

Quarterly Monitoring Report 21

National Cervical Screening Programme

October to December 2005

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Centre for Public Health Research
Massey University
Wellington

An error occurred in the original calculations for the positive predictive value (PPV) for women with a high grade smear. Therefore this revised report includes the re-calculated PPVs. Nothing else has been amended.

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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 October 2005 to 31 December 2005. 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 previous reports. Comparisons cannot be made between previous reports and the current report for these indicators. Where these changes have occurred, these are described in the text. In the indicators that have not been affected by the removal of the 'satisfactory but limited' category there has been little change, for better or worse.

Follow-up of women with high grade cytology

In total, 5,263 women had a high grade cytology result recorded on the NCSP Register between 1 January 2004 and 31 December 2004. More than three-quarters (75.8%) of these women were recorded as having had a histology specimen taken within 12 weeks of their high grade smear 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 (90.9%). For 400 (7.6%) of the 5,263 women, a subsequent histology result was not recorded on the NCSP Register. This is an increase in the proportions reported in the previous two quarters (7.4% and 7.0%). The proportions of women who had no histology recorded on the NCSP Register varied widely amongst the NCSP Regions and by ethnicity.

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 having reports of histological specimens dropped from 78.6% in Quarterly Report 20 (July to September 2005) to 78.1% in this quarter, while for Māori women there has been a drop from 67.6% to 66.2%. For women who had no histology results recorded on the NCSP Register following a high grade smear, the ethnic patterns of difference have also remained steady over the last two quarters. The proportion of Pacific women with no histology recorded continues to be approximately double that of Māori and non-Māori, non-

Pacific women. Within those women who had no histology result recorded, the proportion of Māori (47.1%) who did not have a subsequent smear after their high grade cytology report were approximately double that of non-Māori, non-Pacific women (19.2%) and Pacific women (22.2%).

Laboratory smear reporting

Ten laboratories reported cervical cytology during this quarter. Overall, of the 93,541 satisfactory smears processed during the quarter, 7.7% were reported as abnormal, which was within the target of not more than 10%. Four laboratories reported abnormalities outside this target, with the highest reporting abnormalities in 21.3% of smears read. The overall proportion of smears reported as negative for dysplasia or malignancy was 92.3%, and all except one 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 was within the target of not less than 0.6%. Five laboratories reported outside this target, reporting 0.4% and 0.5% of the smears they read as HSIL.

Laboratory cytology turn around time

All except three of the laboratories reporting cervical cytology met the seven-day cytology turn around time target (90%) in this reporting quarter. Four laboratories met the 14-day turn around time target of 100%. A further three laboratories reported over 99%, and the laboratory with the lowest reported proportion of smears read within 14 days had read 93.7% of their smears in that time.

Laboratory histology turn around time

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

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, 3,578 (3.7%) of the 97,119 smears processed were reported as unsatisfactory for evaluation.

Colposcopic assessment

The colposcopic service indicators were unable to be calculated because the data required were not available. All colposcopy units provided 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 was 43. 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 94.

Positive predictive value of high grade cytology

An error occurred in the original calculations for the positive predictive value (PPV) for women with a high grade smear. Therefore this revised report includes the re-calculated PPVs. Nothing else has been amended.

Overall, the PPV of the programme (77.1%) was within the recommended target range (65 to 85%). Two laboratories reported a PPV above the target range, and one laboratory reported a PPV below the lower limit of the target.

2. Background

The Independent Monitoring Group (IMG) of the National Cervical Screening Programme (NCSP) has been responsible for providing independent quantitative monitoring of the NCSP since 2001. Part of this responsibility is to produce quarterly reports of the national indicators for the NCSP. These indicators were established in 2000.

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 included in these reports are calculated were provided to the CPHR by the National Screening Unit (NSU), with the exception of the colposcopy data. 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
ASCUS:	Atypical squamous cells of undetermined significance
CIN:	Cervical intra-epithelial neoplasia; I: low grade; II, III: high grade
DHB:	District Health Board
HPV:	Human papilloma virus
HSIL:	High grade squamous intra-epithelial lesion
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
SCL:	Southern Community Laboratories
SNOMED:	Systematised Nomenclature of Medicine

4. Recommendations

4.1 General issues

Since Independent Monitoring Group (IMG) Quarterly Reports 20 and 21 were both considered at the June 2006 meeting of the IMG, recommendations were made for the reports together. These are presented in Report 21 only.

- The IMG recommend to the NSU/the NCSP Register re-development project team that histology reporting to the NCSP incorporates mandatory reporting of the procedure codes.

4.2 Data issues

Section 6.3 Laboratory cytology turn around time

- NSU is to check the accuracy of the data of the timeliness of smear reporting from MedLab Bay of Plenty and SCL Dunedin for Report 21, and if the data is correct to seek an explanation from MedLab Bay of Plenty and SCL Dunedin as to why the timeliness is as it is.

Sections 6.7 and 6.8 Waiting time for colposcopic assessment

- There are concerns with the non-reporting and with the accuracy of reported colposcopy data. The NSU should investigate this as a matter of urgency. The IMG note that NSU has begun an audit of colposcopy services. DHBs are due to report on these by the end of June 2006.

4.3 Service issues

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

- NSU is to investigate all women with no subsequent histology result recorded on the NCSP Register individually (372 in Report 20 and 400 in Report 21). Priority is to be given to women with no subsequent smear, Māori women, Pacific women, and then by Region.

Section 6.2 Laboratory smear reporting

- NSU is to seek an explanation from SCL Christchurch for the high rates (above the target of 96%) of smears reported as negative for dysplasia or malignancy in Reports 20 & 21.

- NSU is to seek an explanation from MedLab Central regarding their increasing trend in total abnormalities, including a differential breakdown of their community-based and hospital-based smears.

Section 6.3 Laboratory cytology turn around time

- NSU is to seek an explanation from SCL Christchurch for its high number of smears reported after more than 14 days.
- NSU is to seek an explanation from Diagnostic MedLab Auckland regarding its timeliness of smear reporting falling below the national target.
- NSU is to identify the reasons for the extended periods of time taken to report on smear reports, *e.g.* up to 80 days in Report 20 (median = 32 days), and up to 103 days in Report 21 (median = 18 days).

4.4 Previous recommendations

Recommendations made at the 1 May 2006 meeting based on discussions about Reports 18 and 19, January to June 2005:

General issues

- Outstanding responses from laboratories need to be addressed as a priority.

Data issues

Section 6.2 Laboratory smear reporting

- NSU is to request annual reports from Auckland Hospital Laboratory for analysis of the proportion of total abnormalities in cytology from community-based smears.

Section 6.3 Laboratory cytology turn around time

- NSU is to seek an explanation from SCL Christchurch regarding the continuing problem of slow reporting of smears.

Sections 6.7 and 6.8 Waiting time for colposcopic assessment

- IMG is very concerned that women are potentially being put at risk through the non-reporting of colposcopy data by Nelson Marlborough and Northland, and again asks NSU to urgently seek an explanation.¹

¹ IMG notes that both Nelson Marlborough and Northland have reported colposcopy data for the reporting period of the current report.

- IMG is also very concerned about the potential inaccuracy of colposcopy data reporting, with many regions reporting zero referrals. IMG would like NSU to investigate this as a matter of urgency.
- NSU is to follow-up the requirement for colposcopy clinics to provide dates of referral so that targets can be calculated.

Service issues

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

- NSU is to investigate women with no subsequent histology result recorded on the NCSP register individually (303 in Report 18 and 346 in Report 19). Priority is to be given to women with no subsequent smear, Pacific women, and then by region.

Section 6.2 Laboratory smear reporting

- NSU is to seek an explanation from MedLab Central regarding their high total abnormalities rate.
- NSU is to seek an explanation from SCL Dunedin regarding their low rates of ASCUS and ASC-H.
- NSU is to seek an explanation from Valley Diagnostic regarding their low rate of HSIL. The IMG noted at the June meeting that no response to this recommendation had been received.

Section 6.4 Laboratory histology turn around time

- It is noted that a review of current statistics show that the targets are now being met by six laboratories that did not meet them previously. However, this does not explain the unmet targets for Reports 14 through to 17, and which continue to be unmet in Reports 18 and 19. NSU is to also seek explanations from Hutt Hospital, North Shore Hospital and Wellington Hospital for this reporting period.

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

- NSU is to seek an explanation from Bay of Plenty, Counties Manukau, Hawke's Bay, Lakes, Southland and Waitemata regarding colposcopy waiting times.

Section 6.8 Waiting time for colposcopic assessment for LSIL or ASCUS

- NSU is to seek an explanation from Bay of Plenty, Counties Manukau, Hawke's Bay, Lakes, Southland, Waikato and Waitemata regarding colposcopy waiting times.

Recommendations made at the 5 December 2005 meeting based on discussions about Report 17, October to December 2004:

General issues

- The IMG recommends that relevant advisory groups (*i.e.* Maori, Pacific, Consumer Reference & NCSP) are sent IMG reports for consideration in terms of ethnic disparities.
- NSU is to report on status of their investigation of ethnicity data collection to the IMG.

Data issues

Section 6.2 Laboratory smear reporting

- For all of Table 5: There is a discrepancy between the figures reported here and Valley Diagnostic Laboratory's own figures and this is currently being investigated by the NSU. The IMG would like the results of this investigation, including the 42 month look back statistics, to be reported back to them.

Section 6.4 Laboratory histology turn around time

- The NSU is to investigate delayed reporting of histology by North Shore Hospital.

Sections 6.7 and 6.8 Waiting time for colposcopic assessment

- The IMG have concerns about the non-reporting of and the accuracy of the reported colposcopy data. The NSU should investigate this as a matter of urgency.

Service issues

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

- The NSU should address ethnic disparities in timeliness of follow-up of high grade smears with urgency. Prioritise investigation of reasons for ethnic inequalities in outcomes. Researchers with Māori/Pacific expertise should lead this analysis.
- The NSU is to seek an explanation from Auckland, Bay of Plenty, and Waikato Regions as to why their timeliness of histology reporting following a high grade smear at 12 weeks has consistently been well below the target for the last four reports.
- The NSU is to investigate women with no subsequent histology result recorded on the NCSP Register following a high grade cytology result. Priority

is to be given to Pacific women, then by Region, ordering these from those with the highest to the lowest percentage of no follow-up after a high grade cytology result.

Section 6.2 Laboratory smear reporting

- The NSU is to investigate why SCL Christchurch and Valley Diagnostic Laboratory were above the target for smears reported as negative for dysplasia or malignancy.
- The NSU is to request that Auckland Hospital Laboratory produce figures for total abnormalities for non-hospital based satisfactory or satisfactory but limited smears for the period of Report 17 to be reported within six months from their receipt of this recommendation.
- The NSU is to investigate why the total abnormalities reporting pattern is consistently higher than the target for MedLab Bay of Plenty and MedLab Central.

Section 6.3 Laboratory cytology turn around time

- Due to circumstances explained by the NSU the IMG is not making a recommendation relating to MedLab Central's seven-day turnaround time for cytology reporting.
- The NSU is to seek an explanation as to why MedLab Bay of Plenty is below the seven-day target for timeliness of cytology reporting.
- The NSU is to seek explanations as to why SCL Christchurch, Diagnostic MedLab Auckland, and MedLab Central are below the 14-day target for cytology reporting.

Section 6.4 Laboratory histology turn around time

- The IMG request that Rotorua Hospital provide a relevant response to the histology turnaround time recommendation from Report 14 through to Report 17.

5. Methods

The NSU of the Ministry of Health (MoH), 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 the indicators. 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 9% of the total number of women on the NCSP Register.

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 Regions 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 ASCUS 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 high grade cytology result.

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 31 December 2005 who had a high grade cytology result recorded on the NCSP Register between 1 January 2004 and 31 December 2004 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 January 2004 and 31 December 2004. 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 January 2004 and 31 December 2004, 5,263 women had a high grade cytology result. Of these, 3,987 (75.8%) had a histological specimen taken within 12 weeks of the abnormal cytology, compared to the target of 90%. This value is similar to that reported in the previous two quarters (76.3% and 77.5%). The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was 90.9% (n=4,786). This value is similar to those reported in the previous two quarters (91.2% and 91.9%). There was no histology reported on the NCSP Register for 400 (7.6%) 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, 78.1% of non-Māori, non-Pacific women had a report of a histological specimen, compared to 66.2% of Māori and 61.8% of Pacific women. These figures are similar to those reported in the last quarter (78.6%, 67.6% and 59.2%, respectively). The differences by ethnicity persisted for all time periods following a high grade smear. Statistical tests showed 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 (84.4%, n=411). The poorest performer was

Hawke's Bay (61.5%). For all Regions combined the proportion of women who had histological reports within 12 weeks of the smear was 75.8%.

No Region reached the target of 99% of women having a histological specimen taken within 52 weeks of a high grade smear. For all Regions combined the proportion of women who had a high grade smear result with a subsequent histology taken within 52 weeks was 91.0%. All of the Regions have similar timeliness in reporting histological results for women with high grade smears compared to the previous quarter.

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=400, 7.6%) had no histology report recorded on the NCSP Register following a high grade smear compared with the previous two quarters (7.4% and 7.0%). The absence of such a report was more common in Pacific women (10.9%) compared to Māori (8.7%) and non-Māori, non-Pacific women (7.3%), 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 7%) in Auckland, Canterbury, Hawke's Bay, Manawatu/Wanganui, and West Coast.

Further details of the 400 women who had no histology result recorded on the NCSP Register following a high grade smear are shown in Table 4. Of these, 97 (24.3%) had no subsequent smear recorded and 140 (35.0%) had a follow-up smear taken by a non-specialist. Of these 237 women who had either no follow-up smear or a smear taken by a non-specialist, 108 (45.6%) were recorded on the register as having been 'signed in' following their high grade smear result, indicating that they were being

recalled by the NCSP. The remaining 129 (54.4%) women did not appear to have been signed in, indicating that their follow-up was less clear.

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
- chosen not to have their histology results recorded on the NCSP Register.

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 were similar patterns when considering these results according to whether the women had been signed back into the Programme or not. The proportions of Māori (47.1%) who did not have a subsequent smear after their high grade cytology report were approximately double that of non-Māori, non-Pacific women (19.2%) and Pacific women (22.2%). The proportion of Māori women who had a subsequent smear taken by a non-specialist (25.7%) was less than those for non-Māori, non-Pacific women (35.6%) and Pacific women (61.1%). The proportion of non-Māori, non-Pacific women (45.2%) who had a subsequent smear taken by a specialist was greater than those of Māori (27.1%) and Pacific women (16.7%). However, statistical tests have not been used to examine any differences between the ethnic groups due to the small numbers of women in the different categories.

Recommendations

1. NSU is to investigate all women with no subsequent histology result recorded on the NCSP Register individually (372 in Report 20 and 400 in Report 21). Priority is to be given to women with no subsequent smear, Māori women, Pacific women, and then by Region.

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

Time period	n	Proportion %	Cumulative Proportion %
Within 12 weeks ¹	3,987	75.8	75.8
13 to 26 weeks	535	10.2	85.9
27 to 52 weeks ²	264	5.0	90.9
More than 52 weeks	77	1.5	92.4
Subtotal	4,863		
No histology recorded on NCSP Register	400	7.6	100
Total	5,263		

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

Table 2: Ethnic disparities in timeliness of a histology report after a high grade cytology result for enrolled 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	531	66.2	66.2	102	61.8	61.8	3,354	78.1	78.1
13 to 26 weeks	112	14.0	80.2	31	18.8	80.6	392	9.1	87.2
27 to 52 weeks ²	64	8.0	88.2	11	6.7	87.3	189	4.4	91.6
More than 52 weeks	25	3.1	91.3	3	1.8	89.1	49	1.1	92.7
Subtotal	732			147			3,984		
No histology recorded on NCSP Register	70	8.7	100.0	18	10.9	100.0	312	7.3	100.0
Total	802			165			4,296		

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 400 women with no histology recorded on the NCSP Register is shown in Table 4

Table 3: Timeliness of a histology report after a high grade cytology result for enrolled 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	1,184	69.7	209	12.3	96	5.7	1,489	87.6	185	10.9	1,699
Bay of Plenty	324	77.1	47	11.2	18	4.3	389	92.6	19	4.5	420
Canterbury	494	81.5	42	6.9	16	2.6	552	91.1	49	8.1	606
Hawke's Bay	134	61.5	37	17.0	22	10.1	193	88.5	19	8.7	218
Manawatu / Wanganui	271	80.4	16	4.8	15	4.5	302	89.6	31	9.2	337
Nelson / Marlborough	102	72.9	22	15.7	10	7.1	134	95.7	5	3.6	140
Northland	170	82.5	15	7.3	10	4.9	195	94.7	9	4.4	206
Otago / Southland	411	84.4	36	7.4	18	3.7	465	95.5	19	3.9	487
Tairāwhiti	67	79.8	9	10.7	4	4.8	80	95.2	3	3.6	84
Taranaki	131	77.1	16	9.4	13	7.7	160	94.1	8	4.7	170
Waikato	336	79.1	25	5.9	27	6.4	388	91.3	27	6.4	425
Wellington	334	76.8	60	13.8	13	3.0	407	93.6	23	5.3	435
West Coast	29	80.6	1	2.8	2	5.6	32	88.9	3	8.3	36
Total	3,987	75.8	535	10.2	264	5.0	4,786	91.0	400	7.6	5,263

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: The number of women with high grade cytology 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	
	n	%	n	%	n	%
No subsequent smear	50	26.9	47	22.0	97	24.3
Subsequent smear taken by non-specialist	79	42.5	61	28.5	140	35.0
Smear taken by specialist	57	30.6	106	49.5	163	40.8
Total	186		214		400	

Difference between NCSP Register status $P < 0.001$

Table 5: Ethnic disparities in the follow-up of women with a high grade cytology report 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	14	38.9	2	16.7	34	24.6	19	55.9	2	33.3	26	14.9	33	47.1	4	22.2	60	19.2
Smear by non-specialist	14	38.9	8	66.7	57	41.3	4	11.8	3	50.0	54	31.0	18	25.7	11	61.1	111	35.6
Smear by specialist	8	22.2	2	16.7	47	34.1	11	32.4	1	16.7	94	54.0	19	27.1	3	16.7	141	45.2
Total	36		12		138		34		6		174		70		18		312	

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

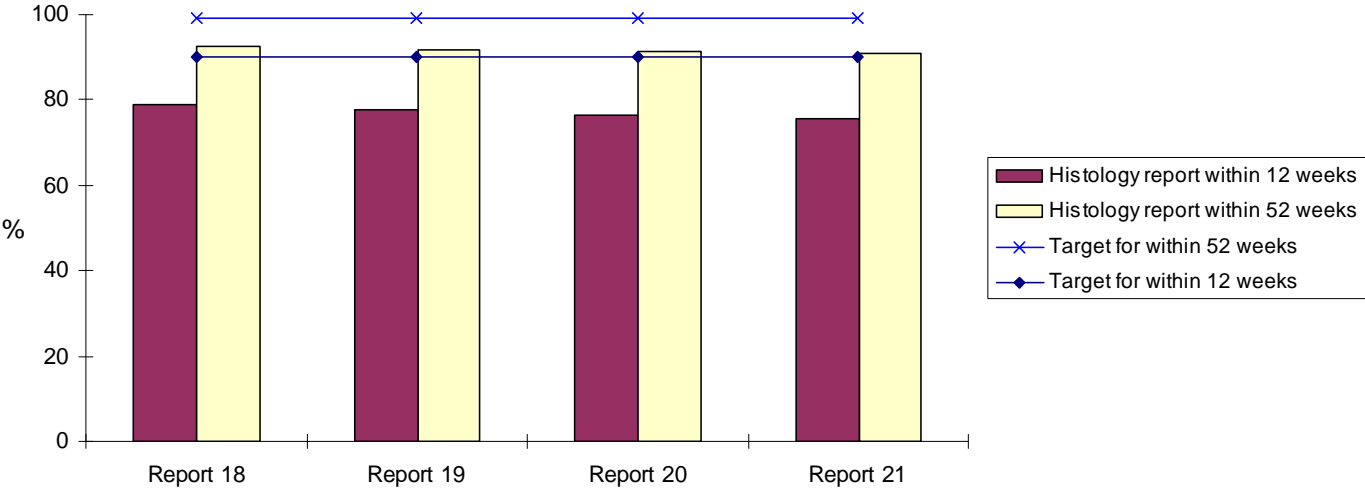


Figure 2: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

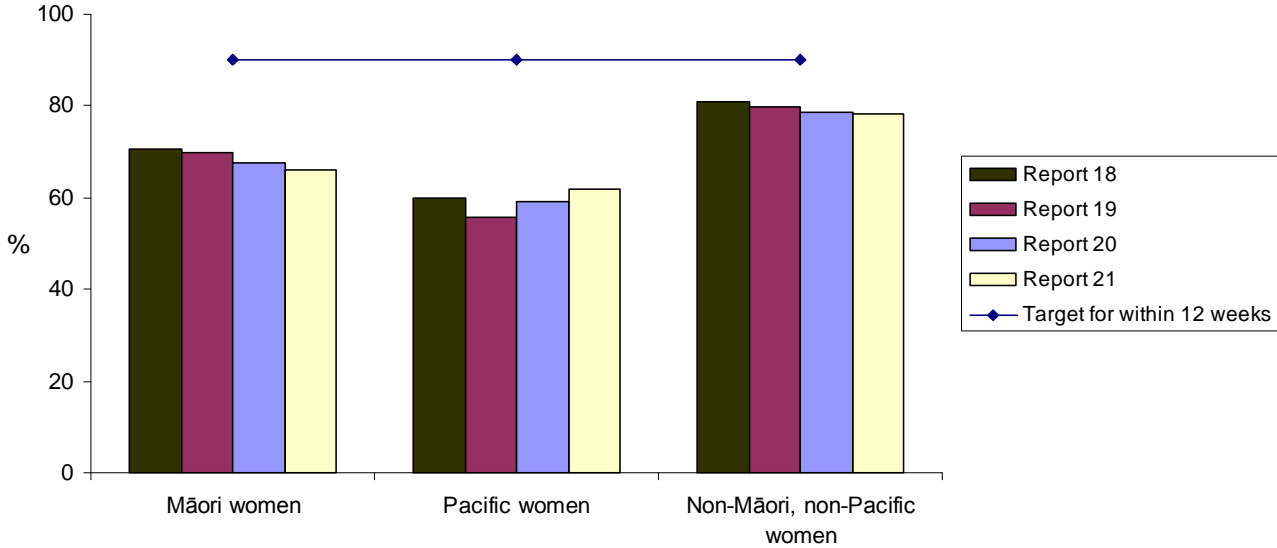


Figure 3: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

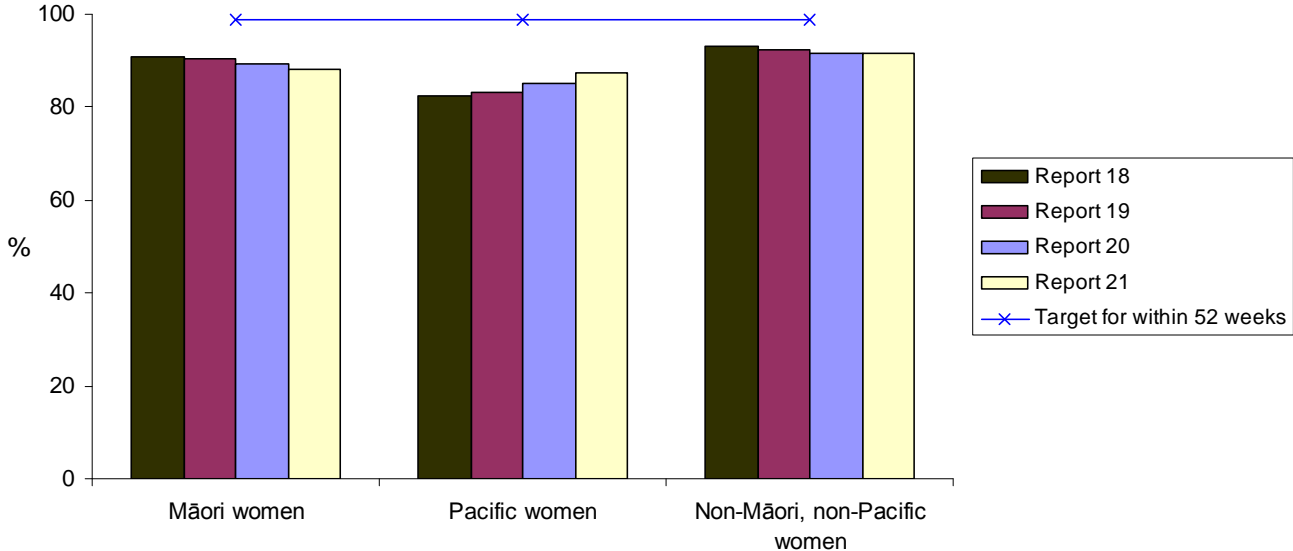


Figure 4: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

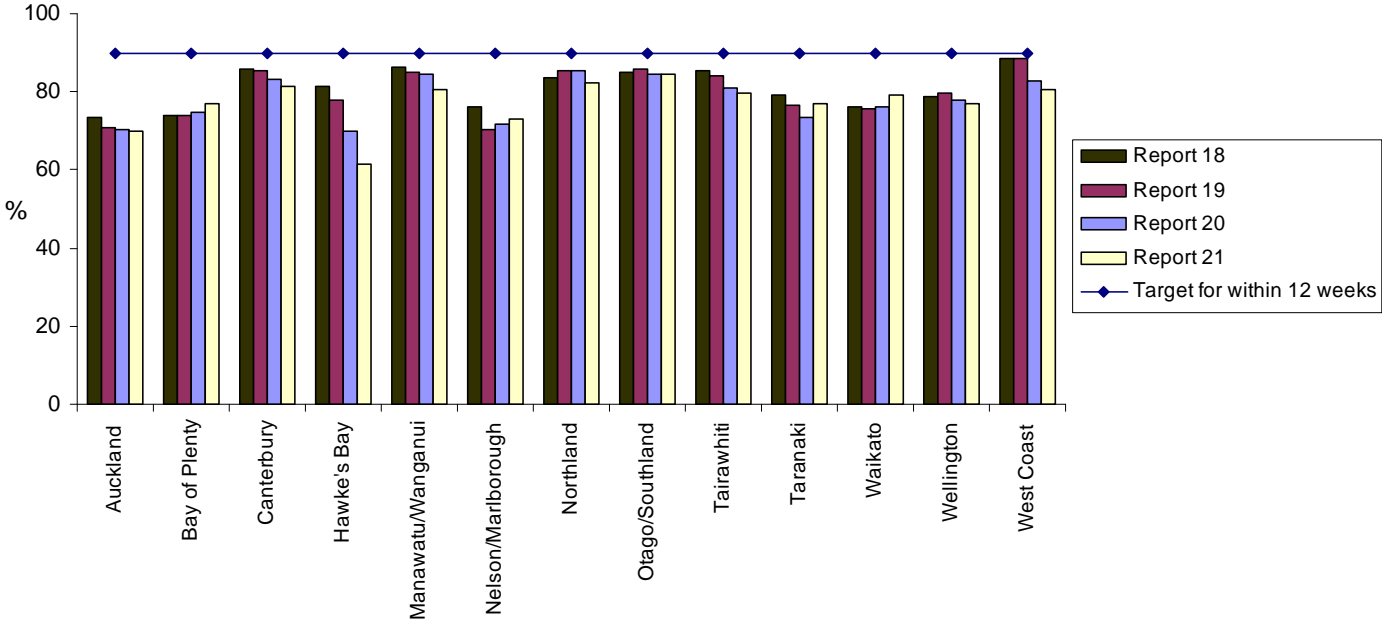
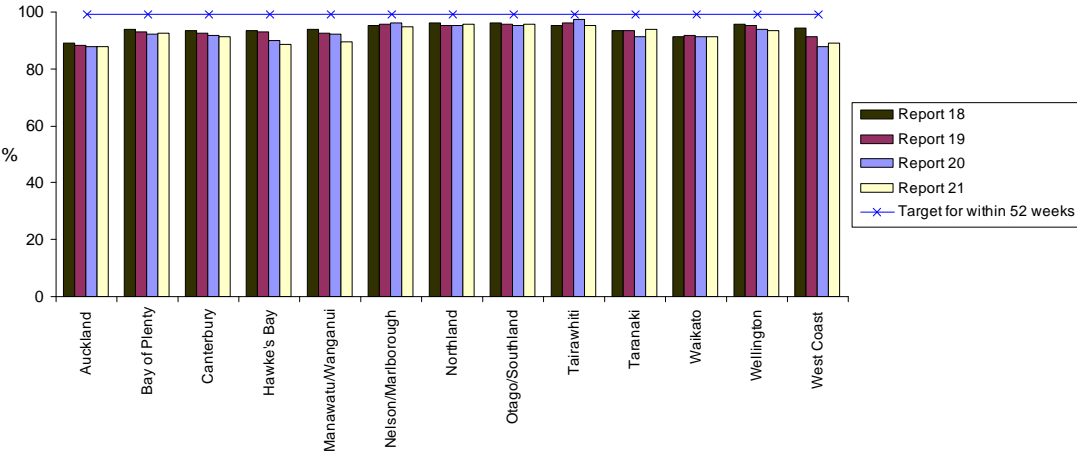


Figure 5: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region



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. ASCUS
3. ASC-H
4. LSIL (CIN 1 and/or HPV)
5. HSIL
6. Total abnormalities (smears reported as ASCUS or more serious)

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 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 ASCUS or more serious abnormality 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, 93,541 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 3,261 for Auckland Hospital Laboratory to 28,577 for Diagnostic MedLab Auckland. Overall, 86,354 (92.3%) smears were reported as negative for dysplasia or malignancy, which was similar to the proportion reported in the last two quarters (92.1% and 93.0%). One of the laboratories, SCL Christchurch (96.8%) exceeded the target of not more than 96% of smears being negative for dysplasia or malignancy. Auckland Hospital Laboratory reported 78.7% of smears as negative for dysplasia or malignancy, a lower proportion than the other laboratories.

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 similar to that reported for the previous two reporting quarters (1.0% and 1.2%). Five laboratories did not meet this target; Diagnostic MedLab Auckland (n=143) reported 0.5% of smears with a HSIL abnormality, MedLab Christchurch (n=40, 0.5%), MedLab Wellington (n=41, 0.5%), SCL Christchurch (n=21, 0.4%), and Valley Diagnostic Laboratory (n=14, 0.4%). Auckland Hospital Laboratory reported 106 (3.3%) smears with a HSIL abnormality, a higher proportion than the other laboratories.

For all laboratories combined, the target of not more than 10% of smears reported as abnormal was not exceeded. This proportion was 7.7%, similar to the previous two quarters (7.9% and 7.0%). Hospital based laboratories reported the highest abnormalities proportions. Auckland Hospital Laboratory reported 695 (21.3%) smears processed as abnormal, and has reported high proportions for the previous two quarters (24.0% and 18.6%). Canterbury Health Laboratories (10.5%), MedLab Bay of Plenty (10.1%) and MedLab Central (14.9%) also exceeded the 10% total abnormalities target.

The proportion of smears reported as LSIL varied between laboratories, but was between 1.3% and 3.5% for all laboratories, with the exception of Auckland Hospital Laboratory (6.6%), Canterbury Health Laboratories (5.1%), and MedLab Central (9.2%). These three laboratories also reported higher proportions of LSIL abnormalities in the previous two quarters. Note that no target is set for proportion of smears reported as LSIL.

Recommendations

1. NSU is to seek an explanation from SCL Christchurch for the high rates (above the target of 96%) of smears reported as negative for dysplasia or malignancy in Reports 20 & 21.
2. NSU is to seek an explanation from MedLab Central regarding their increasing trend in total abnormalities, including a differential breakdown of their community-based and hospital-based smears.

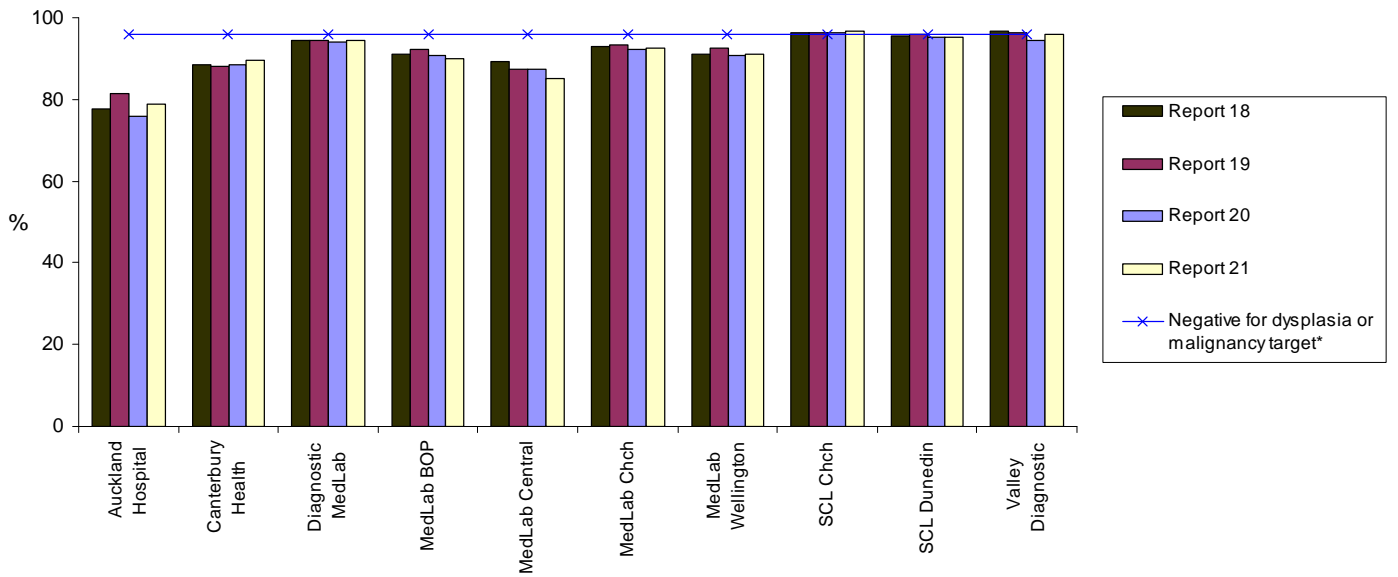
Table 6: The number and proportion of satisfactory smears in broad cytological categories for each laboratory

Laboratory	Negative for dysplasia or malignancy ¹		ASCUS		ASC-H		LSIL		HSIL ²		Total Abnormalities ³		Total smears
	n	%	n	%	n	%	n	%	n	%	n	%	
Auckland Hospital Lab.	2,566	78.7	239	7.3	118	3.6	214	6.6	106	3.3	695	21.3	3,261
Canterbury Health Lab.	4,556	89.5	148	2.9	55	1.1	258	5.1	62	1.2	532	10.5	5,088
Diagnostic MedLab Auckland	26,938	94.3	575	2.0	196	0.7	700	2.4	143	0.5	1,639	5.7	28,577
MedLab Bay of Plenty	7,664	89.9	427	5.0	49	0.6	298	3.5	62	0.7	864	10.1	8,528
MedLab Central	5,897	85.1	228	3.3	62	0.9	635	9.2	91	1.3	1,036	14.9	6,933
MedLab Christchurch	6,793	92.7	225	3.1	67	0.9	185	2.5	40	0.5	534	7.3	7,327
MedLab Wellington	7,776	91.1	351	4.1	63	0.7	284	3.3	41	0.5	757	8.9	8,533
SCL* Christchurch	5,404	96.8	61	1.1	19	0.3	73	1.3	21	0.4	177	3.2	5,581
SCL* Dunedin	15,498	95.0	17	0.1	80	0.5	487	3.0	212	1.3	812	5.0	16,310
Valley Diagnostic Lab.	3,262	95.9	44	1.3	10	0.3	72	2.1	14	0.4	141	4.1	3,403
Total	86,354	92.3	2,315	2.5	719	0.8	3,206	3.4	792	0.8	7,187	7.7	93,541

* SCL: Southern Community Laboratories

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

Figure 6: 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

Figure 7: The proportion of satisfactory smears reported as HSIL for each laboratory

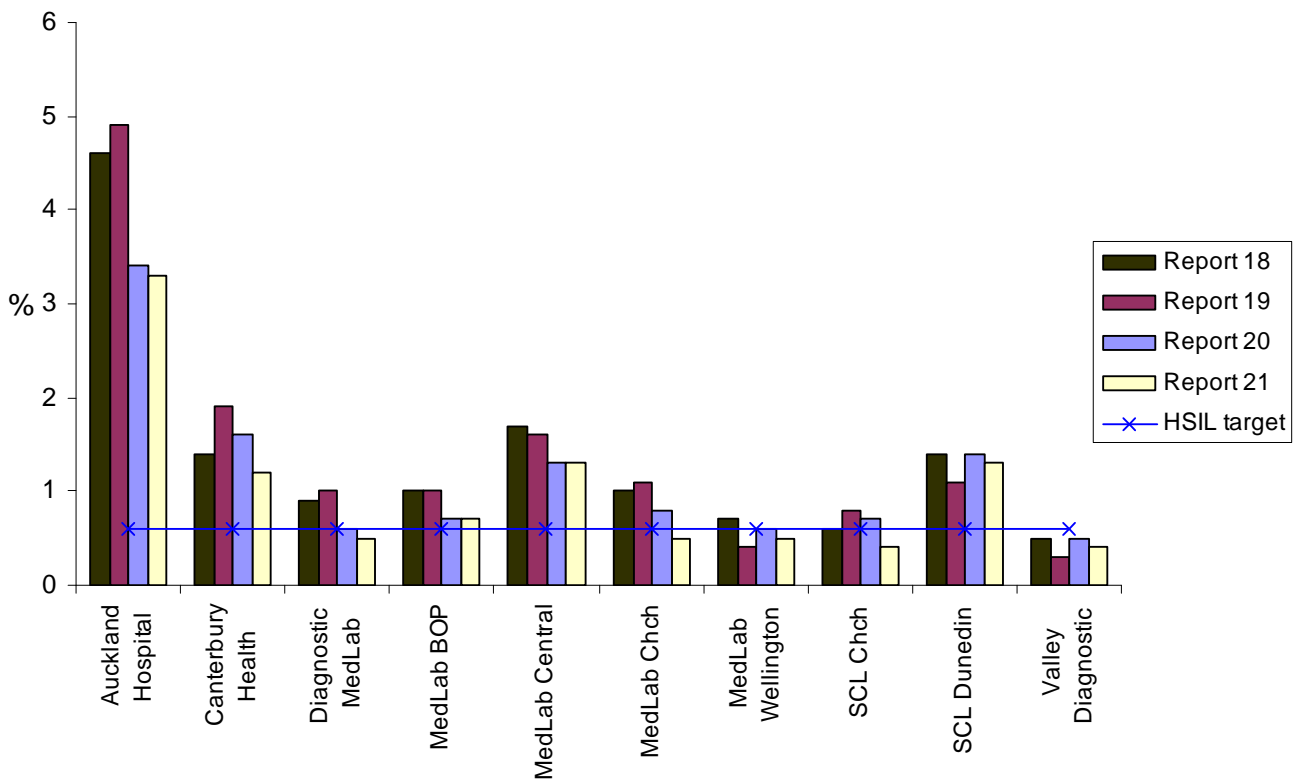
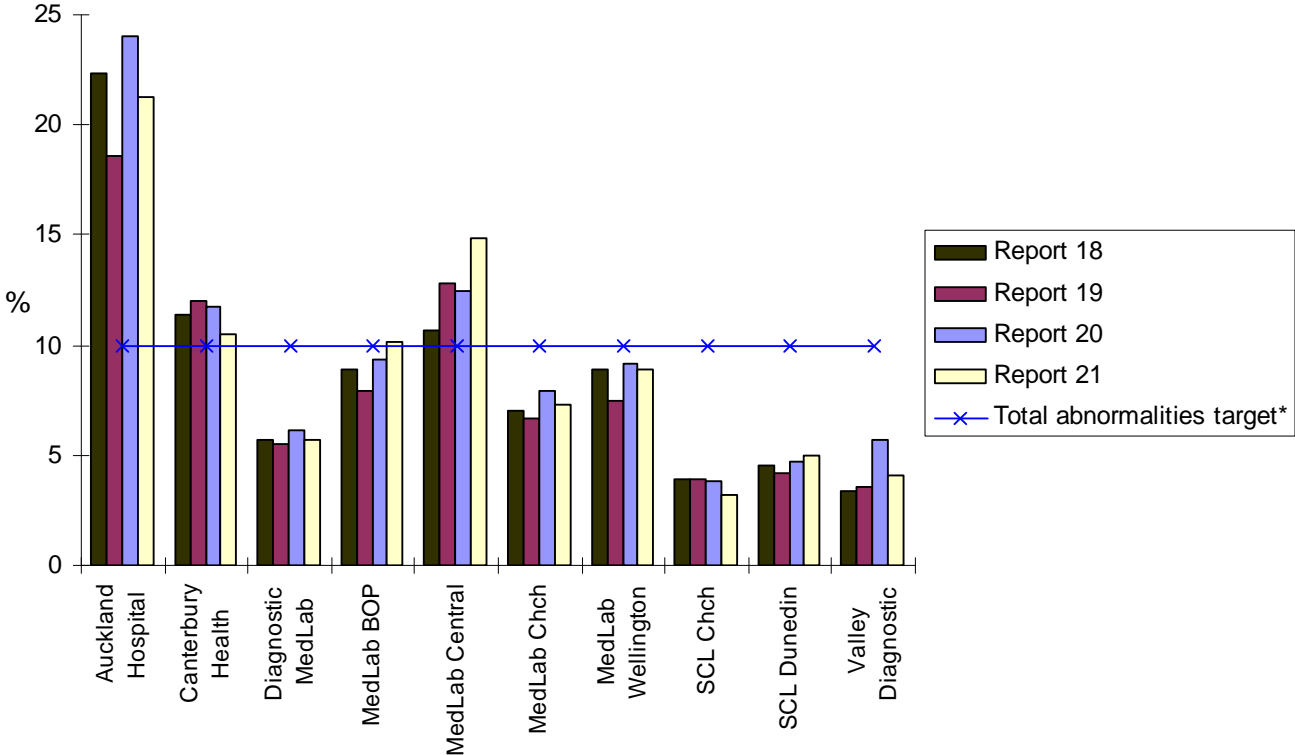


Figure 8: The proportion of satisfactory smears reported as total abnormalities for each laboratory



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

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 October to 31 December 2005 for each laboratory processing cervical cytology are shown in Table 7. Overall, 94.6% of the 97,119 smears received by laboratories were reported within seven working days. This was greater than the target of 90%, as was the proportion reported in the last two quarters (98.7% and 99.7%). All reporting laboratories achieved the seven-day target of 90%, except Auckland Hospital Laboratory (86.5%), Canterbury Health Laboratories (87.2%), and

MedLab Bay of Plenty (73.7%). The IMG noted the substantial drop from previous reports for Auckland Hospital Laboratory and Canterbury Health Laboratories for this indicator.

Overall, the 14-day target of 100% was almost achieved (98.8%). Four of the ten reporting laboratories achieved the 100% target. MedLab Bay of Plenty reported 556 smears (6.3%) outside 14 working days. The other laboratories to report smears outside this target were Auckland Hospital Laboratory (n=19), Canterbury Health Laboratories (n=6), Diagnostic MedLab Auckland (n=87), SCL Christchurch (n=196), and SCL Dunedin (n=317). The reporting time for the 1,181 smears that were outside the 14-day target ranged from 15 to 103 days, with the median time being 18 days.

Recommendations

1. NSU is to check the accuracy of the data of the timeliness of smear reporting from MedLab Bay of Plenty and SCL Dunedin for Report 21, and if the data is correct to seek an explanation from MedLab Bay of Plenty and SCL Dunedin as to why the timeliness is as it is.
2. NSU is to seek an explanation from SCL Christchurch for its high number of smears reported after more than 14 days.
3. NSU is to seek an explanation from Diagnostic MedLab Auckland regarding its timeliness of smear reporting falling below the national target.
4. NSU is to identify the reasons for the extended periods of time taken to report on smear reports, *e.g.* up to 80 days in Report 20 (median = 32 days), and up to 103 days in Report 21 (median = 18 days).

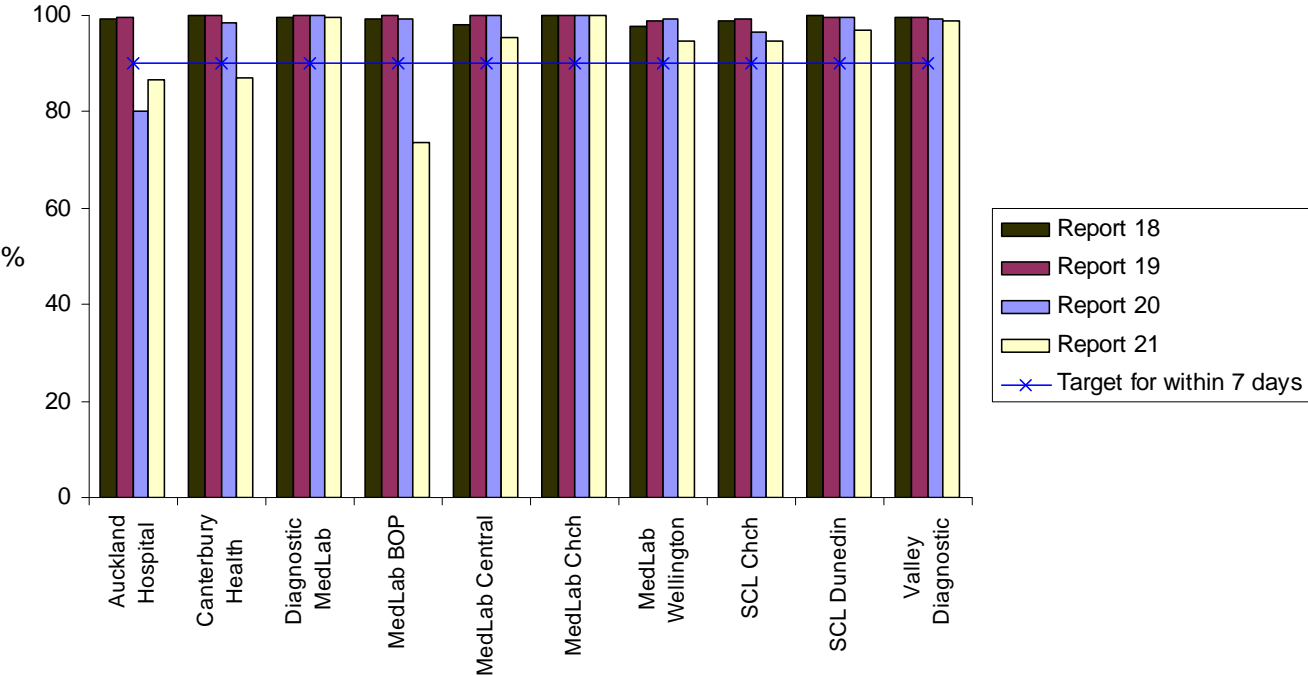
Table 7: Timeliness of the reporting of smears by laboratory

Laboratory	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	%
Auckland Hospital Lab.	3,339	2,887	86.5	433	13.0	3,320	99.4	19	0.6
Canterbury Health Lab.	5,140	4,484	87.2	650	12.6	5,134	99.9	6	0.1
Diagnostic MedLab Auckland	30,104	29,972	99.6	45	0.1	30,017	99.7	87	0.3
MedLab Bay of Plenty	8,895	6,558	73.7	1,781	20.0	8,339	93.7	556	6.3
MedLab Central	7,058	6,736	95.4	322	4.6	7,058	100.0	0	0.0
MedLab Christchurch	7,780	7,780	100.0	0	0.0	7,780	100.0	0	0.0
MedLab Wellington	9,026	8,560	94.8	466	5.2	9,026	100.0	0	0.0
SCL* Christchurch	5,626	5,319	94.5	111	2.0	5,430	96.5	196	3.5
SCL* Dunedin	16,645	16,106	96.8	222	1.3	16,328	98.1	317	1.9
Valley Diagnostic Lab.	3,506	3,472	99.0	34	1.0	3,506	100.0	0	0.0
Total	97,119	91,874	94.6	4,064	4.2	95,938	98.8	1,181	1.2

* SCL: Southern Community Laboratories

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

Figure 9: Proportion of smears reported on within seven working days



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 Operational Policy and Quality Standards (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, 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 27 laboratories that provided results to the NCSP Register in this quarter is shown in Table 8. There were a total of 6,326 histology specimens recorded on the NCSP Register, compared to 6,696 in the

previous quarter. The number of specimens reported by each laboratory varied considerably, ranging from 29 in Valley Diagnostic Laboratory to 920 in Diagnostic MedLab Auckland. For all laboratories combined, the proportion of histological specimens reported on within five working days was 90.2%, just above the target of 90%, and slightly higher than the figure reported in the previous quarter (89.1%).

Ten laboratories did not meet the five-day 90% target. Wellington Hospital only issued reports within five days for 240 of the 378 (63.5%) histology specimens received. The other laboratories that did not meet the five-day 90% target this quarter were Auckland Hospital Laboratory (69.1%), Hutt Hospital (75.0%), MedLab Central (87.6%), MedLab Wellington (85.7%), Nelson Diagnostic Laboratory (75.0%), North Shore Hospital (85.5%), Rotorua Hospital (81.8%), Southland Hospital (88.9%), and Wanganui Hospital (71.6%). Auckland Hospital Laboratory (69.4%), Hutt Hospital (79.4%), North Shore Hospital (16.8%), Rotorua Hospital (73.2%), and Southland Hospital (84.5%) did not meet this target in the previous quarter.

Auckland Hospital Laboratory (27.1%), Hutt Hospital (21.9%), Nelson Diagnostic Laboratory (22.7%), Wanganui Hospital (28.4%), and Wellington Hospital (24.9%) reported the greatest proportion of histology results six to 10 working days from the specimens being received. Overall, 155 (2.5%) specimens were reported more than 10 working days after the time that they were received by the laboratory. The majority of these were from North Shore Hospital (n=46) which reported 10.1% of histology results 11 or more working days from the specimens being received, and from Wellington Hospital (n=44) which reported 11.6% of histology results 11 or more working days from the specimens being received. The reporting time for the 155 specimens ranged from 11 to 78 days, with the median time being 15 days.

Recommendations

No recommendations were made about this indicator.

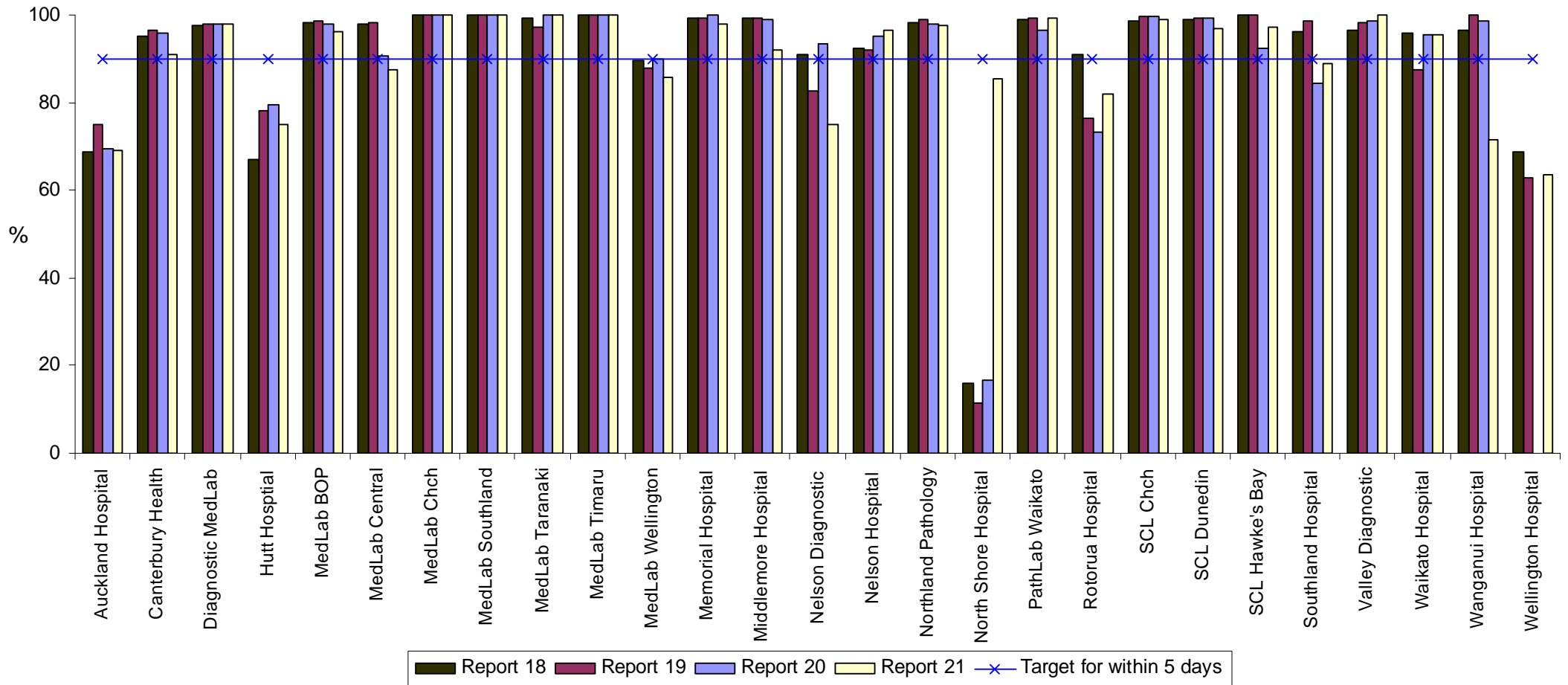
Table 8: Timeliness of the reporting of histology by laboratory

Laboratory	Number of specimens processed	Within 5 working days ¹		6 to 10 working days		11 or more working days	
		n	%	n	%	n	%
Auckland Hospital Lab.	350	242	69.1	95	27.1	13	3.7
Canterbury Health Lab.	475	432	90.9	37	7.8	6	1.3
Diagnostic MedLab Auckland	920	901	97.9	17	1.8	2	0.2
Hutt Hospital	96	72	75.0	21	21.9	3	3.1
MedLab Bay of Plenty	400	385	96.3	15	3.8	0	0.0
MedLab Central	330	289	87.6	41	12.4	0	0.0
MedLab Christchurch	43	43	100.0	0	0.0	0	0.0
MedLab Southland	43	43	100.0	0	0.0	0	0.0
MedLab Taranaki	124	124	100.0	0	0.0	0	0.0
MedLab Timaru	96	96	100.0	0	0.0	0	0.0
MedLab Wellington	175	150	85.7	22	12.6	3	1.7
Memorial Hospital Hastings	143	140	97.9	1	0.7	2	1.4
Middlemore Hospital	270	248	91.9	17	6.3	5	1.9
Nelson Diagnostic Lab.	44	33	75.0	10	22.7	1	2.3
Nelson Hospital	172	166	96.5	4	2.3	2	1.2
Northland Pathology	193	188	97.4	3	1.6	2	1.0
North Shore Hospital	455	389	85.5	20	4.4	46	10.1
Pathlab Waikato	163	162	99.4	1	0.6	0	0.0
Rotorua Hospital	99	81	81.8	5	5.1	13	13.1
* SCL Christchurch	188	186	98.9	1	0.5	1	0.5
* SCL Dunedin	340	329	96.8	10	2.9	1	0.3
* SCL Hawke's Bay	37	36	97.3	1	2.7	0	0.0
Southland Hospital	216	192	88.9	19	8.8	5	2.3
Valley Diagnostic Lab.	29	29	100.0	0	0.0	0	0.0
Waikato Hospital	480	459	95.6	15	3.1	6	1.3
Wanganui Hospital	67	48	71.6	19	28.4	0	0.0
Wellington Hospital	378	240	63.5	94	24.9	44	11.6
Total	6,326	5,703	90.2	468	7.4	155	2.5

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

* SCL: Southern Community Laboratories

Figure 10: Laboratory histology five-day turn around time



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. The targets will be reviewed in December 2006, once sufficient New Zealand data have accumulated.

Calculation

All smears taken during the reporting quarter for which there was a result recorded on the NCSP Register were used to calculate these indicators. 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 9. Overall, 3,578 (3.7%) of the 97,119 smears processed were reported as unsatisfactory for evaluation. Diagnostic MedLab Auckland (5.1%), MedLab Bay of Plenty (4.1%), MedLab Christchurch (5.8%), and MedLab Wellington (5.5%) reported the highest proportions of unsatisfactory smears.

Recommendations

No recommendations were made about this indicator.

Table 9: The number and proportion of unsatisfactory smears by laboratory

Laboratory	Smears processed	Unsatisfactory smears ¹	
	n	n	%
Auckland Hospital Lab.	3,339	78	2.3
Canterbury Health Lab.	5,140	52	1.0
Diagnostic MedLab Auckland	30,104	1,527	5.1
MedLab Bay of Plenty	8,895	367	4.1
MedLab Central	7,058	125	1.8
MedLab Christchurch	7,780	453	5.8
MedLab Wellington	9,026	493	5.5
SCL* Christchurch	5,626	45	0.8
SCL* Dunedin	16,645	335	2.0
Valley Diagnostic Lab.	3,506	103	2.9
Total	97,119	3,578	3.7

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

* SCL: Southern Community Laboratories

6.6 Unsatisfactory smears by smear taker

Definition

Definitions and a description of the issues surrounding unsatisfactory smears are given on Page 42.

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 revised Bethesda System.

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 these indicators. 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 10. Overall, 97,119 smears were taken during the reporting quarter, of which 11 (<1%) were taken by lay smear takers, 58,213 (60%) by medical smear takers, 30,676 (32%) by nurses, 7,960 (8%) by specialists and 259 (<1%) by midwives. These proportions and volumes are similar to those reported in the last quarter.

The proportions of unsatisfactory smears were greatest for smear takers with annual volumes of less than 30 smears, except for nurses where the greatest proportion of unsatisfactory smears were taken by those with annual volumes of >100. None of the smears taken by lay smear takers were reported as unsatisfactory for assessment.

Recommendations

No recommendations were made about this indicator.

Table 10: The number and proportion of unsatisfactory smears for each smear taker group

	Annual volume of smears	Total number of smears	Satisfactory smears		Unsatisfactory smears ¹	
	n	n	n	%	n	%
Lay	<30	0	0	0.0	0	0.0
	30-100	11	11	100	0	0.0
	>100	0	0	0.0	0	0.0
	Total	11	11	100	0	0.0
Medical	<30	3,856	3,679	95.4	177	4.6
	30-100	16,521	15,832	95.8	689	4.2
	>100	37,836	36,240	95.8	1,596	4.2
	Total	58,213	55,751	95.8	2,462	4.2
Nurse	<30	2,563	2,505	97.7	58	2.3
	30-100	12,163	11,854	97.5	309	2.5
	>100	15,950	15,531	97.4	419	2.6
	Total	30,676	29,890	97.4	786	2.6
Specialist	<30	165	152	92.1	13	7.9
	30-100	791	740	93.6	51	6.5
	>100	7,004	6,747	96.3	257	3.7
	Total	7,960	7,639	96.0	321	4.0
Midwife	<30	60	57	95.0	3	5.0
	30-100	50	49	98.0	1	2.0
	>100	149	144	96.6	5	3.4
	Total	259	250	96.5	9	3.5
Total	97,119	93,541	96.3	3,578	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 11.

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 Counties Manukau colposcopy unit (43 women at the end of October, 36 women at the end of November, and 19 women at the end of December). Counties Manukau colposcopy unit also reported high numbers of women waiting longer than four weeks in the previous quarter. The number of colposcopy units which reported that no women

waited longer than four weeks in any month was six, compared with seven in the previous quarter.

Recommendations

1. There are concerns with the non-reporting and with the accuracy of reported colposcopy data. The NSU should investigate this as a matter of urgency. The IMG note that NSU has begun an audit of colposcopy services. DHBs are due to report on these by the end of June 2006.

Table 11: Waiting time for colposcopic assessment of HSIL or ASC-H 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		
	October	November	December	October	November	December
Auckland	36	48	33	0	0	0
Bay of Plenty	19	22	26	0	6	8
Canterbury	24	26	13	0	0	0
Capital and Coast	4	18	14	0	0	2
Counties Manukau	45	31	33	43	36	19
Hawke's Bay	17	29	28	32	18	25
Hutt Valley	6	11	10	3	2	1
Lakes	5	10	4	2	2	4
MidCentral	18	14	21	5	3	0
Nelson Marlborough	1	0	4	1	0	4
Northland	13	14	11	1	0	1
Otago	22	21	15	0	0	0
South Canterbury	1	1	0	0	0	0
Southland	0	0	0	4	0	1
Tairāwhiti	3	6	2	2	3	0
Taranaki	13	0	12	1	0	0
Waikato	33	30	33	4	9	6
Wairarapa	1	5	5	0	0	2
Waitemata	64	62	52	0	0	0
West Coast	2	1	1	1	0	0
Whanganui	6	3	3	0	0	0
Total	333	352	320	99	79	73

6.8 Waiting time for colposcopic assessment for LSIL or ASCUS

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.

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 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 12.

The reported number of women referred for an assessment of a LSIL or ASCUS cytology abnormality waiting longer than 26 weeks at the end of each month was highest for Hawke's Bay colposcopy unit (94 women at the end of October, 94 women at the end of November, and 82 women at the end of December). Nine of the colposcopy units reported that no women waited longer than 26 weeks in any month, compared with eight in the previous quarter.

Recommendations

1. There are concerns with the non-reporting and with the accuracy of reported colposcopy data. The NSU should investigate this as a matter of urgency.

Table 12: Waiting time for colposcopic assessment of LSIL or ASCUS by DHB colposcopy service

DHB Colposcopy Reporting Unit	Number of women referred for assessment of LSIL or ASCUS			Number of women referred waiting longer than 26 weeks at the end of each month		
	October	November	December	October	November	December
Auckland	17	18	8	0	0	0
Bay of Plenty	23	37	33	0	61	56
Canterbury	29	60	43	0	0	0
Capital and Coast	40	51	38	0	0	4
Counties Manukau	36	38	25	33	38	28
Hawke's Bay	7	11	11	94	94	82
Hutt Valley	15	21	9	1	1	1
Lakes	26	30	21	13	8	3
MidCentral	36	34	46	14	30	26
Nelson Marlborough	1	0	2	1	0	1
Northland	3	10	9	0	0	0
Otago	6	22	13	0	0	0
South Canterbury	2	1	2	0	0	0
Southland	17	0	17	3	0	1
Tairāwhiti	10	6	7	3	0	1
Taranaki	6	0	4	0	0	0
Waikato	42	41	41	13	12	8
Wairarapa	19	21	17	1	1	0
Waitemata	27	34	38	0	0	0
West Coast	4	0	0	0	0	0
Whanganui	12	22	23	0	0	0
Total	378	457	407	176	245	211

6.9 Positive predictive value for women with a high grade smear

An error occurred in the original calculations for the positive predictive value (PPV) for women with a high grade smear. Therefore this revised report includes the re-calculated PPVs. Nothing else has been amended.

Definition

The 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 January 2005 to 30 June 2005 (*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 (6 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 on 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 13. 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 13. Note that in this calculation ASC-H cytology reports are not included as HSIL or ISC.

During the period 1 January 2005 to 30 June 2005, there were 1,510 women with HSIL or ISC cytology reports, of whom 1,387 (91.9%) had a subsequent histology result recorded on the NCSP Register. Of these, 1,070 (77.1%) were confirmed as having HSIL or more serious abnormality on histology. This PPV is within the target range of 65 to 85%.

Three laboratories reported a PPV outside the target range of 65 to 85%. MedLab Wellington (64.4%) reported a PPV below the target range, as they did in the previous report in which PPV was reported (63.5% in Report 19). Auckland Hospital Laboratory (85.8%) and Canterbury Health Laboratories (86.2%) both reported a PPV above the target range. Canterbury Health Laboratories also reported above the target in the previous report in which PPV was reported (91.5% in Report 19).

During the period 1 January 2005 to 30 June 2005, there were 1,208 women with an ASC-H cytology report, of whom 982 (81.3%) had a subsequent histology result recorded on the NCSP Register. Of these, 459 (46.7%) had HSIL or more serious abnormality on histology.

The proportion of women that had an HSIL or more serious histology result after an ASC-H smear varied between the laboratories. Valley Diagnostic Laboratory had the lowest proportion (28.6%), while Canterbury Health Laboratories had the highest (65.5%).

Recommendations

No recommendations were made since the PPV indicator was re-calculated after the IMG meeting due to the discovery of an error in the calculation methodology.

Table 13: Positive predictive value for women with a high grade smear

Laboratory	HSIL reports with a histology report		HSIL confirmed by histology		HSIL reports without a histology report		Total
	n	%	n	%**	n	%	n
Auckland Hospital Lab.	162	91.0	139	85.8	16	9.0	178
Canterbury Health Lab.	94	97.9	81	86.2	2	2.1	96
Diagnostic MedLab Auckland	235	89.0	171	72.8	29	11.0	264
MedLab Bay of Plenty	89	90.8	70	78.7	9	9.2	98
MedLab Central	115	88.5	78	67.8	15	11.5	130
MedLab Christchurch	83	90.2	70	84.3	9	9.8	92
MedLab Wellington	73	89.0	47	64.4	9	11.0	82
SCL* Christchurch	63	88.7	45	71.4	8	11.3	71
SCL* Dunedin	449	94.5	350	78.0	26	5.5	475
Valley Diagnostic Lab.	24	100.0	19	79.2	0	0.0	24
Total	1,387	91.9	1,070	77.1	123	8.1	1,510

* SCL: Southern Community Laboratory

** Positive predictive value: proportion of HSIL reports confirmed on histology. Target: 65 to 85%

Since the publication of this document, the PPV has been re-calculated to reflect the correct dates used to delineate the period over which the data was analysed. The NSU apologises for any inconvenience this error may have caused.

Table 14: Positive predictive value for women with an ASC-H smear

Laboratory	ASC-H reports with a histology report		ASC-H confirmed by histology		ASC-H reports without a histology report		Total n
	n	%	n	%**	n	%	
Auckland Hospital Lab.	98	79.7	64	65.3	25	20.3	123
Canterbury Health Lab.	55	84.6	36	65.5	10	15.4	65
Diagnostic MedLab Auckland	294	80.1	125	42.5	73	19.9	367
MedLab Bay of Plenty	95	87.2	42	44.2	14	12.8	109
MedLab Central	89	78.8	38	42.7	24	21.2	113
MedLab Christchurch	102	81.0	43	42.2	24	19.0	126
MedLab Wellington	74	81.3	31	41.9	17	18.7	91
SCL* Christchurch	20	87.0	11	55.0	3	13.0	23
SCL* Dunedin	148	81.3	67	45.3	34	18.7	182
Valley Diagnostic Lab.	7	77.8	2	28.6	2	22.2	9
Total	982	81.3	459	46.7	226	18.7	1,208

* SCL: Southern Community Laboratory

** Positive predictive value: proportion of ASC-H reports confirmed on histology. No target.

Since the publication of this document, the PPV has been re-calculated to reflect the correct dates used to delineate the period over which the data was analysed. The NSU apologises for any inconvenience this error may have caused

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

The hierarchy of broad cytological categories is:

- (a) Negative for dysplasia or malignancy
- (b) Abnormal not otherwise specified
- (c) Atypical squamous cells of undetermined significance (ASCUS), excluding ASCUS cannot exclude high grade (ASC-H)
- (d) Low grade squamous intra-epithelial lesion (LSIL)
- (e) Atypical glandular cells of undetermined significance (AGUS) favouring a reactive process
- (f) Atypical glandular cells of undetermined significance (AGUS) favouring a dysplastic or neoplastic process
- (g) ASCUS cannot exclude high grade (ASC-H)
- (h) High grade squamous intra-epithelial lesion (HSIL)
- (i) Adenocarcinoma-in-situ (AIS)
- (j) Adenocarcinoma
- (k) Cancer not otherwise specified
- (l) 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

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	96	53.3	74	57.8	1,014	72.9	180	128	1,391
Bay of Plenty	76	62.8	1	50.0	247	83.2	121	2	297
Canterbury	27	81.8	2	66.7	465	81.6	33	3	570
Hawke's Bay	23	46.0	2	40.0	109	66.9	50	5	163
Manawatu / Wanganui	49	70.0	-	-	222	83.1	70	-	267
Nelson / Marlborough	8	66.7	-	-	94	73.4	12	-	128
Northland	49	73.1	0	0.0	121	87.7	67	1	138
Otago / Southland	30	85.7	8	100	373	84.0	35	8	444
Tairāwhiti	35	83.3	-	-	32	76.2	42	-	42
Taranaki	17	60.7	-	-	114	80.3	28	-	142
Waikato	78	70.3	1	100	257	82.1	111	1	313
Wellington	42	82.4	14	82.4	278	75.7	51	17	367
West Coast	1	50.0	-	-	28	82.4	2	-	34

- indicates no women with high grade cytology result

Appendix Table ii: Ethnicity breakdown by NCSP Region for histology reports within 52 weeks after a high grade cytology result

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	149	82.8	109	85.2	1,231	88.5	180	128	1,391
Bay of Plenty	106	87.6	2	100	281	94.6	121	2	297
Canterbury	30	90.9	3	100	519	91.1	33	3	570
Hawke's Bay	44	88.0	4	80.0	145	89.0	50	5	163
Manawatu / Wanganui	60	85.7	-	-	242	90.6	70	-	267
Nelson / Marlborough	12	100	-	-	122	95.3	12	-	128
Northland	61	91.0	1	100	133	96.4	67	1	138
Otago / Southland	32	91.4	8	100	425	95.7	35	8	444
Tairāwhiti	40	95.2	-	-	40	95.2	42	-	42
Taranaki	25	89.3	-	-	135	95.1	28	-	142
Waikato	99	89.2	1	100	288	92.0	111	1	313
Wellington	48	94.1	16	94.1	343	93.5	51	17	367
West Coast	1	50.0	-	-	31	91.2	2	-	34

- indicates no women with high grade cytology result

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.