

The target for colposcopic assessment of women with a high grade cytology result is 95% of women having assessment within four weeks of referral.

Calculation

The data required for the calculation of the waiting time for the assessment of the HSIL or ASC-H indicator are supposed to be collected by DHB colposcopy clinics and reported to the NSU. The indicator was unable to be calculated with the available data.

Nevertheless, the number of women with HSIL or ASC-H cytology results who were referred to DHB colposcopy clinics each month, and the number of women with HSIL or ASC-H cytology results who were waiting longer than four weeks for colposcopic assessment at the end of each month, reported by DHB colposcopy services were provided by the NSU.

Results

The reported number of women with a HSIL or ASC-H cytology result referred each month for colposcopic assessment to each DHB colposcopy service, and the reported number of women referred for colposcopic assessment of a HSIL or ASC-H cytology result waiting longer than four weeks at the end of each month is shown in Table 14. One colposcopy unit, Waikato, did not provide any data for this reporting quarter.

The reported number of women referred for an assessment of a HSIL or ASC-H cytology abnormality waiting longer than four weeks at the end of each month was highest for Waitemata colposcopy unit (40 women at the end of April, 22 woman at the end of May, and 33 women at the end of June). One colposcopy unit reported that no women waited longer than four weeks in any month, compared with five units in the previous quarter.

Recommendations

10. The IMG is concerned about the potential incompleteness of colposcopy data and requests the NSU to review the data provided to the IMG.
11. The IMG is also concerned by the continuing unavailability of data needed to report on both the targets for waiting times for colposcopic assessment, and ethnicity specific waiting times. The IMG requests that the NSU continues to seek solutions to these problems.

Table 14: Waiting time for colposcopic assessment of HSIL or ASC-H between 1 April 2007 and 30 June 2007 by DHB colposcopy service

DHB Colposcopy Reporting Unit	Number of women referred for assessment of HSIL or ASC-H			Number of women referred waiting longer than 4 weeks at the end of each month		
	April	May	June	April	May	June
Auckland	39	39	56	7	14	11
Bay of Plenty	22	28	21	12	6	0
Canterbury	36	45	27	9	10	10
Capital Coast	5	16	7	0	1	1
Counties Manukau	59	60	58	5	2	10
Hawke's Bay	12	18	21	0	2	1
Hutt	0	1	7	0	1	0
Lakes	12	19	22	0	3	3
MidCentral	19	19	17	0	5	7
Nelson/Marlborough	9	6	2	2	1	1
Northland	19	22	29	2	1	7
Otago	1	24	25	0	7	15
South Canterbury	6	8	2	0	2	4
Southland	1	6	9	3	0	1
Tairāwhiti	0	2	6	1	0	0
Taranaki	8	11	9	0	0	1
Waikato	NR	NR	NR	NR	NR	NR
Wairarapa	6	10	2	0	1	0
Waitemata	65	94	66	40	22	33
West Coast	0	0	0	0	0	0
Whanganui	1	6	7	4	4	3
Total	320	434	393	85	82	108

6.8 Waiting time for colposcopic assessment for LSIL or ASC-US

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 ASC-US) cytology result to the time of the first colposcopic assessment.

Targets

The target for colposcopic assessment of women with a low grade cytology result is 95% of women having assessment within 26 weeks of referral.

Calculation

The data required for the calculation of the waiting time for the assessment of the LSIL or ASC-US indicator are supposed to be collected by DHB colposcopy clinics and reported to the NSU. The indicator was unable to be calculated with the available data. Nevertheless, the number of women with low grade cytology results who were referred to DHB colposcopy clinics each month, and the number of women with low grade cytology results who were waiting longer than 26 weeks for colposcopic assessment at the end of each month, reported by DHB colposcopy services were provided by the NSU.

Results

The reported number of women with low grade cytology results referred each month for colposcopic assessment to each DHB colposcopy service, and the reported number of women referred for colposcopic assessment of a low grade cytology result waiting longer than 26 weeks at the end of each month is shown in Table 15. One colposcopy unit, Waikato, did not provide any data for this reporting quarter.

The reported number of women referred for an assessment of a LSIL or ASC-US cytology abnormality waiting longer than 26 weeks at the end of each month was highest for Auckland colposcopy unit (137 women at the end of April, 105 women at the end of May, and 74 women at the end of June). Five of the colposcopy units reported that no women waited longer than 26 weeks in any month, the same number of units as the previous quarter.

Recommendations

10. The IMG is concerned about the potential incompleteness of colposcopy data and requests the NSU to review the data provided to the IMG.
11. The IMG is also concerned by the continuing unavailability of data needed to report on both the targets for waiting times for colposcopic assessment, and ethnicity specific waiting times. The IMG requests that the NSU continues to seek solutions to these problems.

Table 15: Waiting time for colposcopic assessment of LSIL or ASC-US between 1 April 2007 and 30 June 2007 by DHB colposcopy service

DHB Colposcopy Reporting Unit	Number of women referred for assessment of LSIL or ASC-US			Number of women referred waiting longer than 26 weeks at the end of each month		
	April	May	June	April	May	June
Auckland	41	49	63	137	105	74
Bay of Plenty	40	41	47	0	0	4
Canterbury	37	67	36	3	0	0
Capital Coast	45	41	48	0	0	0
Counties Manukau	35	44	42	0	0	0
Hawke's Bay	19	14	10	0	0	0
Hutt	18	15	4	0	0	0
Lakes	20	18	26	6	7	8
MidCentral	39	30	27	17	24	25
Nelson/Marlborough	0	3	0	3	2	2
Northland	23	11	23	5	10	8
Otago	25	14	20	0	6	0
South Canterbury	0	0	0	1	2	2
Southland	7	10	9	64	67	70
Tairāwhiti	0	3	8	1	1	1
Taranaki	17	5	5	0	1	0
Waikato	NR	NR	NR	NR	NR	NR
Wairarapa	6	10	10	1	0	1
Waitemata	42	55	55	9	16	21
West Coast	0	0	0	0	0	0
Whanganui	19	21	7	6	7	13
Total	433	451	440	253	248	229

6.9 Short interval re-screening

Definition

Short interval re-screening is the proportion of enrolled women with a normal smear history who have had a further smear earlier than the recommended 3-year interval.

Target

The target for short interval re-screening is less than 10%.

Calculation

To estimate the proportion of women that were re-screened earlier than recommended (short interval re-screening), women who were aged 20 to 69 years at 30 June 2007 were identified. These women were further included in the calculation if: they had a normal smear history when they enrolled on the NCSP Register; all of their cytological and histological results prior to 1 October 2004 were recorded as negative for dysplasia or malignancy; they had at least one satisfactory smear taken between 1 October 2004 and 30 June 2007 (33 months; to allow a three month margin); their first smear taken between 1 October 2004 and 30 June 2007 was not the woman's first ever smear and it was not the first smear that the woman had had in more than five years.

The reason that the women must have had a normal cytology and histology history, not have had their first smear in the period 1 October 2004 to 30 June 2007 and not have had their first smear in more than five years during that period, is that for women for whom this is not the case they will have been recommended to have a further smear in less than three years.

Every smear was classified as satisfactory, satisfactory but limited or unsatisfactory for laboratory reading according to the revised Bethesda Coding System 1998, until July 2005. Since the adoption of the 2001 revision of the Bethesda Coding System (in July 2005) the 'satisfactory but limited' category has ceased to exist. Both unsatisfactory and satisfactory but limited smears were excluded from the calculation

because women with these results are recommended to have a further smear in a shorter period of time than the usual three year interval.

The calculation of the proportion of women who were re-screened before the recommended three years excluded women who had had an abnormal smear between 1 October 2004 and 30 June 2007. The number of women who had had two or more smears in the time period was expressed as a proportion of the number of women who had had at least one smear.

There has been a change in the calculation methodology for short interval re-screening and therefore no comparison should be made between the levels given in this report and those given in reports prior to Quarterly Monitoring Report 22 (January to March 2006). This change includes the exclusion of all satisfactory but limited and all unsatisfactory cytology results.

Results

The estimated level of short interval re-screening for 20 to 69 year old women by five-year age groups is shown in Table 16. The overall level of short interval re-screening for 20 to 69 year old women was 11.2%. This level is above the target of less than 10%, and similar to the figure reported in the previous quarter (11.1%).

The proportion of women who were re-screened with a short interval varied by age. Women who were aged 20 to 24 years were most likely to be re-screened with a short interval (14.8%), while women who were aged 65 to 69 years were least likely to be re-screened with a short interval (8.1%). The target of less than 10% was only met for women that were aged between 60 and 69 years.

Table 17 shows the estimated level of short interval re-screening for 20 to 69 year old women by DHB. Short interval re-screening varied considerably among DHBs, ranging from 5.7% in Taranaki to 17.1% in Waitemata. Levels of short interval re-screening above 12% were also observed for Auckland (16.3%), Counties Manakau (12.8%), Lakes (13.1%), Northland (12.3%), and for the group of women where their DHB was unspecified (15.1%).

Table 18 shows the estimated level of short interval re-screening by ethnicity. The level of short interval re-screening was similar amongst the three groups: Māori (10.7%), Pacific (10.4%) and non-Māori, non-Pacific women (11.2%). The large numbers of women in each group, mean that these small differences were statistically significantly different from each other, $P=0.003$. The target of less than 10% was not met for any ethnic group.

Recommendations

12. The IMG notes high rates of short interval re-screening and recommends that the NSU continue to work to address this.

Table 16: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 October 2004 and 30 June 2007 by 5-year age group

Age group	Total number of women	Women with abnormal smear in previous 33 months	Women with only normal smears in previous 33 months		Proportion with short interval re-screening (%)
			At least one smear	More than one smear	
20-24	18,062	2,774	15,288	2,261	14.8
25-29	32,333	3,108	29,225	3,382	11.6
30-34	36,774	2,152	34,622	3,990	11.5
35-39	46,938	2,079	44,859	5,023	11.2
40-44	50,846	1,921	48,925	5,634	11.5
45-49	49,991	1,641	48,350	5,702	11.8
50-54	41,565	1,132	40,433	4,780	11.8
55-59	35,594	692	34,902	3,601	10.3
60-64	27,557	373	27,184	2,475	9.1
65-69	21,822	237	21,585	1,740	8.1
Total	361,482	16,109	345,373	38,588	11.2

Target: short interval re-screening of less than 10%

Table 17: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 October 2004 and 30 June 2007 by District Health Board

DHB	Total number of women	Women with abnormal smear in previous 33 months	Women with only normal smears in previous 33 months		Proportion with short interval re-screening (%)
			At least one smear	More than one smear	
Auckland	35,112	1,759	33,353	5,428	16.3
Bay of Plenty	16,254	1,042	15,212	1,799	11.8
Canterbury	45,438	1,829	43,609	4,720	10.8
Capital Coast	28,056	1,402	26,654	2,754	10.3
Counties Manakau	30,893	1,321	29,572	3,783	12.8
Hawke's Bay	12,777	601	12,176	1,224	10.1
Hutt Valley	12,361	462	11,899	990	8.3
Lakes	8,932	487	8,445	1,109	13.1
MidCentral	12,477	869	11,608	967	8.3
Nelson/Marlborough	13,398	608	12,790	738	5.8
Northland	13,267	496	12,771	1,570	12.3
Otago	19,965	529	19,436	1,544	7.9
South Canterbury	4,839	195	4,644	467	10.1
Southland	10,277	358	9,919	742	7.5
Tairāwhiti	3,576	133	3,443	327	9.5
Taranaki	10,692	272	10,420	593	5.7
Waikato	28,901	1,163	27,738	1,922	6.9
Wairarapa	3,375	180	3,195	299	9.4
Waitemata	41,285	1,822	39,463	6,748	17.1
West Coast	2,908	129	2,779	200	7.2
Whanganui	4,982	355	4,627	419	9.1
Unspecified	1,717	97	1,620	245	15.1
Total	361,482	16,109	345,373	38,588	11.2

Target: short interval re-screening of less than 10%

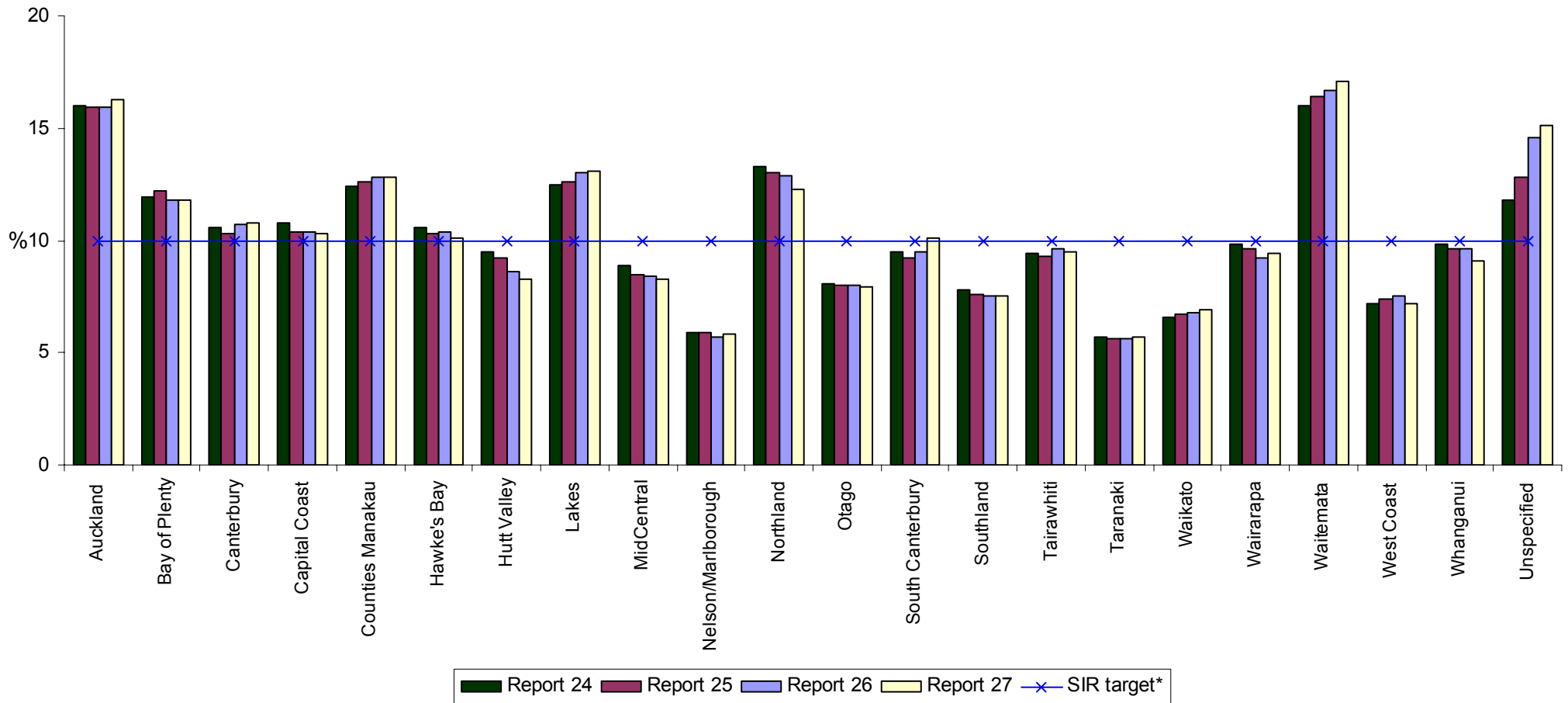
Table 18: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 October 2004 and 30 June 2007 by ethnicity

Ethnicity	Total number of women	Women with abnormal smear in previous 33 months	Women with only normal smears in previous 33 months		Proportion with short interval re-screening (%)
			At least one smear	More than one smear	
Māori	26,589	1,718	24,871	2,667	10.7
Pacific	9,973	483	9,490	987	10.4
Non-Māori, non-Pacific	324,920	13,908	311,012	34,934	11.2
Total	361,482	16,109	345,373	38,588	11.2

Difference between ethnic groups P=0.003

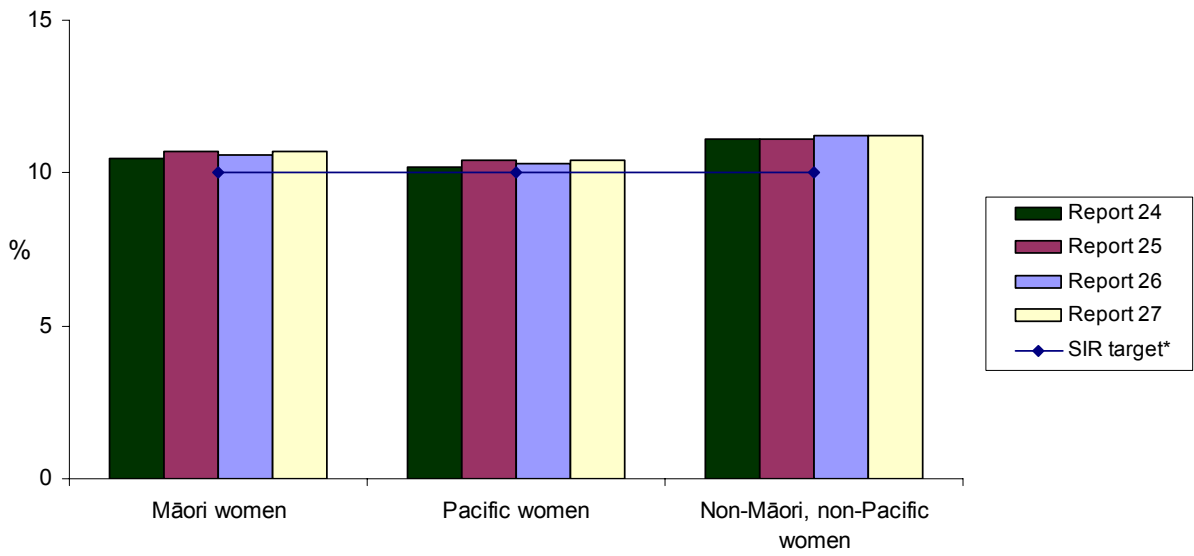
Target: short interval re-screening of less than 10%

Figure 16: Proportion of women aged 20 to 69 years unnecessarily re-screened by District Health Board



* SIR target is not more than 10% so DHBs should be under the target line

Figure 17: Proportion of women aged 20 to 69 years unnecessarily re-screened by ethnicity



* SIR target is not more than 10% so women should be under the target line

6.10 Positive predictive value for women with a high grade smear

Definition

The positive predictive value (PPV) for women with a high grade smear is one measure of the accuracy of high grade cytology reports. It is defined as the probability of a histological report of HSIL or higher following a HSIL or invasive squamous carcinoma (ISC) cytology report.

Target

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

Calculation

All satisfactory smears that were reported as HSIL or ISC in the six month period from 1 July 2006 to 31 December 2006 (*i.e.* the six months ending six months prior to the end of the current reporting quarter) were identified. Where a woman had more than one HSIL or ISC smear in this period, the first one was used. For each woman, all histology results taken in the period from five days before the HSIL or ISC smear to 182 days (six months) after that smear were identified. When more than one histology result was present, the first histology which was classified as high grade or cancer according to the Systematised Nomenclature of Medicine (SNOMED) classification was identified (see Appendix 3). Those women whose high grade smear was classified as high grade or worse on histology are termed as having “histological confirmation of the HSIL or ISC smear”.

The number of women with histological confirmation of a HSIL or ISC smear was expressed as a proportion of all women with a HSIL or ISC cytology report and a subsequent histology. This measures the PPV for women with a HSIL or ISC cytology report. This indicator was calculated for each laboratory according to where the smears were read.

The proportion of HSIL or ISC cytology reports without a follow-up histology report was also calculated for each laboratory.

The PPV for women with an ASC-H cytology report was also calculated. The methodology used for this calculation was the same as that described above. Therefore those women whose ASC-H smear was classified as high grade or worse on histology are termed as having “histological confirmation of the ASC-H smear”.

It should be noted that the PPVs calculated for the current report are not comparable with any reports prior to Quarterly Monitoring Report 19 (April to June 2005) due to a change in the calculation method. Therefore, it is not appropriate to make comparisons between the PPVs that were calculated for earlier reports and those that were calculated for Report 19 and subsequent reports.

Results

The number of women with high grade or ISC cytology reports and subsequent histology reports on the NCSP Register is shown in Table 19. This table also shows the proportion of women for whom these cytology reports were confirmed on histology as HSIL or more serious abnormality (which is the PPV). The proportion of women with a HSIL or ISC smear without histological follow-up is also shown in Table 19. Note that in this calculation ASC-H cytology reports are not included as HSIL or ISC.

During the period 1 July 2006 to 31 December 2006, there were 1,481 women with HSIL or ISC cytology reports, of whom 1,335 (90.1%) had a subsequent histology result recorded on the NCSP Register. Of these, 1,037 (77.7%) were confirmed as having HSIL or more serious abnormality on histology. This PPV is within the target range of 65 to 85%.

One laboratory, Valley Diagnostic Laboratory (61.5%), reported a PPV below the target range of 65 to 85%.

Table 20 shows the PPV by laboratory for women with an ASC-H smear. During the period 1 July 2006 to 31 December 2006, there were 1,393 women with an ASC-H cytology report, of whom 1,118 (80.3%) had a subsequent histology result recorded on the NCSP Register. Of these, 460 (41.1%) had HSIL or more serious abnormality on histology.

The proportion of women that had a HSIL or more serious histology result after an ASC-H smear varied between the laboratories. MedLab Bay of Plenty (33.3%) had the lowest proportion, while Canterbury Health Laboratories (67.0%) had the highest proportion.

Recommendations

No recommendations.

Table 19: Positive predictive value for women with a high grade smear recorded between 1 July 2006 and 31 December 2006

Laboratory	HSIL cytology reports with a histology report		HSIL confirmed by histology		HSIL cytology reports without a histology report		Total HSIL cytology reports
	n	%	n	%**	n	%	n
Auckland Hospital Lab.	131	87.3	107	81.7	19	12.7	150
Canterbury Health Lab.	194	94.6	163	84.0	11	5.4	205
Diagnostic MedLab Auckland	245	88.4	184	75.1	32	11.6	277
MedLab Bay of Plenty	123	88.5	91	74.0	16	11.5	139
MedLab Central	149	86.1	114	76.5	24	13.9	173
MedLab Christchurch	56	98.2	42	75.0	1	1.8	57
MedLab Wellington	54	93.1	42	77.8	4	6.9	58
SCL* Christchurch	89	89.9	68	76.4	10	10.1	99
SCL* Dunedin	281	91.2	218	77.6	27	8.8	308
Valley Diagnostic Lab.	13	86.7	8	61.5	2	13.3	15
Total	1,335	90.1	1,037	77.7	146	9.9	1,481

SCL*: Southern Community Laboratory

** Positive predictive value: proportion of HSIL reports confirmed on histology

Target: 65 to 85%

Note: MedLab Wellington and Valley Diagnostic Laboratory merged and became Aotea Pathology in November 2006. Therefore the results for the two laboratories are shown separately in this table

Table 20: Positive predictive value for women with an ASC-H smear recorded between 1 July 2006 and 31 December 2006

Laboratory	ASC-H cytology reports with a histology report		ASC-H confirmed by histology		ASC-H cytology reports without a histology report		Total ASC-H cytology reports
	n	%	n	%**	n	%	n
Auckland Hospital Lab.	181	81.9	89	49.2	40	18.1	221
Canterbury Health Lab.	88	90.7	59	67.0	9	9.3	97
Diagnostic MedLab Auckland	386	76.4	131	33.9	119	23.6	505
MedLab Bay of Plenty	135	82.8	45	33.3	28	17.2	163
MedLab Central	47	64.4	16	34.0	26	35.6	73
MedLab Christchurch	72	87.8	27	37.5	10	12.2	82
MedLab Wellington	80	79.2	29	36.3	21	20.8	101
SCL* Christchurch	46	85.2	24	52.2	8	14.8	54
SCL* Dunedin	67	85.9	34	50.7	11	14.1	78
Valley Diagnostic Lab.	16	84.2	6	37.5	3	15.8	19
Total	1,118	80.3	460	41.1	275	19.7	1,393

SCL*: Southern Community Laboratory

** Positive predictive value: proportion of ASC-H reports confirmed on histology

No target

Note: MedLab Wellington and Valley Diagnostic Laboratory merged and became Aotea Pathology in November 2006. Therefore the results for the two laboratories are shown separately in this table

Appendix 1: Summary of the Revised Bethesda Coding Standard (2001)

The hierarchy of broad cytological categories is:

- (a) Negative for dysplasia or malignancy
- (b) Atypical squamous cells (ASC) of undetermined significance (ASC-US), excluding ASC cannot exclude high grade (ASC-H)
- (c) Low grade squamous intra-epithelial lesion (LSIL)
- (d) Atypical glandular/endocervical/endometrial cells (AGC)
- (e) Atypical glandular/endocervical cells (AGC) favouring a neoplastic process
- (f) ASC cannot exclude high grade (ASC-H)
- (g) High grade squamous intra-epithelial lesion (HSIL)
- (h) Adenocarcinoma-in-situ (AIS)
- (i) Adenocarcinoma
- (j) Cancer not otherwise specified
- (k) Invasive squamous carcinoma of the cervix

Appendix 2: Ethnicity breakdown tables

Appendix Table i: Ethnicity breakdown by NCSP Region for histology reports within 12 weeks after a high grade cytology result recorded between 1 July 2005 and 30 June 2006 on the NCSP Register

NCSP Region	Histology report within 12 weeks after a high grade cytology result						Total number of women with high grade cytology results		
	Māori		Pacific		Non-Māori, non-Pacific		Māori	Pacific	Non-Māori, non-Pacific
	n	%	n	%	n	%	n	n	n
Auckland	108	59.3	64	51.2	1,011	73.2	182	125	1,381
Bay of Plenty	73	67.0	<10	*	255	73.9	109	<10	345
Canterbury	38	74.5	<10	*	467	81.9	51	<10	570
Hawke's Bay	26	72.2	<10	*	112	78.3	36	<10	143
Manawatu/Whanganui	53	71.6	<10	*	190	72.8	74	<10	261
Nelson/Marlborough	<10	*	<10	*	115	78.8	13	<10	146
Northland	36	72.0	<10	*	81	91.0	50	<10	89
Otago/Southland	20	60.6	<10	*	344	86.6	33	<10	397
Tairāwhiti	25	56.8	-	-	23	82.1	44	-	28
Taranaki	19	79.2	<10	*	74	75.5	24	<10	98
Waikato	66	73.3	<10	*	270	81.1	90	<10	333
Wellington	40	64.5	12	60.0	340	74.6	62	20	456
West Coast	<10	*	-	-	25	71.4	<10	-	35

- indicates no women with a high grade cytology result

* indicates that no percentage was calculated because of the small number of women

Appendix Table ii: Ethnicity breakdown by NCSP Region for histology reports within 52 weeks after a high grade cytology result recorded between 1 July 2005 and 30 June 2006 on the NCSP Register

NCSP Region	Histology report within 52 weeks after a high grade cytology result						Total number of women with high grade cytology results		
	Māori		Pacific		Non-Māori, non-Pacific		Māori	Pacific	Non-Māori, non-Pacific
	n	%	n	%	n	%	n	n	n
Auckland	153	84.1	106	84.8	1,235	89.4	182	125	1,381
Bay of Plenty	97	89.0	<10	*	313	90.7	109	<10	345
Canterbury	47	92.2	<10	*	541	94.9	51	<10	570
Hawke's Bay	30	83.3	<10	*	130	90.9	36	<10	143
Manawatu/Whanganui	66	89.2	<10	*	219	83.9	74	<10	261
Nelson/Marlborough	13	100.0	<10	*	142	97.3	13	<10	146
Northland	42	84.0	<10	*	86	96.6	50	<10	89
Otago/Southland	28	84.8	<10	*	379	95.5	33	<10	397
Tairāwhiti	35	79.5	-	-	27	96.4	44	-	28
Taranaki	24	100.0	<10	*	90	91.8	24	<10	98
Waikato	79	87.8	<10	*	310	93.1	90	<10	333
Wellington	52	83.9	17	85.0	410	89.9	62	20	456
West Coast	<10	*	-	-	33	94.3	<10	-	35

- indicates no women with a high grade cytology result

* indicates that no percentage was calculated because of the small number of women

Appendix 3: SNOMED codes for high grade histologies

M67017	CIN ¹ II (HSIL ²) or CIN ¹ III (HSIL ²) or Carcinoma in-situ
M80703	Invasive squamous cell carcinoma
M80763	Microinvasive squamous cell carcinoma
M81402	Adenocarcinoma in-situ
M80203	Undifferentiated carcinoma
M88003	Sarcoma
M80003	Other malignancy ³
M80006	Metastatic tumour
M81403	Invasive adenocarcinoma
M85603	Adenosquamous carcinoma
M80102	CIN ¹ III (HSIL ²)
M80702	Carcinoma in-situ

¹ CIN: Cervical intra-epithelial neoplasia

² HSIL: High grade squamous intra-epithelial lesion

³ Other malignancy: Carcinosarcoma; Choriocarcinoma; Miscellaneous primary tumour; Small cell carcinoma; Malignant tumour; Small cell type; Melanoma; Other primary epithelial malignancy

National Cervical Screening Programme. SNOMED Coding for Histology. 2001.
Wellington: Ministry of Health.