

Monitoring Report 28

National Cervical Screening Programme

July to December 2007

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by Fiona McKenzie, Naomi Brewer, Khoon Ching Wong, and

Lis Ellison-Loschmann

Centre for Public Health Research, Massey University

PO Box 756, Wellington, New Zealand

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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 July 2007 to 31 December 2007. It should be noted that this report is the first under a new system of six monthly monitoring; the previous Quarterly Monitoring Reports of the NCSP were done on a three monthly basis. Therefore some of the tables and figures reported here are not directly comparable to those in previous Reports.

Follow-up of women with high grade cytology

In total, 5,163 women had a high grade cytology result recorded on the NCSP Register between 1 January 2006 and 31 December 2006. Three-quarters (75.4%) 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 (90.8%). For 398 (7.7%) of the 5,163 women, a subsequent histology result was not recorded on the NCSP Register. 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 (77.7%) having reports of histological specimens is higher than those for Pacific (61.5%) and Māori women (66.3%). 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 (43.5%) that did not have a subsequent cytology after their high grade cytology report was higher than those of non-Māori, non-Pacific (20.9%) and Pacific women (24.0%).

Laboratory smear reporting

Nine laboratories reported cervical cytology during the six month period 1 July to 31 December 2007. Overall, of the 206,232 satisfactory smears processed during the

period, 7.6% were reported as abnormal, which was within the target of not more than 10%. One laboratory reported abnormalities outside this target. The overall proportion of smears reported as negative for dysplasia or malignancy was 92.4%, 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 of the nine laboratories reported outside this target.

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 period. Four 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 76.6% of their smears in that time.

Laboratory histology turn around time

Twenty-one laboratories reported cervical histology during the six month period 1 July to 31 December 2007. Eight 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.

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, 7,286 (3.4%) of the 213,518 smears processed during the six month period 1 July to 31 December 2007 were reported as unsatisfactory for evaluation.

Colposcopic assessment

The colposcopy service indicators were unable to be calculated because the data required were not available. Two colposcopy units did not provide complete 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 64. 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 136.

Short interval re-screening

The overall proportion of short interval re-screening was 11.3% 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 (15.7%), while women aged 65 to 69 years were least likely to be re-screened within a short interval (8.3%). Short interval re-screening varied considerably among the DHBs, ranging from 5.3% to 17.9%. There was little variation by ethnic group, with Māori, Pacific, and non-Māori, non-Pacific women all exceeding the target of not more than 10%.

Positive predictive value of high grade cytology

Overall, the positive predictive value (PPV) of the programme (81.3%) was within the recommended target range of 65 to 85%. Two laboratories reported a PPV above the upper 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, and involves women, smear takers, cytology laboratories, histology laboratories, colposcopists, health promoters 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.

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
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

Current recommendations

Recommendations made at the 17 June 2008 NCSP Advisory Group meeting based on discussions about Report 28, July to December 2007:

1. The NCSP Advisory Group recommends that the use of the term “poorest performer” throughout the Report should be replaced. Suitable terminology is “lowest figures were seen in”. [Please note that this recommendation has now been implemented in Report 28.]

Section 6 Follow-up of women with a high grade cytology

2. The NSU is asked to explore possible options to more closely monitor women with high-grade cytology for whom there is no histology at 52 weeks. A review of the 398 women noted in this report should be undertaken and a report prepared for the Advisory Group. This should incorporate ethnic and regional disparities.

Section 7 Laboratory smear reporting

3. The NSU is asked to investigate the possibility of using data from community smears in these calculations and excluding data relating to smears sourced from colposcopy.

Section 8 Laboratory cytology turn around time

4. As the data contained in the Report is now outdated the NSU is asked to produce updated, current data on waiting times to the Advisory Group.
5. The NCSP Advisory Group asks that the ethnicity reporting in this Report be removed and that this should not be included in future reports. [Please note that this recommendation has now been implemented in Report 28.]

Section 9 Laboratory histology turn around time

6. The NSU is asked to provide data relating to those women for whom a histology report was not available after 30 days and to the maximum noted in the report of 123 days.

7. The Advisory Group asks that the ethnicity reporting in this Report be removed and that this should not be included in future reports. [Please note that this recommendation has now been implemented in Report 28.]

Section 10 Unsatisfactory smears by laboratory

There are no recommendations. The NCSP Advisory Group notes that new Indicators have been established for unsatisfactory smears for all samples taken after January 1st 2008.

Section 11 Unsatisfactory smears by smear taker

8. The NSU is asked to provide a report on the reasons for unsatisfactory smears for those smear takers taking <30 per year compared with those taking >100 per year across all professional groups.

Section 12 and 13 Waiting time for colposcopic assessment

9. As the data contained in the Report is now outdated the NSU is asked to produce updated, current data on waiting times to the NCSP Advisory Group. This should include trends and a detailed explanation of what DHBs are doing to address any problems.

Section 14 Short interval re-screening

10. The NCSP Advisory Group recommends that the NSU improve communications in order to reduce the number of smears taken earlier than the 36-month recall period.
11. The figures for Auckland DHB and Waitemata DHB are the highest and the NCSP Advisory Group recommend that the NSU look more closely at these data to ascertain reasons for early attendance.

Section 15 Positive predictive value for women with a high grade smear

12. This indicator is currently out for consultation. The NCSP Advisory Group recommends that the NSU will, in future, provide an explanation for any outliers.

Previous recommendations

Recommendations made at the 3 December 2007 meeting based on discussions about Report 27, April to June 2007:

The Independent Monitoring Group (IMG) recommends that the NCSP Advisory Group review the NSU's responses to the recommendations made by this IMG since the 3 December 2007 meeting is the last meeting of the 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.

5. Methods

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 Independent Monitoring 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. 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 31 December 2007 who had a high grade cytology result recorded on the NCSP Register between 1 January 2006 and 31 December 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 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 2006 and 31 December 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 January 2006 and 31 December 2006, 5,163 women had a high grade cytology result. Of these, 3,892 (75.4%) had a histological specimen taken within 12 weeks of the abnormal cytology, which is below the target of 90%. This value is similar to the proportion taken within 12 weeks in the last reporting period (74.8%). The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was 90.8% (n=4,686). This value is also similar to that in the last reporting period (90.5%), and is below the target of 99%. There was no histology reported on the NCSP Register for 398 (7.7%) 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, 77.7% of non-Māori, non-Pacific women had a report of a histological specimen, compared to 66.3% of Māori and 61.5% of Pacific women. These proportions are similar to those reported in the last period (77.2%, 66.7% and 53.8%, respectively). Differences by ethnicity persisted for all time periods following a high grade smear. Statistical tests showed that the differences between the groups were 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 (82.7%, n=277). The lowest figures were seen in Manawatu/Whanganui (68.7%, n=228). For all Regions combined the proportion of women who had histological reports within 12 weeks of the smear was 75.4%.

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 Canterbury (94.9%, n=669). The lowest figures were seen in Manawatu/Whanganui (84.0%, n=279). For all Regions combined the proportion of women who had a high grade smear result with a subsequent histology taken within 52 weeks was 90.8%. Statistical tests showed that the differences between Regions were 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 3 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=398, 7.7%) 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 (8.1%) and Pacific (13.0%) women compared to non-Māori, non-Pacific women (7.4%), 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 Region.

Further details of the 398 women who had no histology result recorded on the NCSP Register following a high grade smear are shown in Table 4. Of these, 98 (24.6%) had no subsequent smear recorded and 122 (30.7%) had a follow-up smear taken by a non-specialist. Of these 220 women who had either no follow-up smear or a smear taken by a non-specialist, 115 (52.3%) 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 105 (47.7%) 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 were 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 (43.5%) had no subsequent smear recorded on the NCSP Register after their high grade cytology report compared to non-Māori, non-Pacific (20.9%) and Pacific women (24.0%). Fewer Māori women (25.8%) had a subsequent smear taken by a specialist than non-Māori, non-Pacific women (48.6%) and Pacific women (44.0%). These disparities between ethnic groups were statistically significant (P=0.002).

Recommendations

2. The NSU is asked to explore possible options to more closely monitor women with high-grade cytology for whom there is no histology at 52 weeks. A review of the 398 women noted in this report should be undertaken and a report prepared for the Advisory Group. This should incorporate ethnic and regional disparities.

Table 1: Timeliness of a histological follow-up after a high grade cytology result recorded between 1 January 2006 and 31 December 2006 for 20 to 69 year old women

Time period	n	Proportion %	Cumulative Proportion %
Within 12 weeks ¹	3,892	75.4	75.4
13 to 26 weeks	558	10.8	86.2
27 to 52 weeks ²	236	4.6	90.8
More than 52 weeks	79	1.5	92.3
Subtotal	4,765		
No histology recorded on NCSP Register	398	7.7	100
Total	5,163		

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 January 2006 and 31 December 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	506	66.3	66.3	118	61.5	61.5	3,268	77.7	77.7
13 to 26 weeks	113	14.8	81.1	33	17.2	78.7	412	9.8	87.5
27 to 52 weeks ²	58	7.6	88.7	14	7.3	85.9	164	3.9	91.4
More than 52 weeks	24	3.2	91.9	2	1.0	87.0	53	1.3	92.6
Subtotal	701			167			3,897		
No histology recorded on NCSP Register	62	8.1	100.0	25	13.0	100.0	311	7.4	100.0
Total	763			192			4,208		

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 398 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 January 2006 and 31 December 2006 for 20 to 69 year old women by NCSP Region

NCSP Region	Time periods										Total
	Within 12 weeks ¹		13 to 26 weeks		27 to 52 weeks		Within 52 weeks ² (cumulative %)		No Histology		
	n	%	n	%	n	%	n	%	n	%	
Auckland	1,305	73.2	188	10.5	90	5.0	1,583	88.7	172	9.6	1,784
Bay of Plenty	334	72.0	62	13.4	25	5.4	421	90.7	39	8.4	464
Canterbury	579	82.1	65	9.2	25	3.6	669	94.9	31	4.4	705
Hawke's Bay	130	79.8	12	7.4	5	3.1	147	90.2	10	6.1	163
Manawatu/Whanganui	228	68.7	31	9.3	20	6.0	279	84.0	46	13.9	332
Nelson/Marlborough	111	76.0	22	15.1	5	3.4	138	94.5	6	4.1	146
Northland	104	79.4	10	7.6	6	4.6	120	91.6	9	6.9	131
Otago/Southland	277	82.7	30	9.0	8	2.4	315	94.0	17	5.1	335
Tairāwhiti	37	69.8	6	11.3	6	11.3	49	92.5	4	7.6	53
Taranaki	94	76.4	15	12.2	6	4.9	115	93.5	6	4.9	123
Waikato	300	76.7	37	9.5	19	4.9	356	91.1	27	6.9	391
Wellington	356	73.0	75	15.4	18	3.7	449	92.0	30	6.2	488
West Coast	37	77.1	5	10.4	3	6.3	45	93.8	1	2.1	48
Total	3,892	75.4	558	10.8	236	4.6	4,686	90.8	398	7.7	5,163

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 January 2006 and 31 December 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	31	17.5	67	30.3	98	24.6
Subsequent smear taken by non-specialist	74	41.8	48	21.7	122	30.7
Smear taken by specialist	72	40.7	106	48.0	178	44.7
Total	177		221		398	

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 January 2006 and 31 December 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	33.3	4	28.6	19	13.7	19	50.0	2	18.2	46	26.7	27	43.5	6	24.0	65	20.9
Smear by non-specialist	11	45.8	4	28.6	59	42.4	8	21.1	4	36.4	36	20.9	19	30.6	8	32.0	95	30.5
Smear taken by specialist	5	20.8	6	42.9	61	43.9	11	28.9	5	45.5	90	52.3	16	25.8	11	44.0	151	48.6
Total	24		14		139		38		11		172		62		25		311	

Difference between ethnic groups P=0.002

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

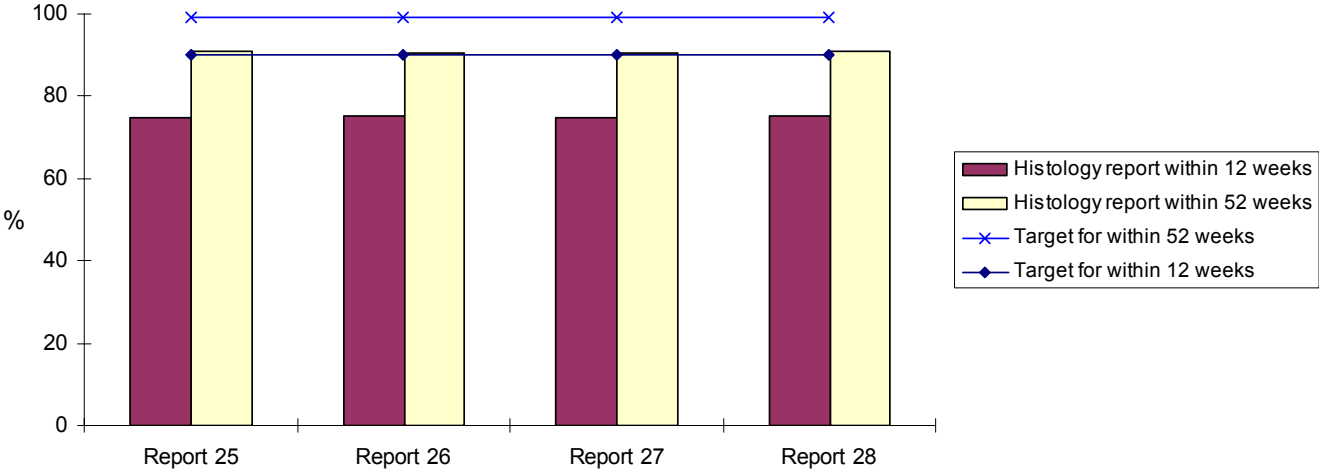


Figure 2: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

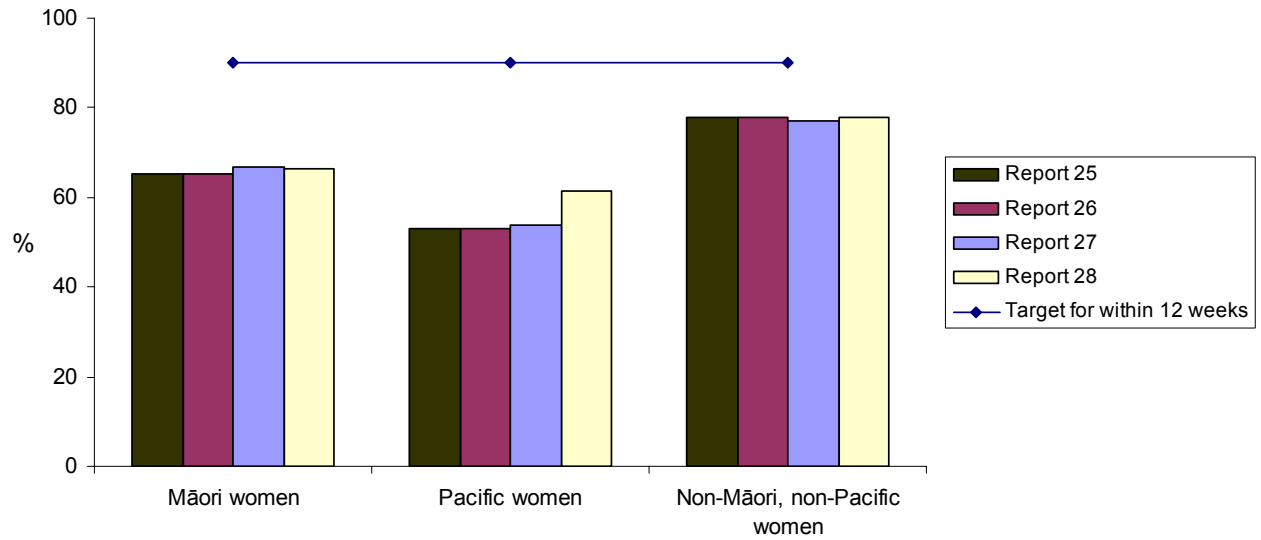


Figure 3: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

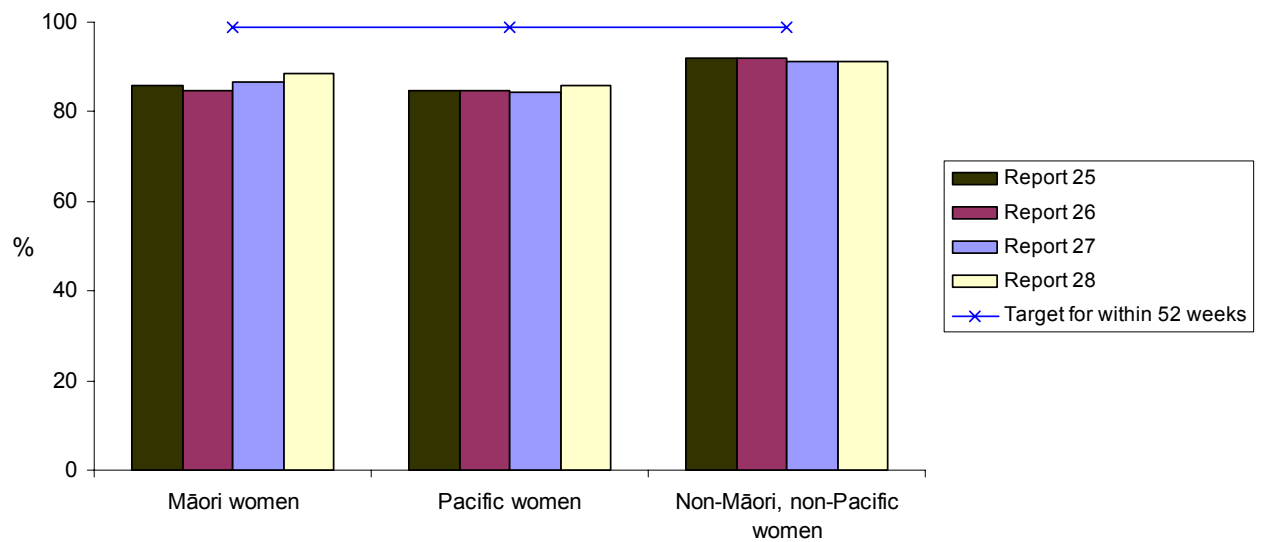


Figure 4: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

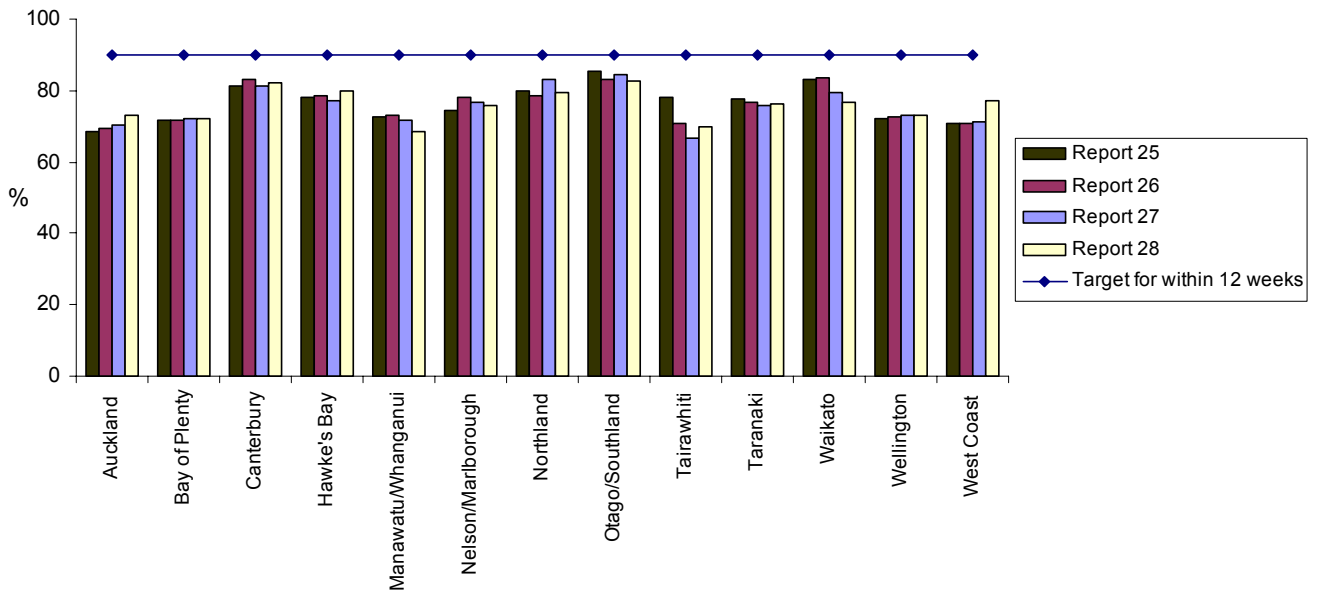


Figure 5: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

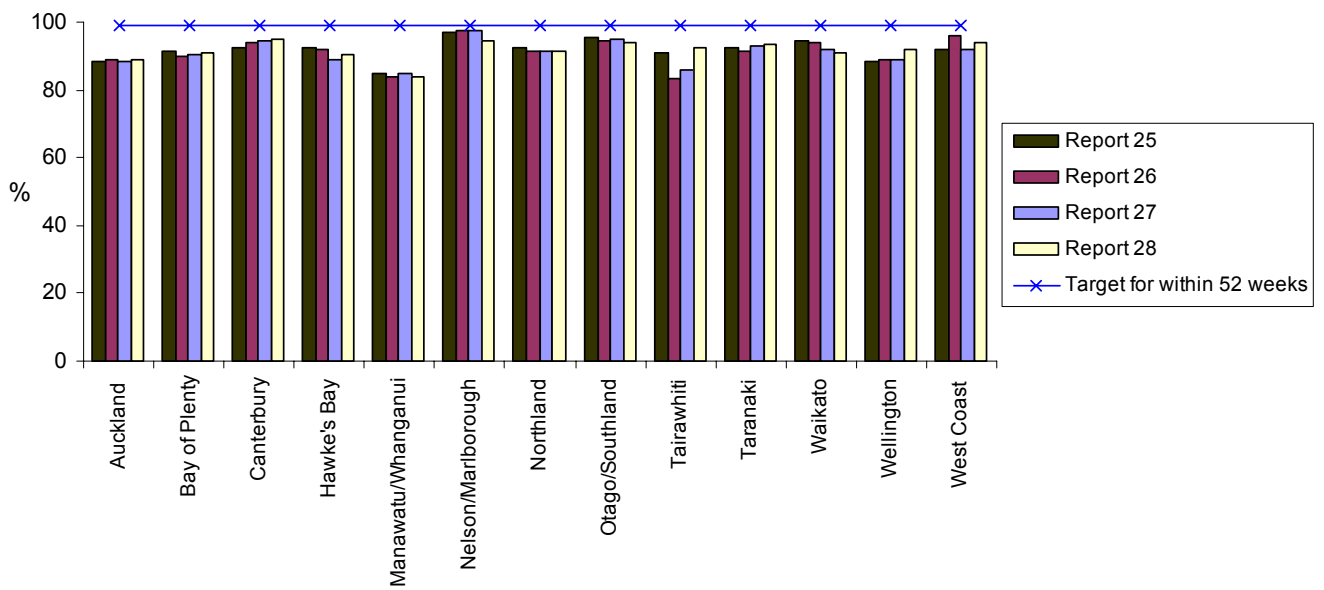
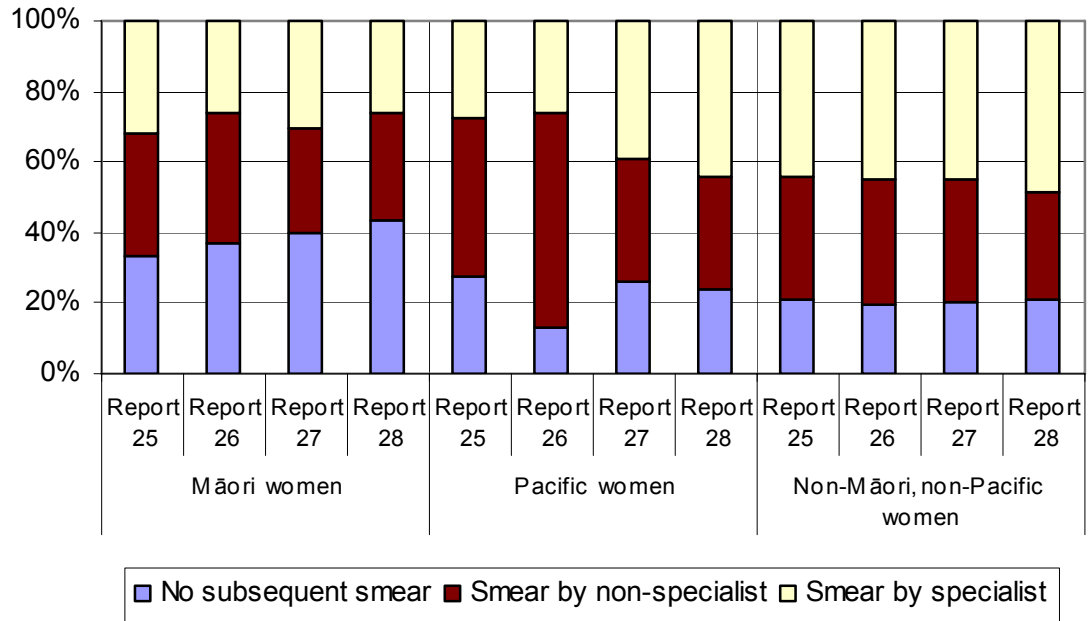


Figure 6: Ethnic disparities in the follow-up of women with a high grade cytology report but no histology result recorded, by NCSP Register status and source of any subsequent smear



7. 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 period 1 July 2007 to 31 December 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 2). Total abnormalities included all smears with a diagnosis code of atypical squamous cells 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 six month period 1 July 2007 to 31 December 2007, 206,232 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 8,033 for SCL Christchurch to 67,058 for Diagnostic MedLab Auckland. Overall, 190,534 (92.4%) smears were reported as negative for dysplasia or malignancy, which was similar to the mean proportion for the last two quarters (91.8%). 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 the mean for the last two reporting quarters (0.8%). Two laboratories; Aotea Pathology (0.3%) and Diagnostic MedLab Auckland (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 7.6%, which was similar to the mean for the last two quarters (8.3%). Only one of the nine laboratories, Auckland Hospital Laboratory, exceeded the 10% total abnormalities target and reported 15.5% of smears processed as abnormal.

The proportion of smears reported as LSIL varied between laboratories, but was between 2.1% and 3.8% for all laboratories, with the exception of Auckland Hospital Laboratory (4.4%) and MedLab Central (4.5%). Note that no target is set for the proportion of smears reported as LSIL.

Recommendations

3. The NSU is asked to investigate the possibility of using data from community smears in these calculations and excluding data relating to smears sourced from colposcopy.

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

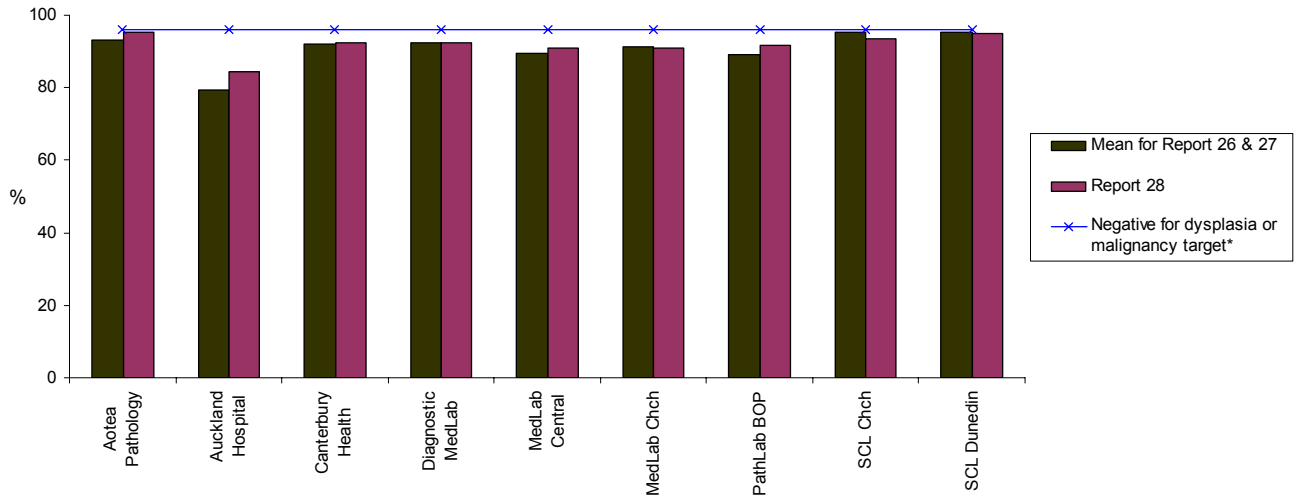
Laboratory	Negative for dysplasia or malignancy ¹		ASCUS		ASC-H		LSIL		HSIL ²		Total Abnormalities ^{3§}		Total smears
	n	%	n	%	n	%	n	%	n	%	n	%	n
Aotea Pathology	20,857	95.3	398	1.8	80	0.4	460	2.1	75	0.3	1,024	4.7	21,881
Auckland Hospital Lab.	10,408	84.5	823	6.7	242	2.0	540	4.4	256	2.1	1,916	15.5	12,324
Canterbury Health Lab.	19,917	92.3	473	2.2	144	0.7	829	3.8	182	0.8	1,654	7.7	21,571
Diagnostic MedLab Auckland	61,889	92.3	2,125	3.2	486	0.7	2,206	3.3	252	0.4	5,169	7.7	67,058
MedLab Central	13,861	90.8	388	2.5	137	0.9	688	4.5	164	1.1	1,400	9.2	15,261
MedLab Christchurch	7,898	90.9	339	3.9	83	1.0	285	3.3	71	0.8	791	9.1	8,689
PathLab Bay of Plenty	17,711	91.7	600	3.1	143	0.7	691	3.6	130	0.7	1,610	8.3	19,321
SCL* Christchurch	7,502	93.4	210	2.6	35	0.4	202	2.5	80	1.0	531	6.6	8,033
SCL* Dunedin	30,491	95.0	193	0.6	139	0.4	788	2.5	440	1.4	1,603	5.0	32,094
Total	190,534	92.4	5,549	2.7	1,489	0.7	6,689	3.2	1,650	0.8	15,698	7.6	206,232

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%

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

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

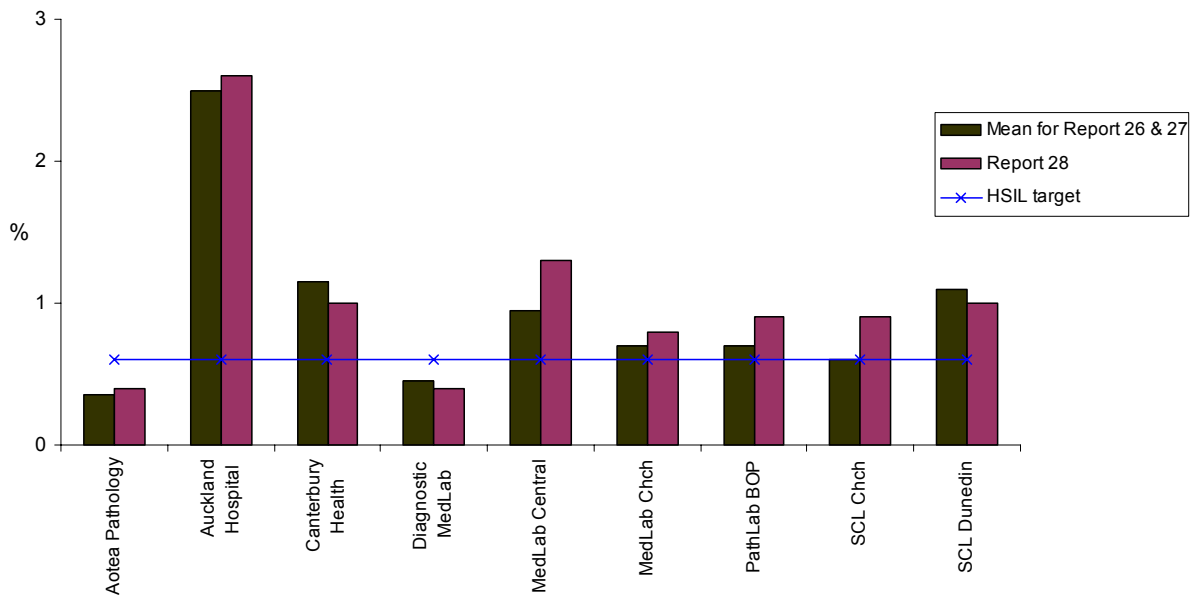
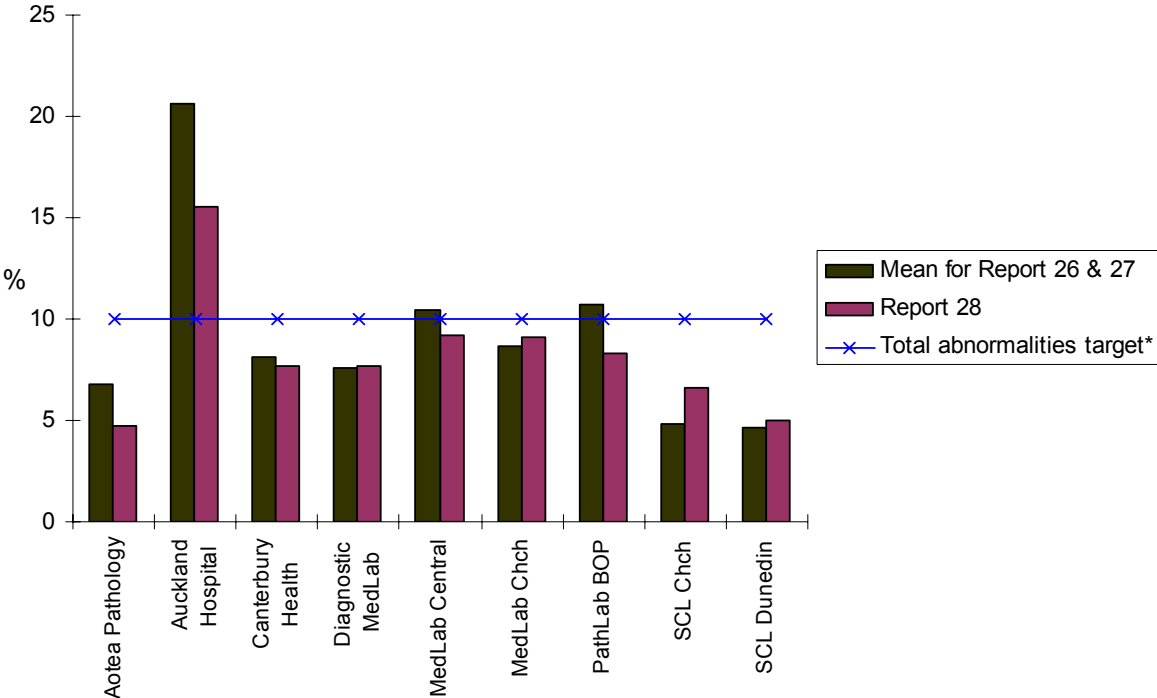


Figure 9: The proportion of satisfactory smears reported as total abnormalities for each laboratory



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

8. 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 period 1 July 2007 to 31 December 2007. 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 six month period 1 July 2007 to 31 December 2007 for each laboratory processing cervical cytology are shown in Table 7. Overall, 78.0% of the 213,518 smears received by laboratories were reported within seven working days. This did not meet the target of 90%, and nor did the mean proportion for the last two quarters (84.4%). Four of the nine reporting laboratories achieved the seven-day target of 90%. Auckland Hospital Laboratory (67.0%), Canterbury Health Laboratories (10.2%),

MedLab Central (86.4%), SCL Christchurch (69.9%), and SCL Dunedin (49.1%) did not meet this target.

Overall, the 14-day target of 100% was not achieved (95.5%). Four of the nine reporting laboratories achieved the 100% target, Aotea Pathology, MedLab Central, MedLab Christchurch, and PathLab Bay of Plenty. Canterbury Health Laboratories reported 5,170 smears outside 14 working days. The other laboratories to report smears outside this target were, Aotea Pathology (n=10), Auckland Hospital Laboratory (n=360), Diagnostic MedLab Auckland (n=132), MedLab Central (n=1), PathLab Bay of Plenty (n=3), SCL Christchurch (n=210), and SCL Dunedin (n=3,782). The reporting time for the 9,668 smears that were outside the 14-day target, ranged from 15 to 111 days, with the median time being 19 days.

Recommendations

4. As the data contained in the Report is now outdated the NSU is asked to produce updated, current data on waiting times to the Advisory Group.
5. The NCSP Advisory Group asks that the ethnicity reporting in this Report be removed and that this should not be included in future reports. [Please note that this recommendation has now been implemented in Report 28.]

Table 7: Timeliness of the reporting of smears between 1 July 2007 and 31 December 2007 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	%
Aotea Pathology	22,293	21,402	96.0	881	4.0	22,283	100.0	10	<0.1
Auckland Hospital Lab.	12,760	8,555	67.0	3,845	30.1	12,400	97.2	360	2.8
Canterbury Health Lab.	22,068	2,250	10.2	14,648	66.4	16,898	76.6	5,170	23.4
Diagnostic MedLab Auckland	70,527	70,168	99.5	227	0.3	70,395	99.8	132	0.2
MedLab Central	15,525	13,421	86.4	2,103	13.5	15,524	100.0	1	<0.1
MedLab Christchurch	9,050	9,050	100.0	0	0.0	9,050	100.0	0	0.0
PathLab Bay of Plenty	20,386	19,914	97.7	469	2.3	20,383	100.0	3	<0.1
SCL* Christchurch	8,120	5,677	69.9	2,233	27.5	7,910	97.4	210	2.6
SCL* Dunedin	32,789	16,085	49.1	12,922	39.4	29,007	88.5	3,782	11.5
Total	213,518	166,522	78.0	37,328	17.5	203,850	95.5	9,668	4.5

SCL*: Southern Community Laboratories

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 for each laboratory

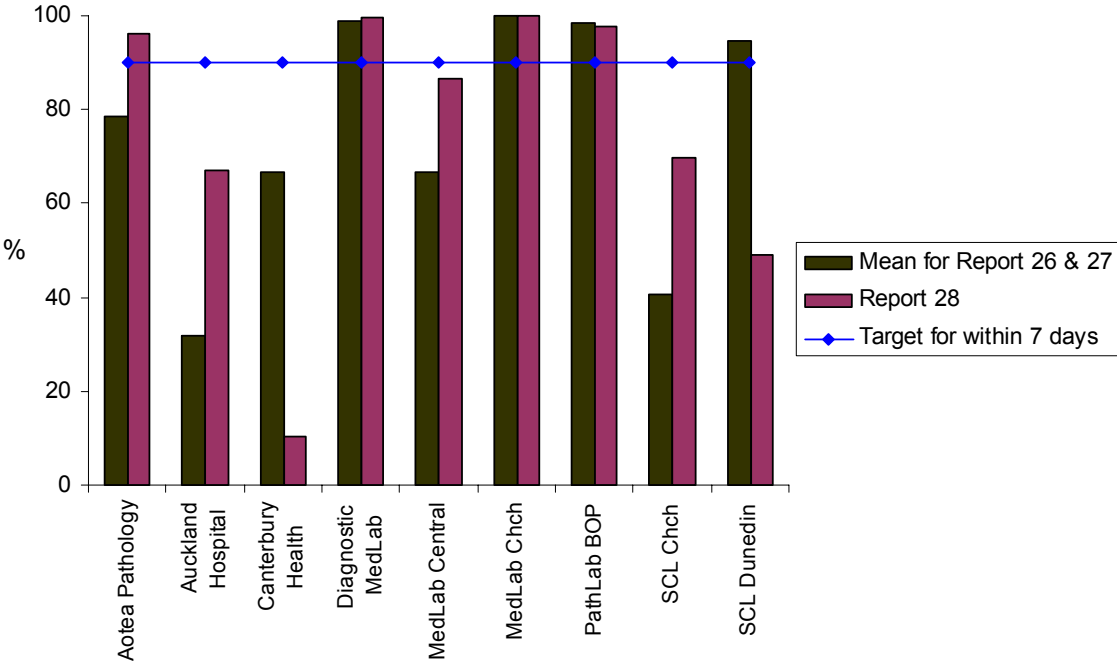
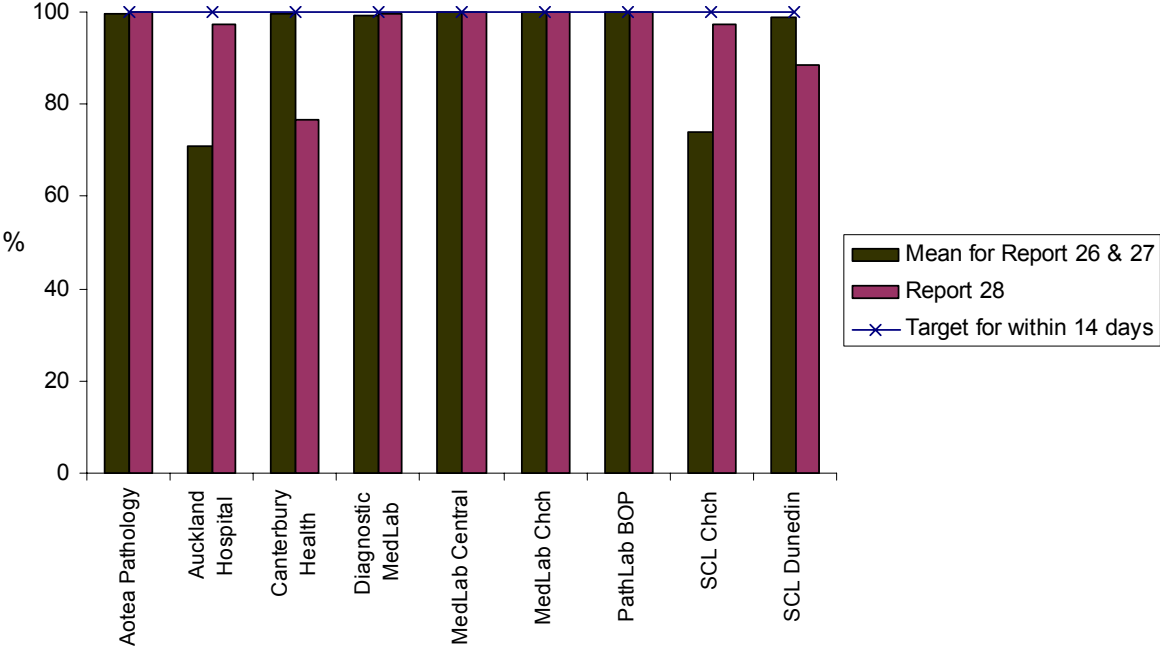


Figure 11: Proportion of smears reported on within 14 working days for each laboratory



9. 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 period 1 July 2007 to 31 December 2007, and reported within five working days (Monday to Friday), six to 10 working days, or 11 or more working days were expressed as proportions of the total number of cervical histology specimens received by each laboratory during the period. 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 the six month period 1 July 2007 to 31 December 2007 is

shown in Table 8. There were a total of 13,009 histology specimens recorded on the NCSP Register. The number of specimens reported by each laboratory varied considerably, ranging from seven in Wanganui Hospital to 2,032 in Diagnostic MedLab Auckland. For all laboratories combined, the proportion of histological specimens reported on within five working days was 91.9%, which met the target of 90% and was similar to the mean proportion for the last two reporting quarters (90.5%).

Eight laboratories did not meet the five-day 90% target: Aotea Pathology (89.4%), Auckland Hospital Laboratory (71.9%), Hutt Hospital (77.5%), Nelson Hospital (79.9%), SCL Dunedin (80.8%), Waikato Hospital (72.9%), Wanganui Hospital (85.7%) and Wellington Hospital (73.2%).

Auckland Hospital Laboratory (23.3%), Hutt Hospital (13.4%), Nelson Hospital (14.9%), SCL Dunedin (17.8%), Waikato Hospital (18.7%), Wanganui Hospital (14.3%) and Wellington Hospital (20.5%) reported the greatest proportions of histology results six to 10 working days from the specimens being received. Overall, 189 (1.5%) specimens were reported 11 or more working days after the time that they were received by the laboratory. The reporting time for the 189 specimens ranged from 11 to 123 days, with the median time being 14 days.

Recommendations

6. The NSU is asked to provide data relating to those women for whom a histology report was not available after 30 days and to the maximum noted in the report of 123 days.
7. The Advisory Group asks that the ethnicity reporting in this Report be removed and that this should not be included in future reports. [Please note that this recommendation has now been implemented in Report 28.]

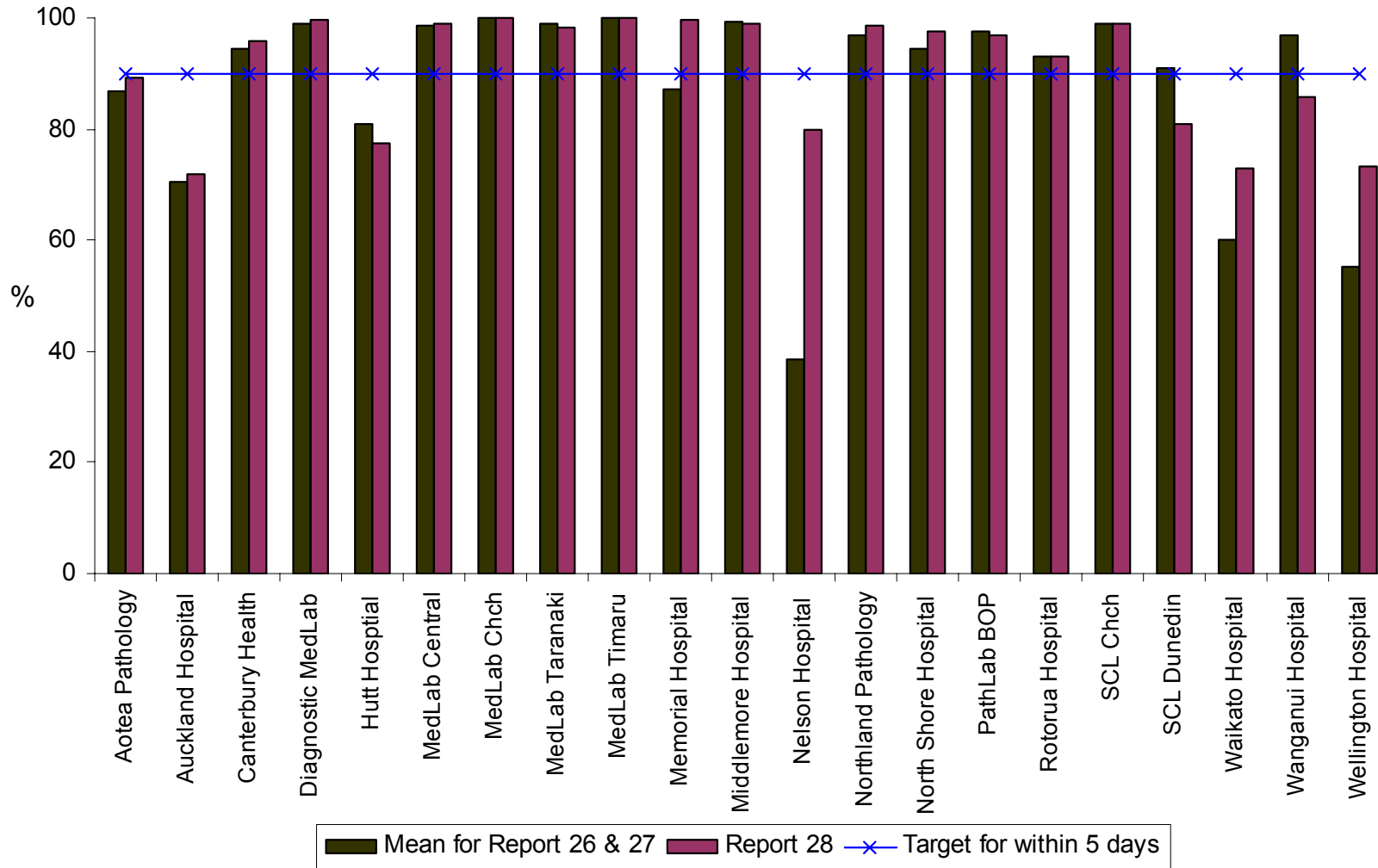
Table 8: Timeliness of the reporting of histology between 1 July 2007 and 31 December 2007 by laboratory

Laboratory	Number of specimens processed n	Within 5 working days ¹		6 to 10 working days		11 or more working days	
		n	%	n	%	n	%
Aotea Pathology	406	363	89.4	38	9.4	5	1.2
Auckland Hospital Lab.	1,155	831	71.9	269	23.3	55	4.8
Canterbury Health Lab.	1,139	1,094	96.0	42	3.7	3	0.3
Diagnostic MedLab Auckland	2,032	2,021	99.5	11	0.5	0	0.0
Hutt Hospital	253	196	77.5	34	13.4	23	9.1
MedLab Central	972	961	98.9	11	1.1	0	0.0
MedLab Christchurch	84	84	100.0	0	0.0	0	0.0
MedLab Taranaki	237	233	98.3	4	1.7	0	0.0
MedLab Timaru	190	190	100.0	0	0.0	0	0.0
Memorial Hospital Hastings	417	415	99.5	1	0.2	1	0.2
Middlemore Hospital	840	831	98.9	9	1.1	0	0.0
Nelson Hospital	368	294	79.9	55	14.9	19	5.2
Northland Pathology	391	378	96.7	12	3.1	1	0.3
North Shore Hospital	980	956	97.6	17	1.7	7	0.7
PathLab Bay of Plenty	1,265	1,227	97.0	36	2.8	2	0.2
Rotorua Hospital	206	192	93.2	7	3.4	7	3.4
SCL* Christchurch	415	411	99.0	4	1.0	0	0.0
SCL* Dunedin	818	661	80.8	146	17.8	11	1.3
Waikato Hospital	107	78	72.9	20	18.7	9	8.4
Wanganui Hospital	7	6	85.7	1	14.3	0	0.0
Wellington Hospital	727	532	73.2	149	20.5	46	6.3
Total	13,009	11,954	91.9	866	6.7	189	1.5

SCL*: Southern Community Laboratories

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

Figure 12: Histology five-day turn around time for each laboratory



10. 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 periods 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 period 1 July 2007 to 31 December 2007 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 period by each cytology reporting laboratory.

Results

The number and proportion of unsatisfactory smears taken during the six month period 1 July 2007 to 31 December 2007, and reported by each cytology laboratory is shown in Table 9. Overall, 7,286 (3.4%) of the 213,518 smears processed were reported as unsatisfactory for evaluation. This proportion is similar to the mean proportion for the last two reporting quarters (4.1%). Diagnostic MedLab Auckland (4.9%) and PathLab Bay of Plenty (5.2%) reported the highest proportions of unsatisfactory smears.

Reasons for the 7,286 smears reported as unsatisfactory are shown by laboratory in Table 10. Overall, the highest proportion of unsatisfactory smears was as a result of insufficient squamous cells (65.7%). Aotea Pathology (8.3%) and Diagnostic MedLab Auckland (11.1%) had the greatest proportion of smears recorded as unsatisfactory for evaluation due to other technical reasons (free text).

Recommendations

There are no recommendations. The NCSP Advisory Group notes that new Indicators have been established for unsatisfactory smears for all samples taken after January 1st 2008.

Table 9: The number and proportion of unsatisfactory smears between 1 July 2007 and 31 December 2007 for each laboratory

Laboratory	Smears processed	Unsatisfactory smears ¹		Unsatisfactory smears					
				Combination (conventional & liquid based)		Conventional pap smear		Liquid based cytology	
				n	%	n	%	n	%
Aotea Pathology	22,293	412	1.8	2	0.9	356	1.9	54	1.4
Auckland Hospital Lab.	12,760	436	3.4	5	1.4	318	3.1	113	5.2
Canterbury Health Lab.	22,068	497	2.3	11	3.2	37	6.1	449	2.1
Diagnostic MedLab Auckland	70,527	3,469	4.9	18	2.8	2,515	5.9	936	3.4
MedLab Central	15,525	264	1.7	1	3.0	239	1.6	24	5.2
MedLab Christchurch	9,050	361	4.0	0	0.0	323	4.3	38	2.6
PathLab Bay of Plenty	20,386	1,065	5.2	3	2.4	943	6.7	119	1.9
SCL* Christchurch	8,120	87	1.1	0	0.0	87	1.1	0	0.0
SCL* Dunedin	32,789	695	2.1	2	0.8	662	2.1	31	1.8
Total	213,518	7,286	3.4	42	2.1	5,480	2.1	1,764	2.7

SCL*: Southern Community Laboratories

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

Table 10: The number and proportion of unsatisfactory smears between 1 July 2007 and 31 December 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		
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	
Aotea Pathology	229	55.6	10	2.4	18	4.4	40	9.7	62	15.0	19	4.6	34	8.3	412
Auckland Hospital Lab.	239	54.8	17	3.9	27	6.2	69	15.8	60	13.8	22	5.0	2	0.5	436
Canterbury Health Lab.	469	94.4	4	0.8	0	0.0	6	1.2	2	0.4	16	3.2	0	0.0	497
Diagnostic MedLab Auckland	2,252	64.9	35	1.0	8	0.2	343	9.9	143	4.1	303	8.7	385	11.1	3,469
MedLab Central	127	48.1	17	6.4	2	0.8	40	15.2	28	10.6	49	18.6	1	0.4	264
MedLab Christchurch	238	65.9	2	0.6	3	0.8	64	17.7	33	9.1	17	4.7	4	1.1	361
PathLab Bay of Plenty	699	65.6	25	2.3	11	1.0	219	20.6	79	7.4	32	3.0	0	0.0	1,065
SCL* Christchurch	50	57.5	0	0.0	1	1.1	27	31.0	8	9.2	1	1.1	0	0.0	87
SCL* Dunedin	487	70.1	9	1.3	2	0.3	125	18.0	59	8.5	13	1.9	0	0.0	695
Total	4,790	65.7	119	1.6	72	1.0	933	12.8	474	6.5	472	6.5	426	5.8	7,286

SCL*: Southern Community Laboratories

11. Unsatisfactory smears by smear taker

Definition

Definitions and a description of the issues surrounding unsatisfactory smears are given on Page 39.

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 period 1 July 2007 to 31 December 2007 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 period 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 the six month period 1 July 2007 to 31 December 2007 by annual volume of smears taken by each smear taker group are shown in Table 11. Overall, 213,518 smears were taken during the reporting period, of which 42 (<1%) were taken by lay smear takers, 118,167 (55%) by medical smear takers, 78,715 (37%) by nurses, 15,603 (7%) by

specialists and 991 (<1%) by midwives. These proportions are similar to those reported in the last two quarters.

The proportions of unsatisfactory smears were greatest for medical (3.9%) and specialist (4.2%) smear takers. None of the smears taken by lay smear takers were reported as unsatisfactory for assessment.

Recommendations

8. The NSU is asked to provide a report on the reasons for unsatisfactory smears for those smear takers taking <30 per year compared with those taking >100 per year across all professional groups.

Table 11: The number and proportion of unsatisfactory smears between 1 July 2007 and 31 December 2007 for each smear taker group

	Annual volume of smears	Total number of smears	Satisfactory smears		Unsatisfactory smears ¹	
	n	n	n	%	n	%
Lay	<30	21	21	100.0	0	0.0
	30-100	21	21	100.0	0	0.0
	>100	0	0	0.0	0	0.0
	Total	42	42	100.0	0	0.0
Medical	<30	9,273	8,813	95.0	460	5.0
	30-100	34,429	33,032	95.9	1,397	4.1
	>100	74,465	71,706	96.3	2,759	3.7
	Total	118,167	113,551	96.1	4,616	3.9
Nurse	<30	4,324	4,192	96.9	132	3.1
	30-100	28,536	27,777	97.3	759	2.7
	>100	45,855	44,741	97.6	1,114	2.4
	Total	78,715	76,710	97.5	2,005	2.5
Specialist	<30	288	267	92.7	21	7.3
	30-100	1,351	1,269	93.9	82	6.1
	>100	13,964	13,419	96.1	545	3.9
	Total	15,603	14,955	95.8	648	4.2
Midwife	<30	106	103	97.2	3	2.8
	30-100	225	224	99.6	1	0.4
	>100	660	647	98.0	13	2.0
	Total	991	974	98.3	17	1.7
Total		213,518	206,232	96.6	7,286	3.4

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

12. 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 12. Two colposcopy units, Waikato and West Coast, did not provide complete data for the reporting period 1 July to 31 December 2007.

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 (39 women at the end of July, 50 women at the end of August, 64 women at the end of September, 56 women at the end of October, 52 women

at the end of November and 10 women at the end of December). Two colposcopy units, Hutt Valley and Wairarapa, reported that no women waited longer than four weeks in any month.

Recommendations

9. As the data contained in the Report is now outdated the NSU is asked to produce updated, current data on waiting times to the NCSP Advisory Group. This should include trends and a detailed explanation of what DHBs are doing to address any problems.

Table 12: Waiting time for colposcopic assessment of HSIL or ASC-H between 1 July 2007 and 31 December 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					
	July	August	September	October	November	December	July	August	September	October	November	December
Auckland	63	55	44	54	39	37	18	33	44	22	22	45
Bay of Plenty	30	31	31	21	29	17	8	7	12	5	1	6
Canterbury	18	49	28	22	30	33	2	0	9	14	23	11
Capital Coast	10	12	10	13	11	7	0	0	0	4	4	2
Counties Manukau	57	62	46	47	58	43	8	13	9	10	0	12
Hawke's Bay	20	24	24	19	19	15	0	1	1	4	5	4
Hutt Valley	5	7	2	5	9	8	0	0	0	0	0	0
Lakes	13	16	16	8	17	14	0	0	4	0	1	1
MidCentral	22	21	17	24	20	10	13	11	9	6	8	8
Nelson/ Marlborough	3	1	5	2	2	7	1	1	1	1	1	2
Northland	27	19	14	12	18	17	11	13	12	14	6	4
Otago	18	38	28	21	20	12	3	8	17	11	2	4
South Canterbury	5	1	6	1	5	2	2	3	0	0	0	0
Southland	9	14	5	2	10	0	1	0	2	6	0	0
Tairāwhiti	5	8	6	2	7	3	1	0	0	0	0	0
Taranaki	13	9	11	25	12	19	0	0	0	0	2	2
Waikato	NR	22	29	27	18	20	NR	11	6	14	10	17
Wairarapa	1	0	2	4	8	2	0	0	0	0	0	0
Waitemata	72	60	31	41	47	48	39	50	64	56	52	10
West Coast	NR	NR	1	1	0	0	0	1	0	0	0	0
Whanganui	7	8	7	4	7	7	4	6	4	1	0	0
Total	398	457	363	355	386	321	111	158	194	168	137	128

NR: data not reported

13. 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 13. Two colposcopy units, Waikato and West Coast, did not provide complete data for the reporting period 1 July to 31 December 2007.

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 (41 women at the end of July, 23 women at the end of August, 40 women at the end of September, 70 women at the end of October, 99 women at the end of November and 136 women at the end of December). Three of the

colposcopy units: Capital Coast, Taranaki and West Coast, reported that no women waited longer than 26 weeks in any month.

Recommendations

9. As the data contained in the Report is now outdated the NSU is asked to produce updated, current data on waiting times to the NCSP Advisory Group. This should include trends and a detailed explanation of what DHBs are doing to address any problems.

Table 13: Waiting time for colposcopic assessment of LSIL or ASC-US between 1 July 2007 and 31 December 2007 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					
	July	August	September	October	November	December	July	August	September	October	November	December
Auckland	66	59	64	56	81	64	41	23	40	70	99	136
Bay of Plenty	49	42	49	55	47	38	0	0	1	0	0	0
Canterbury	30	36	38	33	3	10	1	0	0	0	0	15
Capital Coast	76	27	28	28	29	25	0	0	0	0	0	0
Counties Manukau	68	46	37	34	46	41	0	1	0	1	16	0
Hawke's Bay	8	18	12	18	8	22	0	0	1	1	0	1
Hutt Valley	18	22	19	18	21	12	1	0	0	1	0	0
Lakes	16	16	11	13	15	7	6	3	1	1	1	4
MidCentral	44	25	15	30	20	22	27	26	23	31	34	35
Nelson/ Marlborough	0	0	2	0	2	0	2	2	2	2	2	3
Northland	24	15	24	23	17	18	7	5	6	12	5	19
Otago	10	18	14	16	27	13	0	5	6	11	7	2
South Canterbury	7	4	2	0	0	0	1	2	0	0	1	0
Southland	12	10	1	0	3	1	44	17	6	1	2	3
Tairāwhiti	9	4	11	7	6	11	1	0	0	0	0	0
Taranaki	2	9	8	7	10	12	0	0	0	0	0	0
Waikato	NR	44	49	44	35	18	NR	74	64	21	14	10
Wairarapa	7	5	8	5	8	0	1	0	1	0	0	0
Waitemata	69	64	16	28	62	53	26	33	57	47	48	9
West Coast	NR	NR	1	0	0	0	0	0	0	0	0	0
Whanganui	14	16	9	13	9	15	4	2	5	6	1	1
Total	529	480	418	428	449	382	162	193	213	205	230	238

NR: data not reported

14. 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 31 December 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 April 2005 were recorded as negative for dysplasia or malignancy; they had at least one satisfactory smear taken between 1 April 2005 and 31 December 2007 (33 months; to allow a three month margin); their first smear taken between 1 April 2005 and 31 December 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. Women who did not meet these criteria were not included because they would 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 April 2005 and 31 December 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 14. The overall level of short interval re-screening for 20 to 69 year old women was 11.3%. This level exceeds the target of less than 10%, and is almost identical to the level in the last reporting period (11.2%).

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 (15.7%), while women who were aged 65 to 69 years were least likely to be re-screened with a short interval (8.3%). The target of less than 10% was only met for women that were aged between 60 and 69 years.

Table 15 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 5.3% in Taranaki to 17.9% in Waitemata. Levels of short interval re-screening above 10% were also observed for Auckland (16.6%), Bay of Plenty (12.5%), Canterbury (10.8%), Capital Coast (10.4%), Counties Manakau (12.9%), Lakes (13.1%), Northland (12.5%), and for the group of women where their DHB was unspecified (15.5%).

Table 16 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 (10.9%), Pacific (10.8%) and non-Māori, non-Pacific women (11.3%). The large numbers of women in each group, mean that these small differences were statistically

significantly different from each other, $P=0.034$. The target of less than 10% was not met for any ethnic group.

Recommendations

10. The NCSP Advisory Group recommends that the NSU improve communications in order to reduce the number of smears taken earlier than the 36-month recall period.

11. The figures for Auckland DHB and Waitemata DHB are the highest and the NCSP Advisory Group recommend that the NSU look more closely at these data to ascertain reasons for early attendance.

Table 14: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 April 2005 and 31 December 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	17,835	2,630	15,205	2,389	15.7
25-29	33,039	3,159	29,880	3,420	11.4
30-34	36,786	2,088	34,698	4,005	11.5
35-39	47,652	2,106	45,546	5,166	11.3
40-44	51,400	1,912	49,488	5,669	11.5
45-49	51,829	1,738	50,091	5,988	12.0
50-54	43,063	1,141	41,922	4,978	11.9
55-59	36,670	723	35,947	3,826	10.6
60-64	29,227	411	28,816	2,701	9.4
65-69	22,556	253	22,303	1,851	8.3
Total	370,057	16,161	353,896	39,993	11.3

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

Table 15: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 April 2005 and 31 December 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	35,908	1,851	34,057	5,660	16.6
Bay of Plenty	16,437	940	15,497	1,943	12.5
Canterbury	46,008	1,892	44,116	4,744	10.8
Capital Coast	28,767	1,248	27,519	2,868	10.4
Counties Manakau	31,990	1,436	30,554	3,934	12.9
Hawke's Bay	13,199	579	12,620	1,223	9.7
Hutt Valley	12,823	478	12,345	1,038	8.4
Lakes	9,057	442	8,615	1,125	13.1
MidCentral	12,740	818	11,922	914	7.7
Nelson/Marlborough	13,717	582	13,135	757	5.8
Northland	13,745	584	13,161	1,643	12.5
Otago	20,121	518	19,603	1,501	7.7
South Canterbury	4,926	189	4,737	460	9.7
Southland	10,332	336	9,996	739	7.4
Tairāwhiti	3,639	122	3,517	309	8.8
Taranaki	10,987	305	10,682	570	5.3
Waikato	29,631	1,114	28,517	2,041	7.2
Wairarapa	3,500	166	3,334	303	9.1
Waitemata	42,749	1,963	40,786	7,318	17.9
West Coast	2,940	115	2,825	222	7.9
Whanganui	5,046	357	4,689	423	9.0
Unspecified	1,795	126	1,669	258	15.5
Total	370,057	16,161	353,896	39,993	11.3

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

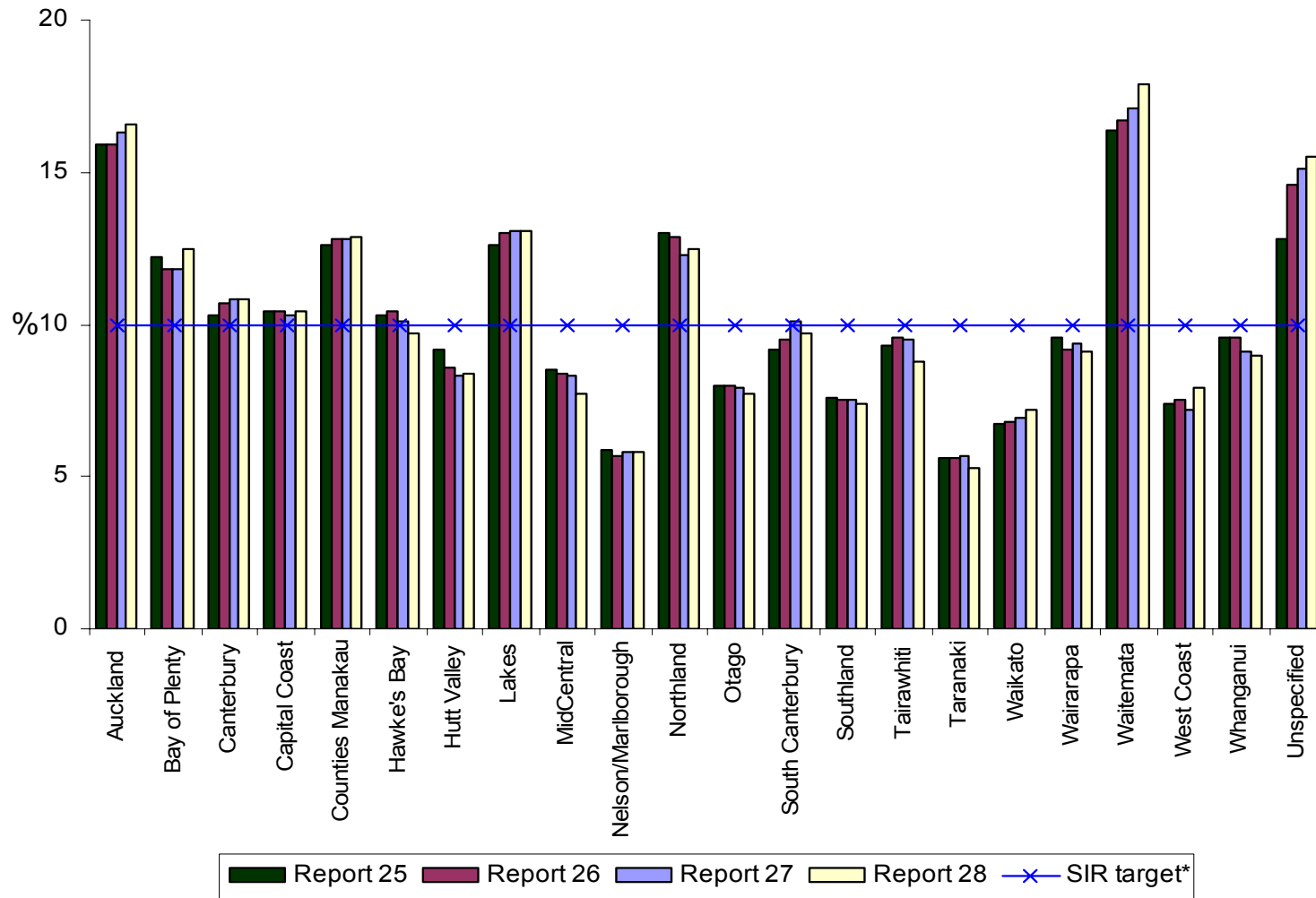
Table 16: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 April 2005 and 31 December 2007 by ethnicity

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	27,764	1,726	26,038	2,845	10.9
Pacific	10,553	524	10,029	1,084	10.8
Non-Māori, non-Pacific	331,740	13,911	317,829	36,064	11.3
Total	370,057	16,161	353,896	39,993	11.3

Difference between ethnic groups $P=0.034$

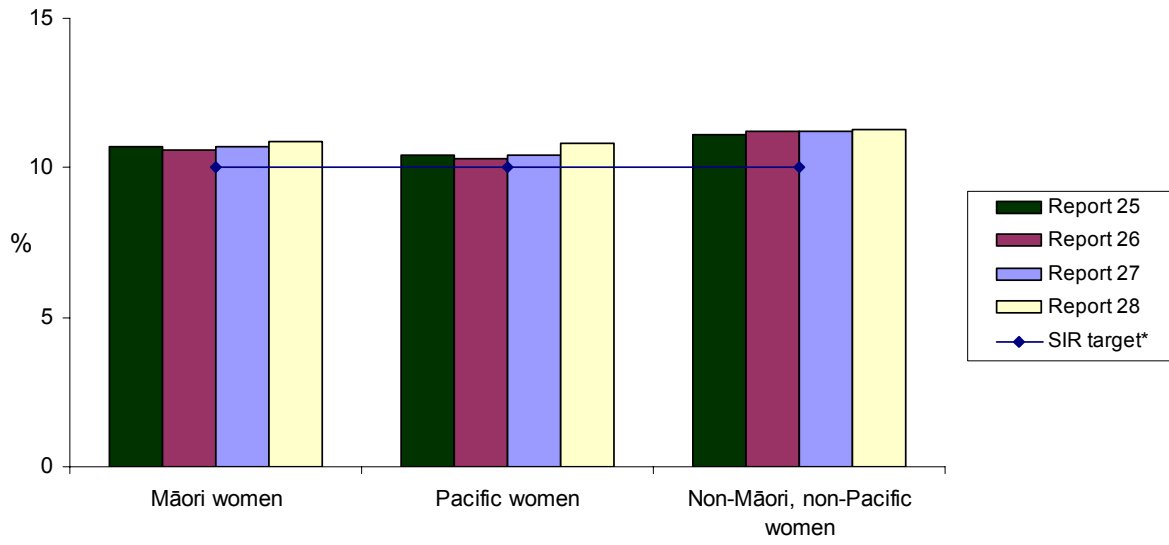
Target: short interval re-screening of less than 10%

Figure 13: 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 14: 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

15. 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 (including HSIL with features suspicious for invasion) 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 (including HSIL with features suspicious for invasion) or ISC in the six month period from 1 January 2007 to 30 June 2007 (*i.e.* the six months ending six months prior to the end of the current reporting period) 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 2). 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 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”.

Results

The number of women with high grade or ISC cytology reports and subsequent histology reports on the NCSP Register is shown in Table 17. 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 17. Note that in this calculation ASC-H cytology reports are not included as HSIL or ISC.

During the period 1 January 2007 to 30 June 2007, there were 1,504 women with HSIL or ISC cytology reports, of whom 1,372 (91.2%) had a subsequent histology result recorded on the NCSP Register. Of these, 1,115 (81.3%) were confirmed as having HSIL or more serious abnormality on histology. This PPV is within the target range of 65 to 85%.

Two laboratories, Auckland Hospital Laboratory (88.9%) and Canterbury Health Laboratories (85.8%), reported a PPV above the target range of 65 to 85%.

Table 18 shows the PPV by laboratory for women with an ASC-H smear. During the period 1 January 2007 to 30 June 2007, there were 1,609 women with an ASC-H cytology report, of whom 1,245 (77.4%) had a subsequent histology result recorded on the NCSP Register. Of these, 576 (46.3%) 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. Aotea Pathology (36.3%) had the lowest proportion, while SCL Christchurch (62.5%) had the highest proportion.

Recommendations

12. This indicator is currently out for consultation. The NCSP Advisory Group recommends that the NSU will, in future, provide an explanation for any outliers.

Table 17: Positive predictive value for women with a high grade smear recorded between 1 January 2007 and 30 June 2007 for each laboratory

Laboratory	HSIL reports with a histology report		HSIL confirmed by histology		HSIL reports without a histology report		Total HSIL cytology reports
	n	%	n	%**	n	%	n
Aotea Pathology	68	90.7	50	73.5	7	9.3	75
Auckland Hospital Lab.	208	91.2	185	88.9	20	8.8	228
Canterbury Health Lab.	190	90.0	163	85.8	21	10.0	211
Diagnostic MedLab Auckland	269	92.1	226	84.0	23	7.9	292
MedLab Central	110	86.6	86	78.2	17	13.4	127
MedLab Christchurch	58	98.3	44	75.9	1	1.7	59
PathLab Bay of Plenty	107	93.0	75	70.1	8	7.0	115
SCL* Christchurch	52	92.9	38	73.1	4	7.1	56
SCL* Dunedin	310	90.9	248	80.0	31	9.1	341
Total	1,372	91.2	1,115	81.3	132	8.8	1,504

SCL*: Southern Community Laboratory

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

Target: 65 to 85%

Table 18: Positive predictive value for women with an ASC-H smear recorded between 1 January 2007 and 30 June 2007 for each laboratory

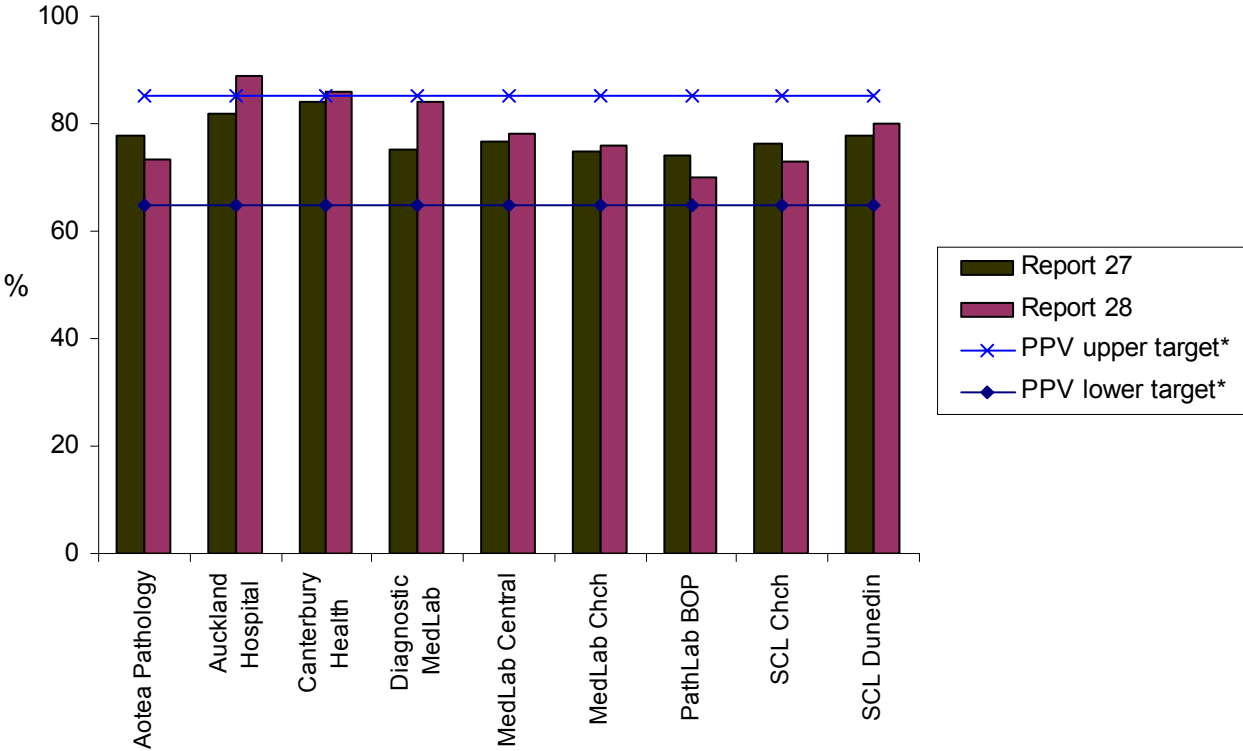
Laboratory	ASC-H reports with a histology report		ASC-H confirmed by histology		ASC-H reports without a histology report		Total ASC-H cytology reports
	n	%	n	%**	n	%	n
Aotea Pathology	80	76.9	29	36.3	24	23.1	104
Auckland Hospital Lab.	264	71.4	122	46.2	106	28.6	370
Canterbury Health Lab.	91	84.3	50	54.9	17	15.7	108
Diagnostic MedLab Auckland	375	79.1	173	46.1	99	20.9	474
MedLab Central	76	66.7	33	43.4	38	33.3	114
MedLab Christchurch	101	82.1	46	45.5	22	17.9	123
PathLab Bay of Plenty	144	83.7	60	41.7	28	16.3	172
SCL* Christchurch	24	75.0	15	62.5	8	25.0	32
SCL* Dunedin	90	80.4	48	53.3	22	19.6	112
Total	1,245	77.4	576	46.3	364	22.6	1,609

SCL*: Southern Community Laboratory

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

No target

Figure 15: Positive predictive value for women with a high grade smear for each laboratory



* PPV target is not less than 65% and not more than 85% so laboratories should be between the two target lines

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: 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.

Appendix 3: 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 January 2006 and 31 December 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	119	61.7	77	55.0	1,109	76.4	193	140	1,451
Bay of Plenty	70	64.8	<10	*	257	74.3	108	10	346
Canterbury	44	71.0	<10	*	529	83.2	62	<10	636
Hawke's Bay	23	67.6	<10	*	106	82.8	34	<10	128
Manawatu/Whanganui	58	69.0	<10	*	166	68.3	84	<10	243
Nelson/Marlborough	<10	*	<10	*	102	76.7	12	<10	133
Northland	36	76.6	<10	*	67	81.7	47	<10	82
Otago/Southland	18	62.1	<10	*	255	84.4	29	<10	302
Tairāwhiti	18	64.3	-	-	19	76.0	28	-	25
Taranaki	14	70.0	-	-	80	77.7	20	-	103
Waikato	55	68.8	<10	*	241	78.8	80	<10	306
Wellington	40	65.6	13	76.5	303	73.9	61	17	410
West Coast	<10	*	-	-	34	79.1	<10	-	43

- 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 January 2006 and 31 December 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	166	86.0	116	82.9	1,301	89.7	193	140	1,451
Bay of Plenty	95	88.0	10	100.0	316	91.3	108	10	346
Canterbury	58	93.5	<10	*	604	95.0	62	<10	636
Hawke's Bay	27	79.4	<10	*	119	93.0	34	<10	128
Manawatu/Whanganui	75	89.3	<10	*	199	81.9	84	<10	243
Nelson/Marlborough	11	91.7	<10	*	126	94.7	12	<10	133
Northland	45	95.7	<10	*	74	90.2	47	<10	82
Otago/Southland	25	86.2	<10	*	286	94.7	29	<10	302
Tairāwhiti	27	96.4	-	-	22	88.0	28	-	25
Taranaki	18	90.0	-	-	97	94.2	20	-	103
Waikato	71	88.8	<10	*	281	91.8	80	<10	306
Wellington	55	90.2	16	94.1	378	92.2	61	17	410
West Coast	<10	*	-	-	41	95.3	<10	-	43

- indicates no women with a high grade cytology result

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