Monitoring Report 29

National Cervical Screening Programme

January to June 2008

Centre for Public Health Research
Massey University
Wellington

CONFIDENTIAL

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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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Executive Summary

This report provides data on performance indicators of the National Cervical Screening Programme (NCSP) for the period 1 January 2008 to 30 June 2008. It should be noted that this report is the second 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 prior to Monitoring Report 28 (July to December 2007).

From January 2008 the multi-disciplinary NCSP Advisory Group took over the function of providing independent expert advice and recommendations to the NSU on this data.

Follow-up of women with high grade cytology

In total, 5,446 women had a high grade cytology result recorded on the NCSP Register between 1 July 2006 and 30 June 2007. Three-quarters (74.2%) 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 (89.5%). For 485 (8.9%) of the 5,446 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 (76.2%) having reports of histological specimens is higher than those for Pacific (62.4%) and Māori women (65.3%). 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 proportions of Māori (34.8%) and Pacific women (36.4%) that did not have a subsequent cytology after their high grade cytology report were higher than that of non-Māori, non-Pacific (18.7%).

Laboratory smear reporting

Nine laboratories reported cervical cytology during the six month period 1 January to 30 June 2008. Overall, of the 218,633 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. Three 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 31.3% of their smears in that time.

Laboratory histology turn around time

Twenty laboratories reported cervical histology during the six month period 1 January to 30 June 2008. Seven laboratories did not meet the five-day histology turn around time target of 90%. Four laboratories reported 100% of histology results within 10 working days of the specimen arriving at the laboratory.

Unsatisfactory smears

Overall, 7,425 (3.3%) of the 226,058 smears processed during the six month period 1 January to 30 June 2008 were reported as unsatisfactory for evaluation. Two laboratories reported outside the new target range of 1.0 to 8.0% for unsatisfactory conventional smears. Two laboratories reported outside the new target range of 1.0 to 5.0% for unsatisfactory liquid based cytology. Almost all smear taker groups and subgroups split by annual smear volume met the target for the proportion of unsatisfactory smears by smear taker.

Colposcopic assessment

The colposcopy 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 for their first colposcopic assessment was 26. 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 132.

Short interval re-screening

The overall proportion of short interval re-screening was 11.4% 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 (15.9%), 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 5.0% to 18.0%. 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 (79.7%) was within the recommended target range of 65 to 85%. One laboratory reported a PPV above the upper limit of the target range.

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.

Abbreviations

The following abbreviations are used in this report:

AGC:	Atypical glandular / endocervical / endometrial cells
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 papillomavirus
HSIL:	High grade squamous intra-epithelial lesion
ISC:	Invasive squamous carcinoma
LBC	Liquid based cytology
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

Recommendations

Current recommendations

Disclaimer: The following recommendations made by the National Cervical Screening Programme Advisory Group are based on data prepared and presented in this report by the authors.

Following discussion of the monitoring data presented in this report the National Cervical Screening Programme Advisory Group recommends that:

1. the NSU revise the quality and content of the monitoring reports

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

2. the NSU update information on women with high-grade cytology for whom there is no histology at 52 weeks to include women identified in the current reporting period. Where there is no explanatory information recorded on the NCSP-register, follow-up with the women's smear taker or colposcopy clinic should be undertaken.
3. the NSU investigate whether the additional colposcopy clinic data to be recorded on the NCSP-Register will readily give explanations for reasons why no histology is recorded following women's high grade cytology.

Section 7. Laboratory smear reporting

4. the NSU look at alternative methods to calculate the laboratory smear reporting indicator to take into account whether a smear result is a screening smear or a diagnostic smear. A screening smear is defined as a smear taken from an asymptomatic woman and a diagnostic smear being that taken from a woman with symptoms.
5. the laboratory smear indicator is reported separately for conventional smears and liquid based cytology smears, in addition to total smears.

Section 8. Laboratory cytology turn around time

6. the NSU continue to produce timely monthly laboratory cytology (and histology) turn around time reports so that laboratories not meeting targets are identified early and problems addressed promptly.

Section 9. Laboratory histology turn around time

7. the NSU enumerate the number of days to report histology reports where histology turn around reports are more than 11 days, then seek explanations from laboratories where histology is reported after 30 days.

Section 10. Unsatisfactory smears by laboratory

8. as this is the first monitoring report with the new targets for this indicator, the NSU await the next 6-monthly report to assess whether laboratories not within the target range are persistently so.

Section 11. Unsatisfactory smears by smear taker

9. the NSU present the results for medical smear takers by vocationally registered gynaecologists, vocationally registered general practitioners, and general medical registrants.

Section 12&13. Waiting time for colposcopic assessment

10. the NSU continue to request and produce monthly updated colposcopy clinic data, and to seek explanations for outlying waiting times.
11. the NSU work towards recording good colposcopy data on the NCSP-Register to facilitate accurate monitoring of DHB colposcopy clinics.

Section 14. Short interval re-screening

12. the NSU facilitate the revision of how this indicator is calculated taking into account the revised cervical screening guidelines
13. the NSU facilitate meetings to identify and address the high level of short interval re-screening in the Auckland and Waitemata DHB areas

Addendum

In addition to Monitoring Report 29 findings and the above recommendations, the NCSP Advisory Committee notes with concern that the NSU have not provided smear/biopsy correlation data to laboratories since August 2008. It is recommended that the NSU provide an explanation and urgently re-commence this quality assurance activity.

Previous 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 relation to this section of the Report be removed and 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 relation to this section of the Report be removed and 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.

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. Chi^2 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 period 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.

Follow-up of women with high grade cytology

Definition

High grade cytology was previously 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). However, in February 2007 the NCSP reclassified all glandular cell abnormalities as high grade. Therefore for cytology taken on or after 1 February 2007, high grade cytology is defined as a cytology result of atypical glandular cells (AGC) or more serious abnormality according to the hierarchy of the Revised Bethesda Coding System (2001). The timeliness of the follow-up of women with a high grade cytology result is estimated using the time elapsed before a histology specimen is taken following the date that the high grade cytology was taken.

Targets

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

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

and

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

Calculation

The number of enrolled women aged 20 to 69 years at 30 June 2008 who had a high grade cytology result recorded on the NCSP Register between 1 July 2006 and 30 June 2007 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 AGC or more serious cytology result were expressed as proportions of the total number of women with a high grade cytology taken between 1 July 2006 and 30 June 2007. The number and proportion of women with no histology result recorded on the NCSP Register following their high grade cytology were also calculated. Women

without a subsequent histology recorded on the NCSP Register were also described in two ways: whether they had been signed back into the Programme since their high grade smear and whether they had a subsequent smear taken by either a non-specialist or specialist. This indicator was calculated for women of all ethnic groups, and separately for Māori, Pacific and non-Māori, non-Pacific women. It was also calculated for each NCSP Region.

Results

The timeliness with which a histology specimen was taken amongst women who had a high grade cytology result is shown in Table 1. Between 1 July 2006 and 30 June 2007, 5,446 women had a high grade cytology result. Of these, 4,039 (74.2%) 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 (75.4%). The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was 89.5% (n=4,874). This value is also similar to that in the last reporting period (90.8%), and is below the target of 99%. There was no histology reported on the NCSP Register for 485 (8.9%) 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, 76.2% of non-Māori, non-Pacific women had a report of a histological specimen, compared to 65.3% of Māori and 62.4% of Pacific women. These proportions are similar to those reported in the last period (77.7%, 66.3% and 61.5%, 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, as shown in 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 Hawke's Bay (84.2%, n=144). The lowest figures were seen in Manawatu/Whanganui (66.1%, n=251). For all Regions combined the proportion of women who had histological reports within 12 weeks of the smear was 74.2%.

No Region reached the target of 99% of women having a histological specimen taken within 52 weeks of a high grade smear. The Region with the highest proportion of women who had a histological report within this time period was Nelson/Marlborough (95.8%, n=137). The lowest figures were seen in Manawatu/Whanganui (80.8%, n=307). For all Regions combined the proportion of women who had a high grade smear result with a subsequent histology taken within 52 weeks was 89.5%. 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=485, 8.9%) 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 (11.5%) and Pacific (10.9%) women compared to non-Māori, non-Pacific women (8.4%), 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 Auckland, Manawatu/Whanganui, and Northland Region.

Further details of the 485 women who had no histology result recorded on the NCSP Register following a high grade smear are shown in Table 4. Of these, 109 (22.5%) had no subsequent smear recorded and 148 (30.5%) had a follow-up smear taken by a non-specialist. Of these 257 women who had either no follow-up smear or a smear taken by a non-specialist, 125 (48.6%) 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 132 (51.4%) 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 unlikely to be due to chance (P=0.005).

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. Higher proportions of Māori (34.8%) and Pacific women (36.4%) had no subsequent smear recorded on the NCSP Register after their high grade cytology report compared to non-Māori, non-Pacific (18.7%) women. Fewer Māori (29.2%) and Pacific women (27.3%) had a subsequent smear taken by a specialist than non-Māori, non-Pacific women (52.4%). These disparities between ethnic groups were statistically significant (P<0.001).

Recommendations

- the NSU update information on women with high-grade cytology for whom there is no histology at 52 weeks to include women identified in the current reporting period. Where there is no explanatory information recorded on the NCSP-register, follow-up with the women's smear taker or colposcopy clinic should be undertaken.
- the NSU investigate whether the additional colposcopy clinic data to be recorded on the NCSP-Register will readily give explanations for reasons why no histology is recorded following women's high grade cytology.

Table 1: Timeliness of a histological follow-up after a high grade cytology result recorded between 1 July 2006 and 30 June 2007 for 20 to 69 year old women

Time period	n	Proportion %	Cumulative Proportion %
Within 12 weeks[1]	4,039	74.2	74.2
13 to 26 weeks	558	10.3	84.4
27 to 52 weeks[2]	277	5.1	89.5
More than 52 weeks	87	1.6	91.1
Subtotal	4,961		
No histology recorded on NCSP Register	485	8.9	100
Total	**5,446**		

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 histological follow-up after a high grade cytology result recorded between 1 July 2006 and 30 June 2007 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]	507	65.3	65.3	126	62.4	62.4	3,406	76.2	76.2
13 to 26 weeks	105	13.5	78.9	23	11.4	73.8	430	9.6	85.9
27 to 52 weeks[2]	58	7.5	86.3	26	12.9	86.6	193	4.3	90.2
More than 52 weeks	17	2.2	88.5	5	2.5	89.1	65	1.5	91.6
Subtotal	**687**			**180**			**4,094**		
No histology recorded on NCSP Register	89	11.5	100.0	22	10.9	100.0	374	8.4	100.0
Total	**776**			**202**			**4,468**		

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

Table 3: Timeliness of a histological follow-up after a high grade cytology result recorded between 1 July 2006 and 30 June 2007 for 20 to 69 year old women by NCSP Region

NCSP Region	Time periods										
	Within 12 weeks[1]		13 to 26 weeks		27 to 52 weeks		Within 52 weeks[2] (cumulative %)		No Histology		Total
	n	%	n	%	n	%	n	%	n	%	
Auckland	1,317	71.0	183	9.9	108	5.8	1,608	86.7	208	11.2	1,855
Bay of Plenty	353	72.6	63	13.0	29	6.0	445	91.6	35	7.2	486
Canterbury	608	81.6	66	8.9	27	3.6	701	94.1	40	5.4	745
Hawke's Bay	144	84.2	11	6.4	4	2.3	159	93.0	8	4.7	171
Manawatu/Whanganui	251	66.1	38	10.0	18	4.7	307	80.8	60	15.8	380
Nelson/Marlborough	116	81.1	12	8.4	9	6.3	137	95.8	4	2.8	143
Northland	156	72.6	16	7.4	11	5.1	183	85.1	28	13.0	215
Otago/Southland	291	81.1	31	8.6	17	4.7	339	94.4	18	5.0	359
Tairawhiti	50	79.4	2	3.2	4	6.4	56	88.9	4	6.4	63
Taranaki	97	74.6	15	11.5	10	7.7	122	93.9	7	5.4	130
Waikato	334	75.4	50	11.3	21	4.7	405	91.4	35	7.9	443
Wellington	281	69.2	67	16.5	18	4.4	366	90.1	34	8.4	406
West Coast	41	82.0	4	8.0	1	2.0	46	92.0	4	8.0	50
Total	**4,039**	**74.2**	**558**	**10.3**	**277**	**5.1**	**4,874**	**89.5**	**485**	**8.9**	**5,446**

Difference between NCSP Regions P<0.001

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

Table 4: Women with a high grade cytology report recorded between 1 July 2006 and 30 June 2007 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	43	17.4	66	27.7	109	22.5
Subsequent smear taken by non-specialist	89	36.0	59	24.8	148	30.5
Smear taken by specialist	115	46.6	113	47.5	228	47.0
Total	**247**		**238**		**485**	

Difference between NCSP Register status P=0.005

Table 5: Ethnic disparities in the follow-up of women with a high grade cytology report recorded between 1 July 2006 and 30 June 2007 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	7	15.2	3	25.0	33	17.5	24	55.8	5	50.0	37	20.0	31	34.8	8	36.4	70	18.7
Smear by non-specialist	21	45.7	6	50.0	62	32.8	11	25.6	2	20.0	46	24.9	32	36.0	8	36.4	108	28.9
Smear taken by specialist	18	39.1	3	25.0	94	49.7	8	18.6	3	30.0	102	55.1	26	29.2	6	27.3	196	52.4
Total	**46**		**12**		**189**		**43**		**10**		**185**		**89**		**22**		**374**	

Difference between ethnic groups P<0.001

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

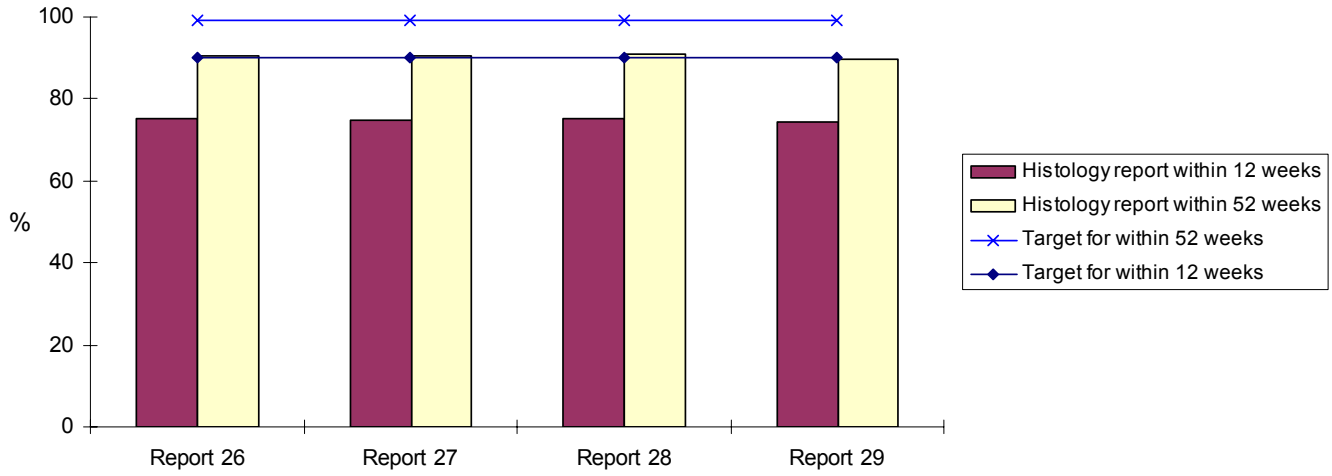


Figure 2: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

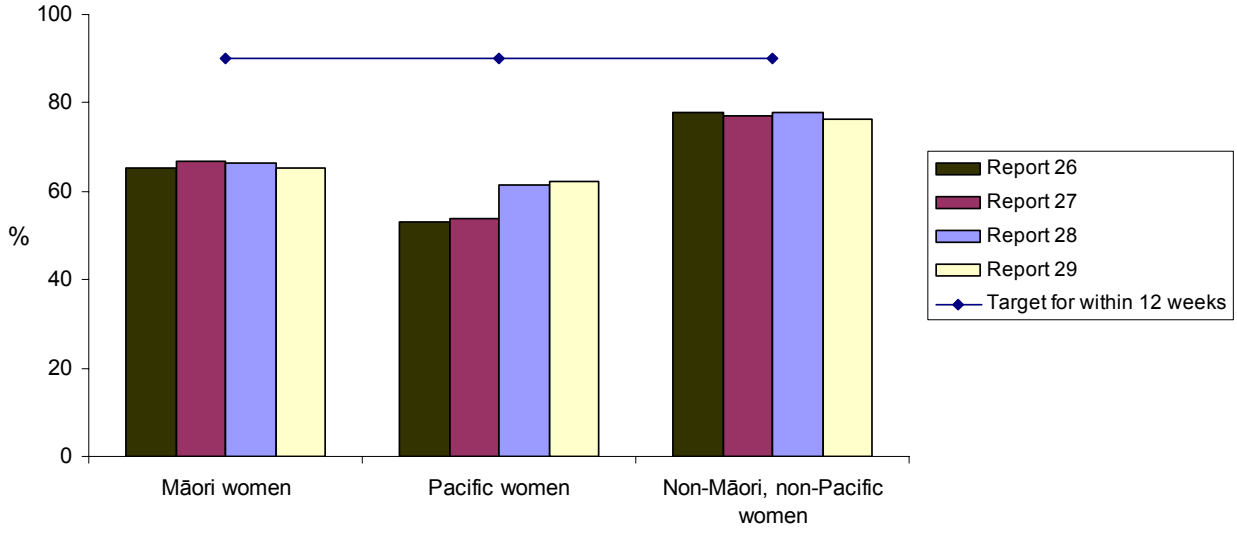


Figure 3: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

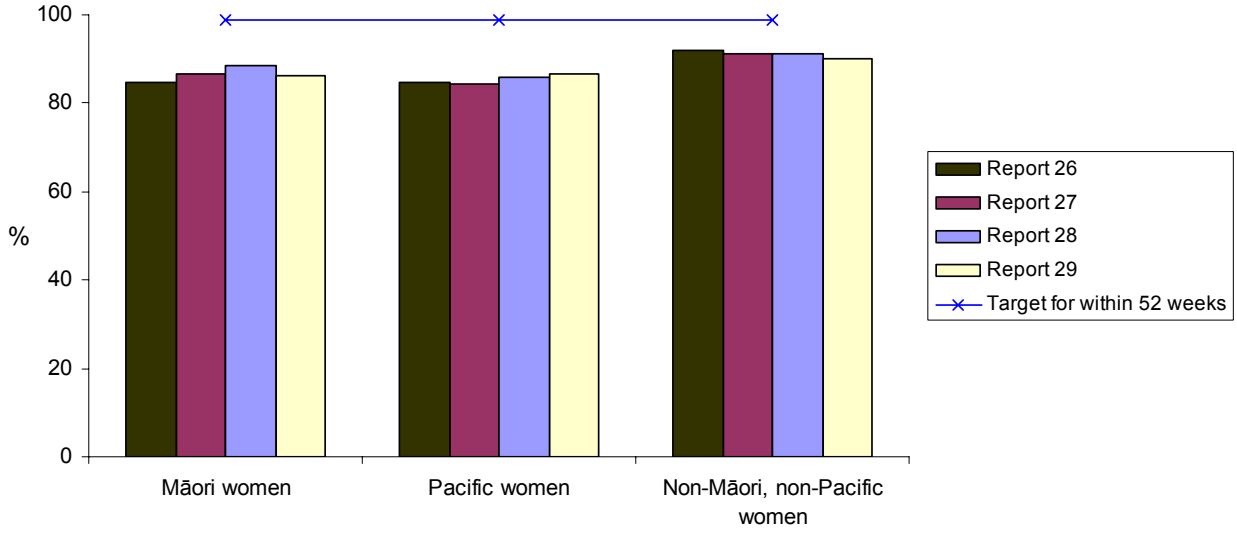


Figure 4: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

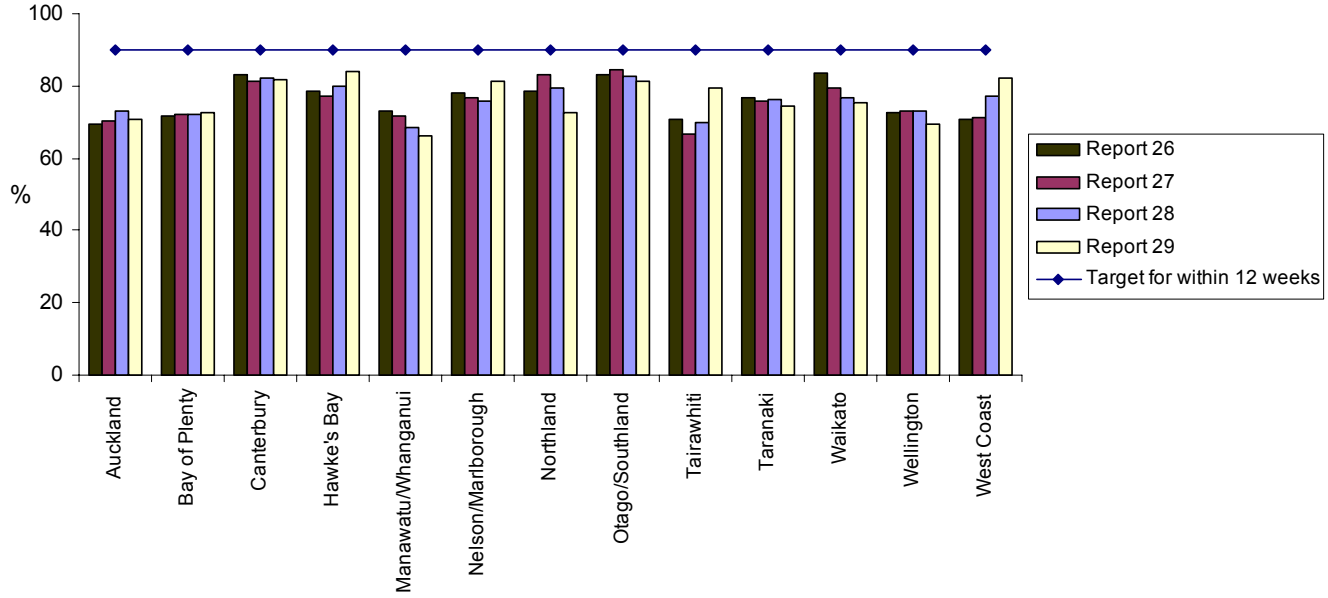


Figure 5: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP Region

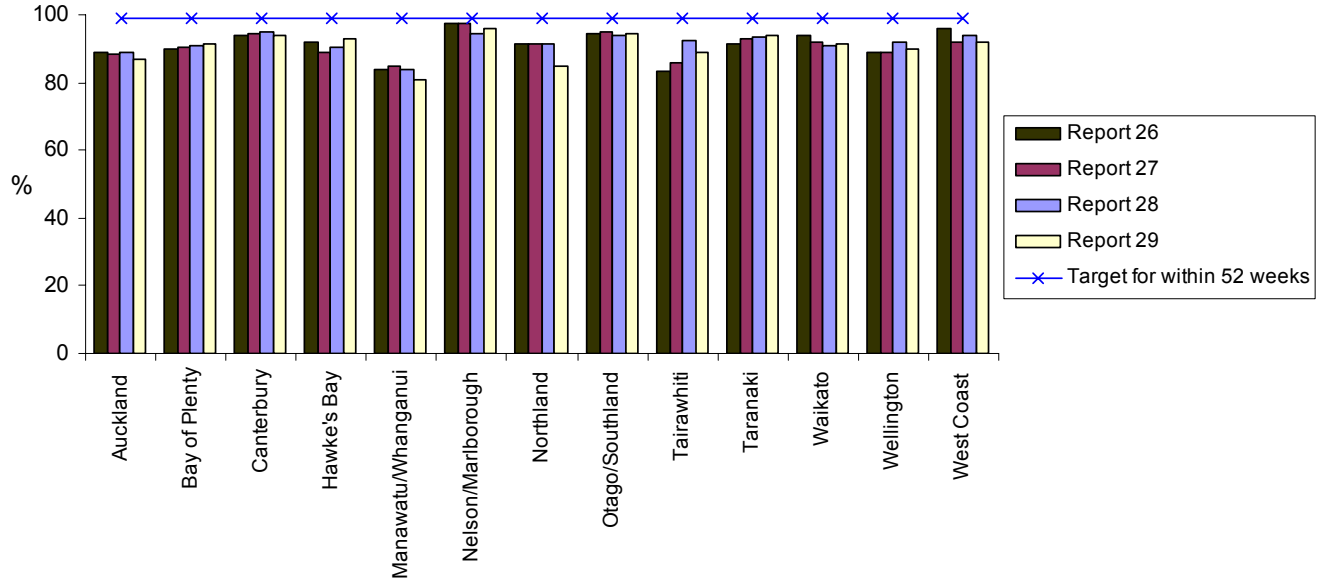
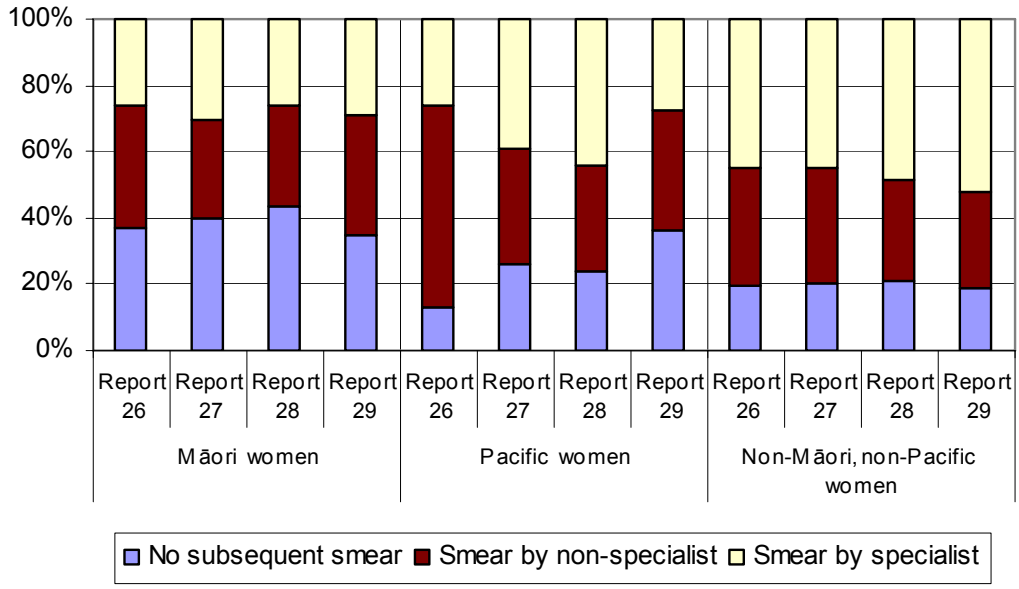


Figure 6: Ethnic disparities in the follow-up of women with a high grade cytology report but no histology result recorded, by NCSP Register status and source of any subsequent smear



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 January 2008 to 30 June 2008 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 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 January 2008 to 30 June 2008, 218,633 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 9,842 for MedLab Christchurch to 71,403 for Diagnostic MedLab Auckland. Overall, 202,032 (92.4%) smears were reported as negative for dysplasia or malignancy, which was identical to the proportion in the last reporting period (92.4%). 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 proportion in the last reporting period (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 identical to the proportion in the last reporting period (7.6%). Only one of the nine laboratories, Auckland Hospital Laboratory, exceeded the 10% total abnormalities target and reported 18.1% of smears processed as abnormal.

The proportion of smears reported as LSIL varied between laboratories, but was between 2.2% and 3.4% for all laboratories, with the exception of Auckland Hospital Laboratory (5.3%), Canterbury Health Laboratories (4.9%) and MedLab Central (4.1%). Note that no target is set for the proportion of smears reported as LSIL.

Recommendations

- the NSU look at alternative methods to calculate the laboratory smear reporting indicator to take into account whether a smear result is a screening smear or a diagnostic smear. A screening smear is defined as a smear taken from an asymptomatic woman and a diagnostic smear being that taken from a woman with symptoms.
- the laboratory smear indicator is reported separately for conventional smears and liquid based cytology smears, in addition to total smears.

Table 6: The number and proportion of satisfactory smears in broad cytological categories between 1 January 2008 and 30 June 2008 for each laboratory

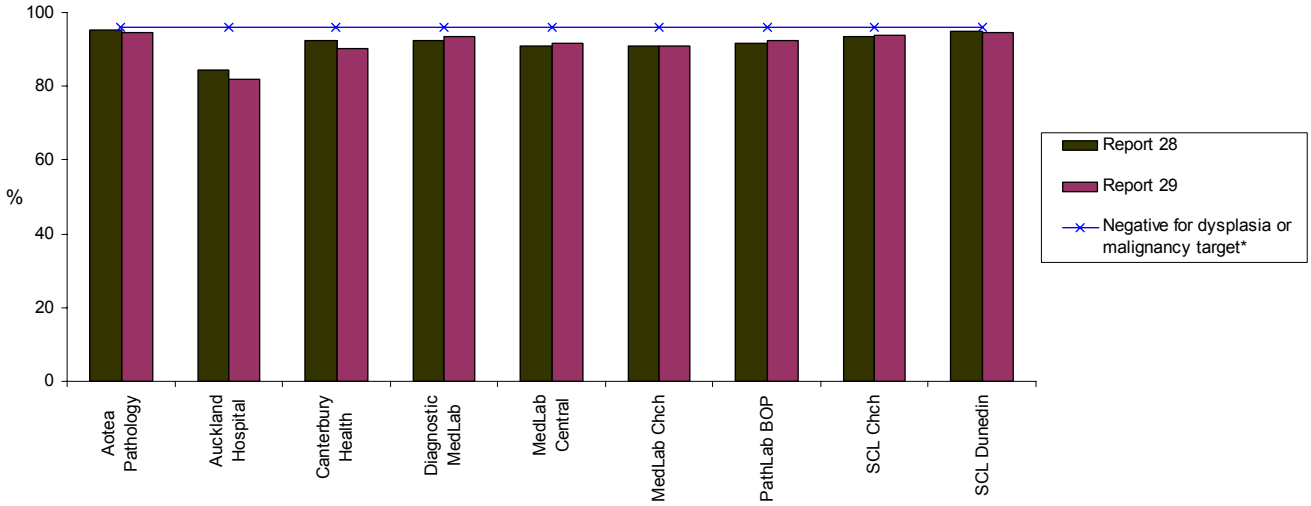
Laboratory	Negative for dysplasia or malignancy[1]		ASCUS		ASC-H		LSIL		HSIL[2]		Total Abnormalities[3§]		Total smears
	n	%	n	%	n	%	n	%	n	%	n	%	n
Aotea Pathology	21,888	94.5	512	2.2	99	0.4	591	2.6	75	0.3	1,286	5.5	23,174
Auckland Hospital Lab.	10,275	81.9	873	7.0	333	2.7	670	5.3	302	2.4	2,266	18.1	12,541
Canterbury Health Lab.	21,185	90.1	712	3.0	217	0.9	1,140	4.9	215	0.9	2,317	9.9	23,502
Diagnostic MedLab Auckland	66,826	93.6	1,648	2.3	428	0.6	2,210	3.1	255	0.4	4,577	6.4	71,403
MedLab Central	15,348	91.7	395	2.4	137	0.8	689	4.1	152	0.9	1,397	8.3	16,745
MedLab Christchurch	8,939	90.8	439	4.5	78	0.8	313	3.2	62	0.6	903	9.2	9,842
PathLab Bay of Plenty	22,513	92.5	639	2.6	162	0.7	825	3.4	153	0.6	1,823	7.5	24,336
SCL* Christchurch	9,526	94.0	256	2.5	42	0.4	225	2.2	76	0.8	606	6.0	10,132
SCL* Dunedin	25,532	94.7	204	0.8	101	0.4	732	2.7	359	1.3	1,426	5.3	26,958
Total	**202,032**	**92.4**	**5,678**	**2.6**	**1,597**	**0.7**	**7,395**	**3.4**	**1,649**	**0.8**	**16,601**	**7.6**	**218,633**

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

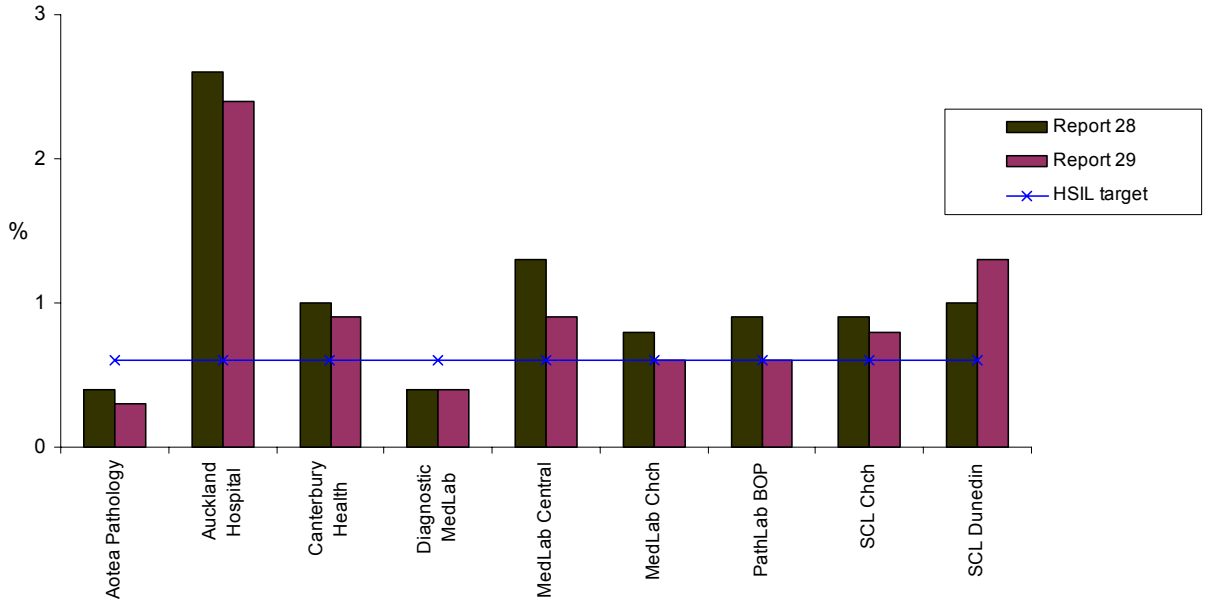
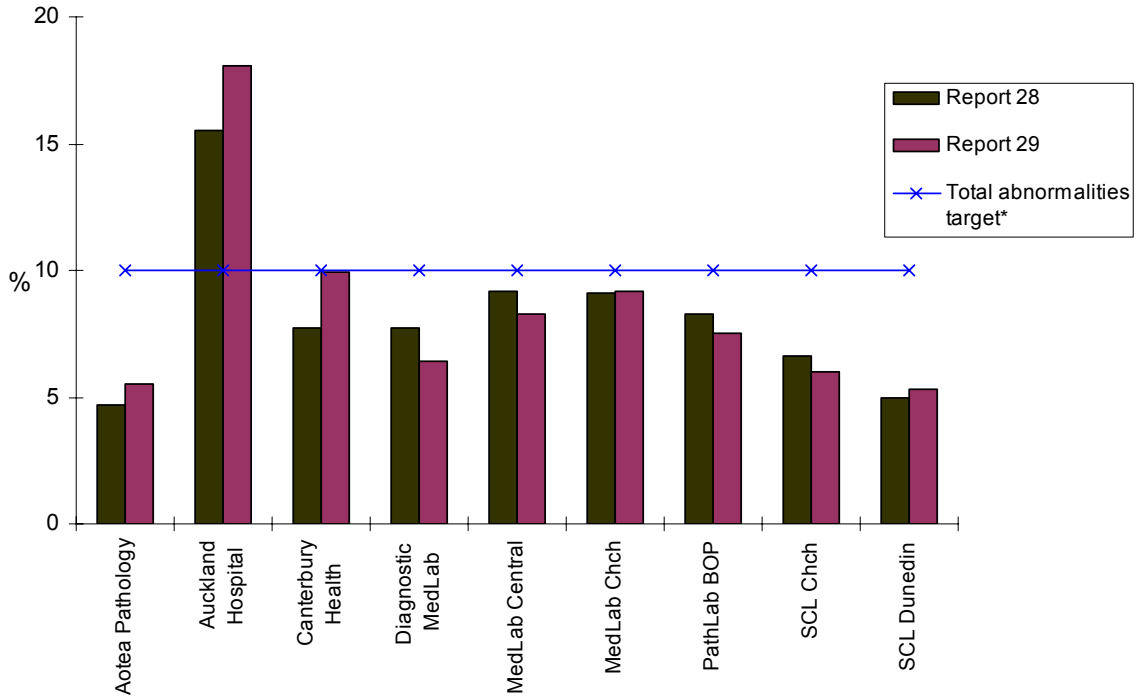


Figure 9: The proportion of satisfactory smears reported as total abnormalities for each laboratory



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

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 January 2008 to 30 June 2008. 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 January 2008 to 30 June 2008 for each laboratory processing cervical cytology are shown in Table 7. Overall, 79.4% of the 226,058 smears received by laboratories were reported within seven working days. This did not meet the target of 90%, and nor did the proportion in the last reporting period (78.0%). Four of the nine reporting laboratories achieved the seven-day target of 90%. Aotea Pathology (59.7%), Auckland Hospital Laboratory (62.3%), Canterbury Health

Laboratories (12.1%), PathLab Bay of Plenty (76.3%), and SCL Christchurch (75.9%) did not meet this target.

Overall, the 14-day target of 100% was not achieved (91.6%). Three of the nine reporting laboratories achieved the 100% target; MedLab Central, MedLab Christchurch, and PathLab Bay of Plenty. Canterbury Health Laboratories reported 16,290 smears outside 14 working days. The other laboratories to report smears outside this target were, Aotea Pathology (n=124), Auckland Hospital Laboratory (n=1,855), Diagnostic MedLab Auckland (n=205), MedLab Central (n=5), PathLab Bay of Plenty (n=12), SCL Christchurch (n=54), and SCL Dunedin (n=418). The reporting time for the 18,963 smears that were outside the 14-day target, ranged from 15 to 162 days, with the median time being 30 days.

Recommendations

- the NSU continue to produce timely monthly laboratory cytology (and histology) turn around time reports so that laboratories not meeting targets are identified early and problems addressed promptly.

Table 7: Timeliness of the reporting of smears between 1 January 2008 and 30 June 2008 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	23,552	14,062	59.7	9,366	39.8	23,428	99.5	124	0.5
Auckland Hospital Lab.	12,876	8,024	62.3	2,997	23.3	11,021	85.6	1,855	14.4
Canterbury Health Lab.	23,705	2,859	12.1	4,556	19.2	7,415	31.3	16,290	68.7
Diagnostic MedLab Auckland	75,281	74,901	99.5	175	0.2	75,076	99.7	205	0.3
MedLab Central	17,044	16,729	98.2	310	1.8	17,039	100.0	5	0.0
MedLab Christchurch	10,306	10,306	100.0	0	0.0	10,306	100.0	0	0.0
PathLab Bay of Plenty	25,558	19,490	76.3	6,056	23.7	25,546	100.0	12	0.0
SCL* Christchurch	10,217	7,751	75.9	2,412	23.6	10,163	99.5	54	0.5
SCL* Dunedin	27,519	25,346	92.1	1,755	6.4	27,101	98.5	418	1.5
Total	**226,058**	**179,468**	**79.4**	**27,627**	**12.2**	**207,095**	**91.6**	**18,963**	**8.4**

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

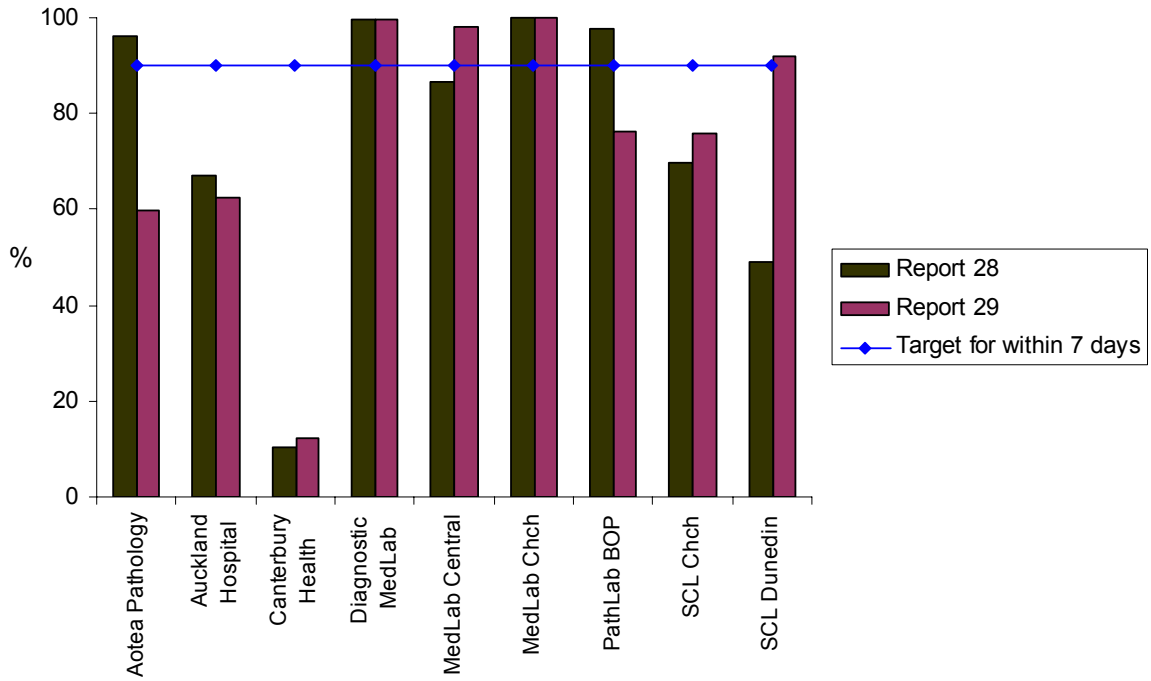
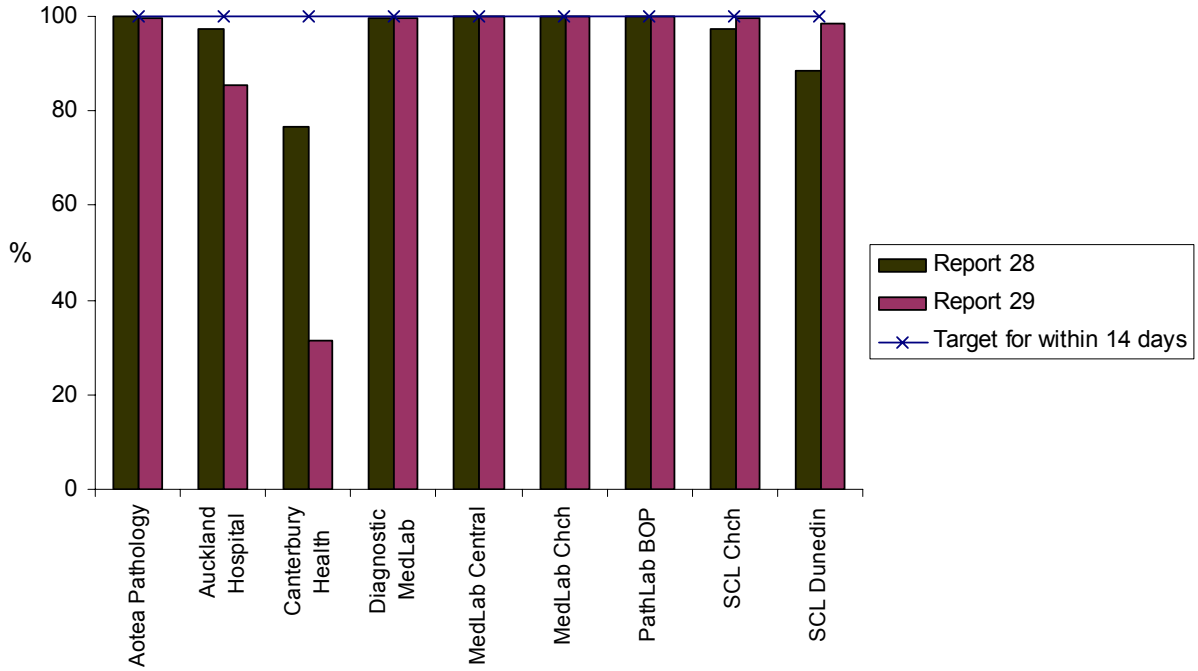


Figure 11: Proportion of smears reported on within 14 working days for each laboratory



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 January 2008 to 30 June 2008, 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 20 laboratories that provided results to the NCSP Register in the six month period 1 January 2008 to 30 June 2008 is shown in Table 8. There were a total of 11,324 histology specimens recorded on the NCSP Register. The number of specimens reported by each laboratory varied considerably, ranging from 87 in MedLab Christchurch to 1,465 in Diagnostic MedLab Auckland. For all laboratories combined, the proportion of histological specimens reported on within five working days was 91.5%, which met the target of 90% and was similar to the proportion in the last reporting period (91.9%).

Seven laboratories did not meet the five-day 90% target: Aotea Pathology (88.0%), Auckland Hospital Laboratory (77.7%), Hutt Hospital (74.5%), Nelson Hospital (89.0%), Southland Hospital (83.5%), SCL Dunedin (81.2%), and Wellington Hospital (69.4%).

Auckland Hospital Laboratory (16.8%), Hutt Hospital (20.0%), Southland Hospital (15.8%), SCL Dunedin (17.3%), and Wellington Hospital (21.1%) reported the greatest proportions of histology results six to 10 working days from the specimens being received. Overall, 163 (1.4%) specimens were reported 11 or more working days after the time that they were received by the laboratory. The reporting time for the 163 specimens ranged from 11 to 76 days, with the median time being 13 days.

Recommendations

- the NSU enumerate the number of days to report histology reports where histology turn around reports are more than 11 days, then seek explanations from laboratories where histology is reported after 30 days.

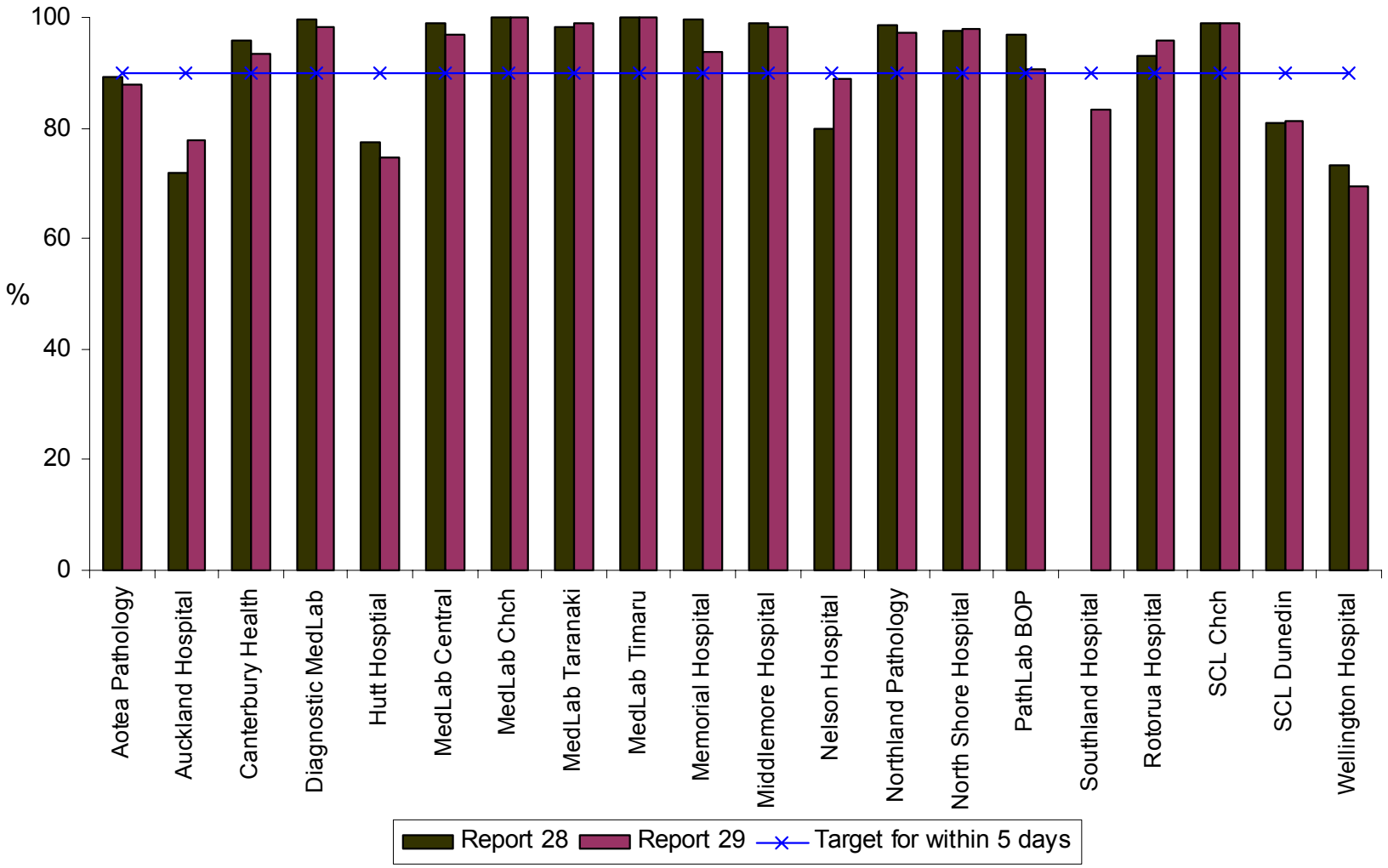
Table 8: Timeliness of the reporting of histology between 1 January 2008 and 30 June 2008 by laboratory

Laboratory	Number of specimens processed	Within 5 working days[1]		6 to 10 working days		11 or more working days	
	n	n	%	n	%	n	%
Aotea Pathology	292	257	88.0	33	11.3	2	0.7
Auckland Hospital Lab.	1,036	805	77.7	174	16.8	57	5.5
Canterbury Health Lab.	1,168	1,092	93.5	69	5.9	7	0.6
Diagnostic MedLab Auckland	1,465	1,440	98.3	20	1.4	5	0.3
Hutt Hospital	145	108	74.5	29	20.0	8	5.5
MedLab Central	946	917	96.9	23	2.4	6	0.6
MedLab Christchurch	87	87	100.0	0	0.0	0	0.0
MedLab Taranaki	249	246	98.8	3	1.2	0	0.0
MedLab Timaru	145	145	100.0	0	0.0	0	0.0
Memorial Hospital Hastings	365	342	93.7	23	6.3	0	0.0
Middlemore Hospital	718	704	98.1	10	1.4	4	0.6
Nelson Hospital	409	364	89.0	44	10.8	1	0.2
Northland Pathology	369	359	97.3	8	2.2	2	0.5
North Shore Hospital	1,042	1,019	97.8	20	1.9	3	0.3
PathLab Bay of Plenty	1,124	1,017	90.5	101	9.0	6	0.5
Southland Hospital	139	116	83.5	22	15.8	1	0.7
Rotorua Hospital	138	132	95.7	2	1.4	4	2.9
SCL* Christchurch	383	379	99.0	3	0.8	1	0.3
SCL* Dunedin	611	496	81.2	106	17.3	9	1.5
Wellington Hospital	493	342	69.4	104	21.1	47	9.5
Total	**11,324**	**10,367**	**91.5**	**794**	**7.0**	**163**	**1.4**

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



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.

Targets

Due to the introduction of the 2001 revision of the Bethesda Coding System there are new targets for unsatisfactory smears. These targets are applicable to all cytological samples received by laboratories on and after 1 January 2008. The target for conventional smears is not less than 1.0% and not more than 8.0% of all smears reported for a given laboratory. The target for liquid based cytology (LBC) is not less than 1.0% and not more than 5.0% of all smears reported for a given laboratory.

Calculation

All smears taken during the period 1 January 2008 to 30 June 2008 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 January 2008 to 30 June 2008, and reported by each cytology laboratory is shown in Table 9. Overall, 7,425 (3.3%) of the 226,058 smears processed were reported as unsatisfactory for evaluation. This proportion is almost identical to the proportion in the last reporting period (3.4%).

Of the 7,425 smears reported as unsatisfactory, 5,688 were conventional pap smears. Overall the proportion of unsatisfactory conventional smears was 3.7%, which is within the target range of not less than 1% and not more than 8% of all smears

reported. Each laboratory reported unsatisfactory smears in this target range with the exception of Canterbury Health Laboratories (10.3%) and SCL Christchurch (0.8%).

A further 1,703 smears reported as unsatisfactory were LBC. Overall the proportion of unsatisfactory LBC smears was 2.4%, which is within the target range of not less than 1% and not more than 5% of all smears reported. Each laboratory reported unsatisfactory smears in this target range with the exception of Canterbury Health Laboratories (0.7%) and MedLab Central (5.3%).

Reasons for the 7,425 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 (67.7%). Aotea Pathology (13.8%) and Diagnostic MedLab Auckland (9.9%) had the greatest proportion of smears recorded as unsatisfactory for evaluation due to other technical reasons (free text).

Recommendations

- as this is the first monitoring report with the new targets for this indicator, the NSU await the next 6-monthly report to assess whether laboratories not within the target range are persistently so.

Table 9: The number and proportion of unsatisfactory smears between 1 January 2008 and 30 June 2008 for each laboratory

Laboratory	Smears processed	Unsatisfactory smears		Unsatisfactory smears					
				Combination (conventional & liquid based)		Conventional pap smear[1]		Liquid based cytology[2]	
	n	n	%	n	%	n	%	n	%
Aotea Pathology	23,552	378	1.6	0	0.0	323	1.6	55	1.5
Auckland Hospital Lab.	12,876	335	2.6	2	0.6	241	2.4	92	3.8
Canterbury Health Lab.	23,705	203	0.9	3	0.9	41	10.3	159	0.7
Diagnostic MedLab Auckland	75,281	3,878	5.2	17	2.3	2,728	6.0	1,133	3.9
MedLab Central	17,044	299	1.8	0	0.0	274	1.7	25	5.3
MedLab Christchurch	10,306	464	4.5	1	4.8	384	5.5	79	2.4
PathLab Bay of Plenty	25,558	1,222	4.8	9	5.5	1,072	5.8	141	2.1
SCL* Christchurch	10,217	85	0.8	0	0.0	85	0.8	0	0.0
SCL* Dunedin	27,519	561	2.0	2	1.0	540	2.1	19	1.8
Total	**226,058**	**7,425**	**3.3**	**34**	**1.7**	**5,688**	**3.7**	**1,703**	**2.4**

SCL*: Southern Community Laboratories

New targets are: [1]not less than 1.0% and not more than 8.0%, [2]not less than 1.0% and not more than 5.0%

Table 10: The number and proportion of unsatisfactory smears between 1 January 2008 and 30 June 2008 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	189	50.0	10	2.6	10	2.6	54	14.3	51	13.5	12	3.2	52	13.8	378
Auckland Hospital Lab.	186	55.5	22	6.6	20	6.0	53	15.8	39	11.6	11	3.3	4	1.2	335
Canterbury Health Lab.	187	92.1	2	1.0	0	0.0	8	3.9	4	2.0	1	0.5	1	0.5	203
Diagnostic MedLab Auckland	2,708	69.8	63	1.6	6	0.2	308	7.9	119	3.1	292	7.5	382	9.9	3,878
MedLab Central	148	49.5	15	5.0	1	0.3	38	12.7	50	16.7	46	15.4	1	0.3	299
MedLab Christchurch	346	74.6	7	1.5	2	0.4	60	12.9	12	2.6	23	5.0	14	3.0	464
Pathlab Bay of Plenty	810	66.3	16	1.3	14	1.1	260	21.3	77	6.3	44	3.6	1	0.1	1,222
SCL* Christchurch	60	70.6	0	0.0	1	1.2	14	16.5	10	11.8	0	0.0	0	0.0	85
SCL* Dunedin	390	69.5	16	2.9	2	0.4	77	13.7	68	12.1	8	1.4	0	0.0	561
Total	**5,024**	**67.7**	**151**	**2.0**	**56**	**0.8**	**872**	**11.7**	**430**	**5.8**	**437**	**5.9**	**455**	**6.1**	**7,425**

SCL*: Southern Community Laboratories

Unsatisfactory smears by smear taker

Definition

Definitions and a description of the issues surrounding unsatisfactory smears are given on Page 40.

Targets

Due to the introduction of the 2001 revision of the Bethesda Coding System there are new targets for unsatisfactory smears. These targets are applicable to all cytological samples received by laboratories on and after 1 January 2008. The target for conventional smears is not less than 1.0% and not more than 8.0% of all smears reported for each smear taker category. The target for LBC is not less than 1.0% and not more than 5.0% of all smears reported for each smear taker category. As the type of smear taken was not distinguished by smear taker for this report, only the target for conventional smears has been calculated for this indicator.

Calculation

Smears taken from enrolled women of all ages during the period 1 January 2008 to 30 June 2008 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 January 2008 to 30 June 2008 by annual volume of smears taken by each smear taker group are shown in Table 11. Overall, 226,058 smears were taken during the reporting period, of which 80 (<1%) were taken by lay smear takers, 123,729 (55%) by medical smear takers, 85,702 (38%) by nurses, 15,572 (7%) by specialists and 975 (<1%) by midwives. These proportions are similar to those in the last reporting period.

Lay smear takers reported eight smears as unsatisfactory for assessment (10.0%). With the exception of lay smear takers, the proportion of unsatisfactory smears was within the target range of 1.0 to 8.0% for each smear taker group as a whole and when split by annual volume.

Recommendations

- the NSU present the results for medical smear takers by vocationally registered gynaecologists, vocationally registered general practitioners, and general medical registrants.

Table 11: The number and proportion of unsatisfactory smears between 1 January 2008 and 30 June 2008 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	80	72	90.0	8	10.0
	>100	0	0	0.0	0	0.0
	Total	80	72	90.0	8	10.0
Medical	<30	9,778	9,304	95.2	474	4.8
	30-100	34,895	33,598	96.3	1,297	3.7
	>100	79,056	76,037	96.2	3,019	3.8
	Total	123,729	118,939	96.1	4,790	3.9
Nurse	<30	3,878	3,789	97.7	89	2.3
	30-100	28,610	27,918	97.6	692	2.4
	>100	53,214	51,913	97.6	1,301	2.4
	Total	85,702	83,620	97.6	2,082	2.4
Specialist	<30	241	224	92.9	17	7.1
	30-100	1,607	1,538	95.7	69	4.3
	>100	13,724	13,284	96.8	440	3.2
	Total	15,572	15,046	96.6	526	3.4
Midwife	<30	132	128	97.0	4	3.0
	30-100	205	198	96.6	7	3.4
	>100	638	630	98.7	8	1.3
	Total	975	956	98.1	19	1.9
	Total	**226,058**	**218,633**	**96.7**	**7,425**	**3.3**

New target: [1]not less than 1.0% and not more than 8.0%

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. All colposcopy units provided data for the reporting period 1 January to 30 June 2008.

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 (26 women at the end of January, 16 women at the end of February, 12 women at the end of March, 23 women at the end of April, 5 women at the

end of May and 13 women at the end of June). Two colposcopy units, Tairawhiti and West Coast, reported that no women waited longer than four weeks in any month.

Recommendations

- the NSU continue to request and produce monthly updated colposcopy clinic data, and to seek explanations for outlying waiting times.
- the NSU work towards recording good colposcopy data on the NCSP-Register to facilitate accurate monitoring of DHB colposcopy clinics.

Table 12: Waiting time for colposcopic assessment of HSIL or ASC-H between January 2008 and 30 June 2008 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					
	January	February	March	April	May	June	January	February	March	April	May	June
Auckland	32	42	40	44	47	33	26	0	13	19	8	14
Bay of Plenty	16	23	33	23	24	18	6	15	0	15	18	15
Canterbury	22	20	23	42	40	24	1	0	1	0	0	15
Capital Coast	12	10	10	8	7	7	6	3	4	1	0	1
Counties Manukau	36	56	44	48	47	40	9	8	18	11	5	5
Hawke's Bay	22	14	18	35	19	26	4	6	0	3	2	2
Hutt Valley	3	4	7	4	3	3	0	0	0	0	1	0
Lakes	13	13	5	7	9	9	8	3	7	3	0	0
MidCentral	7	13	13	7	13	12	9	7	8	8	6	0
Nelson/Marlborough	5	2	7	6	7	4	2	3	0	3	2	0
Northland	12	13	11	16	17	17	9	12	6	3	5	10
Otago	16	29	20	23	16	22	12	4	23	9	0	0
South Canterbury	0	0	1	5	3	2	1	1	0	3	2	1
Southland	9	3	11	8	2	4	0	0	0	1	1	1
Tairawhiti	6	4	5	10	8	2	0	0	0	0	0	0
Taranaki	12	9	11	15	10	7	0	2	2	5	1	0
Waikato	15	15	14	26	23	45	17	8	13	17	21	14
Wairarapa	5	0	5	1	2	0	2	0	2	0	0	0
Waitemata	46	48	65	63	82	58	26	16	12	23	5	13
West Coast	0	0	0	0	0	0	0	0	0	0	0	0
Whanganui	9	9	6	10	3	14	1	2	3	2	3	6
Total	**298**	**327**	**349**	**401**	**382**	**347**	**139**	**90**	**112**	**126**	**80**	**97**

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. All colposcopy units provided data for the reporting period 1 January to 30 June 2008.

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 (130 women at the end of January, 0 women at the end of February, 132 women at the end of March, 99 women at the end of April, 123 women at the end of May and 122 women at the end of June). Five of the colposcopy units: Capital

Coast, Hutt Valley, Tairawhiti, Wairarapa and West Coast, reported that no women waited longer than 26 weeks in any month.

Recommendations

- the NSU continue to request and produce monthly updated colposcopy clinic data, and to seek explanations for outlying waiting times.
- the NSU work towards recording good colposcopy data on the NCSP-Register to facilitate accurate monitoring of DHB colposcopy clinics.

Table 13: Waiting time for colposcopic assessment of LSIL or ASC-US between 1 January 2008 and 30 June 2008 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					
	January	February	March	April	May	June	January	February	March	April	May	June
Auckland	54	55	60	73	44	46	130	0	132	99	123	122
Bay of Plenty	35	35	62	40	43	44	0	0	7	0	0	1
Canterbury	5	3	40	54	84	6	1	0	0	0	0	20
Capital Coast	27	22	35	32	46	51	0	0	0	0	0	0
Counties Manukau	28	37	38	40	39	39	1	0	0	0	0	0
Hawke's Bay	8	15	10	14	13	19	1	1	4	13	12	14
Hutt Valley	9	33	13	8	20	10	0	0	0	0	0	0
Lakes	15	15	22	19	18	15	5	3	1	0	0	0
MidCentral	26	26	19	30	31	28	49	36	31	31	30	5
Nelson/Marlborough	1	1	1	0	1	1	3	3	0	3	3	1
Northland	18	23	10	18	22	13	35	32	14	9	7	10
Otago	14	23	19	16	21	12	2	7	9	6	0	0
South Canterbury	0	4	4	0	3	7	1	0	0	0	0	0
Southland	7	8	11	11	6	6	2	0	0	1	0	0
Tairawhiti	5	9	4	10	5	5	0	0	0	0	0	0
Taranaki	5	3	9	6	8	15	0	0	0	0	1	0
Waikato	17	41	24	51	31	28	18	19	18	28	16	17
Wairarapa	1	4	6	9	25	2	0	0	0	0	0	0
Waitemata	44	62	55	54	48	49	10	7	8	2	2	5
West Coast	0	0	0	0	0	0	0	0	0	0	0	0
Whanganui	9	5	3	15	18	11	0	0	0	0	3	0
Total	**328**	**424**	**445**	**500**	**526**	**407**	**258**	**108**	**224**	**192**	**197**	**195**

Short interval re-screening

Definition

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

Target

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

Calculation

To estimate the proportion of women that were re-screened earlier than recommended (short interval re-screening), women who were aged 20 to 69 years at 30 June 2008 were identified. These women were further included in the calculation if: they had a normal smear history when they enrolled on the NCSP Register; all of their cytological and histological results prior to 1 October 2005 were recorded as negative for dysplasia or malignancy; they had at least one satisfactory smear taken between 1 October 2005 and 30 June 2008 (33 months; to allow a three month margin); their first smear taken between 1 October 2005 and 30 June 2008 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 or unsatisfactory for laboratory reading according to the revised Bethesda Coding System 2001. Unsatisfactory smears were excluded from the calculation because women with these results are recommended to have a further smear in a shorter period of time than the usual three year interval.

The calculation of the proportion of women who were re-screened before the recommended three years excluded women who had had an abnormal smear between 1 October 2005 and 30 June 2008. 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 11.4%. This level exceeds the target of less than 10%, and is almost identical to the level in the last reporting period (11.3%).

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 (15.9%), 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 5.0% in Taranaki to 18.0% in Waitemata. Levels of short interval re-screening above 10% were also observed for Auckland (16.8%), Bay of Plenty (13.2%), Canterbury (11.1%), Capital Coast (10.3%), Counties Manakau (12.7%), Lakes (13.4%), Northland (11.3%), South Canterbury (10.3), Wairarapa (11.6%), and for the group of women where their DHB was unspecified (15.3%).

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 (11.0%) and non-Māori, non-Pacific women (11.4%). The large numbers of women in each group, mean that these small differences were statistically significantly different from each other, P=0.025. The target of less than 10% was not met for any ethnic group.

Recommendations

- the NSU facilitate the revision of how this indicator is calculated taking into account the revised cervical screening guidelines
- the NSU facilitate meetings to identify and address the high level of short interval re-screening in the Auckland and Waitemata DHB areas

Table 14: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 October 2005 and 30 June 2008 by 5-year age group

Age group	Total number of women	Women with abnormal smear in previous 33 months	Women with only normal smears in previous 33 months		Proportion with short interval re-screening (%)
			At least one smear	More than one smear	
20-24	18,464	2,734	15,730	2,505	15.9
25-29	34,499	3,254	31,245	3,617	11.6
30-34	37,804	2,194	35,610	4,130	11.6
35-39	48,801	2,123	46,678	5,394	11.6
40-44	52,225	1,918	50,307	5,870	11.7
45-49	53,561	1,865	51,696	6,055	11.7
50-54	44,426	1,164	43,262	5,133	11.9
55-59	37,313	785	36,528	3,922	10.7
60-64	30,825	440	30,385	2,860	9.4
65-69	22,724	256	22,468	1,872	8.3
Total	**380,642**	**16,733**	**363,909**	**41,358**	**11.4**

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

Table 15: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 October 2005 and 30 June 2008 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	37,481	2,000	35,481	5,976	16.8
Bay of Plenty	16,810	945	15,865	2,090	13.2
Canterbury	47,370	2,057	45,313	5,022	11.1
Capital Coast	29,771	1,220	28,551	2,946	10.3
Counties Manakau	33,621	1,578	32,043	4,066	12.7
Hawke's Bay	13,495	541	12,954	1,229	9.5
Hutt Valley	13,261	430	12,831	1,099	8.6
Lakes	9,078	429	8,649	1,159	13.4
MidCentral	12,837	774	12,063	913	7.6
Nelson/Marlborough	14,024	616	13,408	818	6.1
Northland	13,836	642	13,194	1,489	11.3
Otago	20,137	510	19,627	1,399	7.1
South Canterbury	5,012	180	4,832	499	10.3
Southland	10,479	334	10,145	734	7.2
Tairawhiti	3,650	148	3,502	329	9.4
Taranaki	11,300	335	10,965	549	5.0
Waikato	30,279	1,157	29,122	2,059	7.1
Wairarapa	3,600	159	3,441	400	11.6
Waitemata	44,688	2,085	42,603	7,665	18.0
West Coast	3,022	115	2,907	228	7.8
Whanganui	4,986	327	4,659	420	9.0
Unspecified	1,905	151	1,754	269	15.3
Total	**380,642**	**16,733**	**363,909**	**41,358**	**11.4**

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

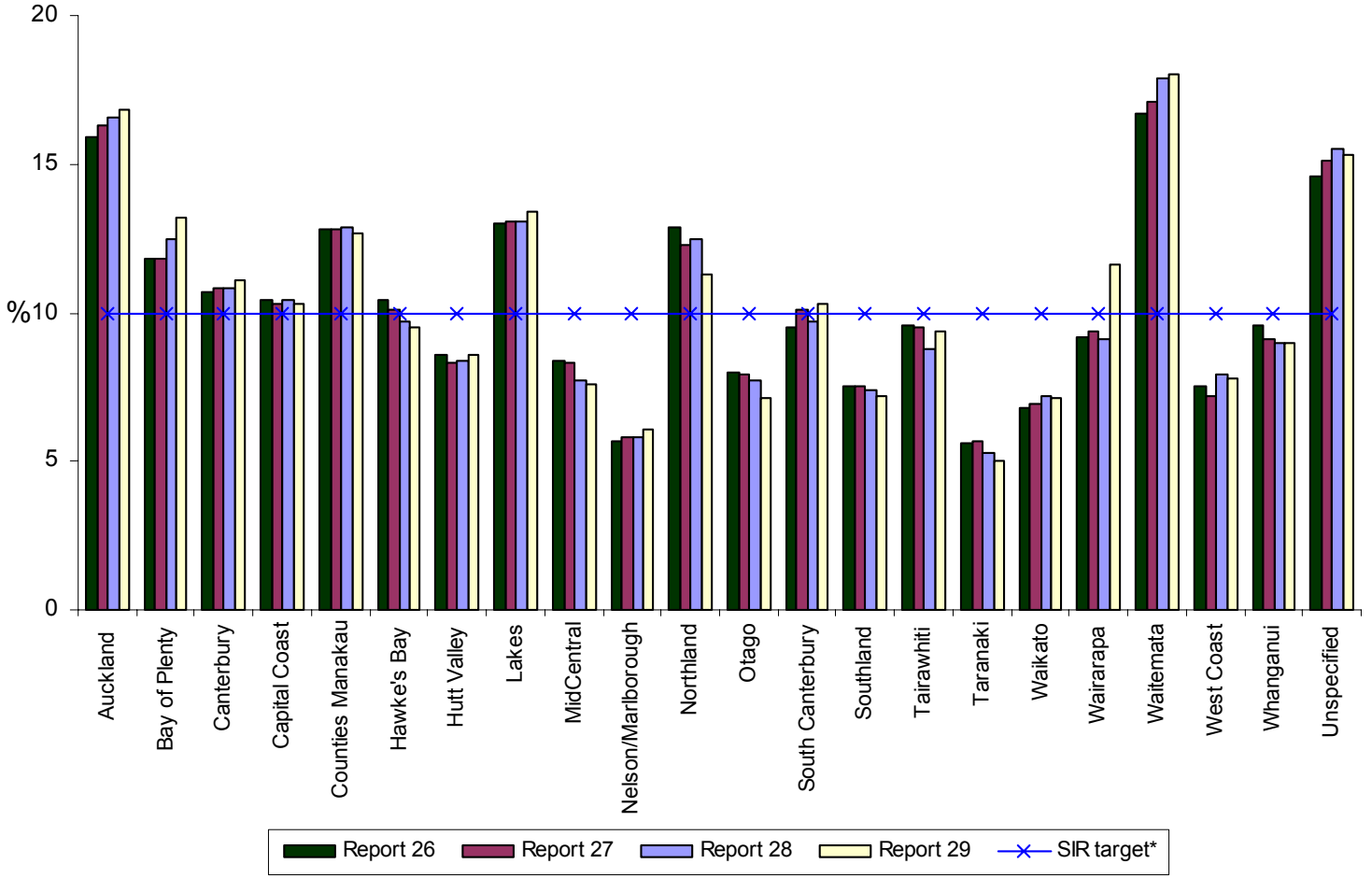
Table 16: Proportion of women aged 20 to 69 years unnecessarily re-screened between 1 October 2005 and 30 June 2008 by ethnicity

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	29,021	1,801	27,220	2,973	10.9
Pacific	11,474	591	10,883	1,199	11.0
Non-Māori, non-Pacific	340,147	14,341	325,806	37,186	11.4
Total	**380,642**	**16,733**	**363,909**	**41,358**	**11.4**

Difference between ethnic groups P=0.025

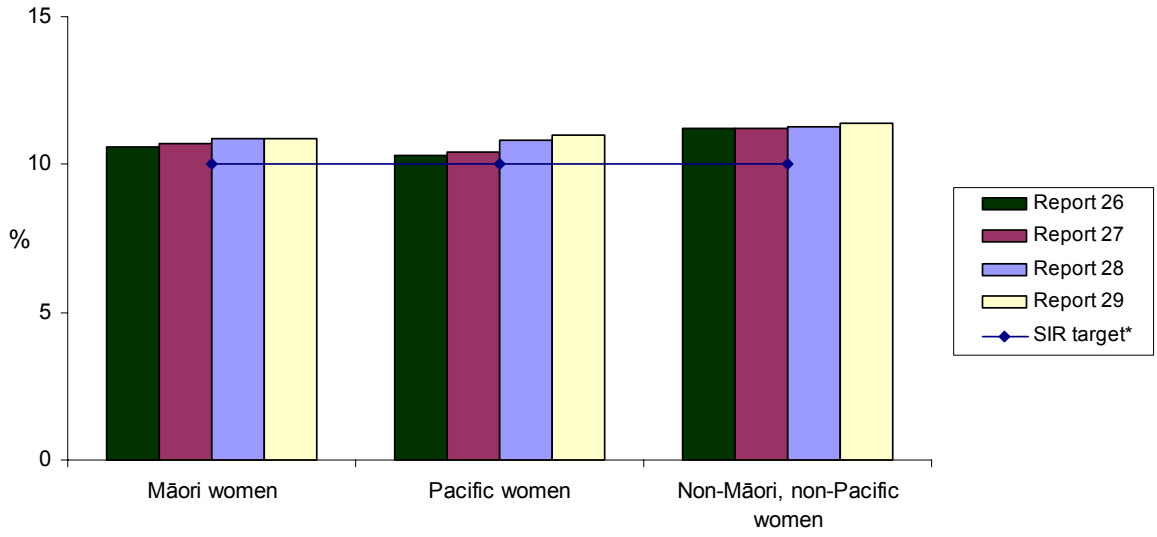
Target: short interval re-screening of less than 10%

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

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 July 2007 to 31 December 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 July 2007 to 31 December 2007, there were 1,507 women with HSIL or ISC cytology reports, of whom 1,369 (90.8%) had a subsequent histology result recorded on the NCSP Register. Of these, 1,091 (79.7%) were confirmed as having HSIL or more serious abnormality on histology. This PPV is within the target range of 65 to 85%, and is similar to the proportion in the last reporting period (81.3%). Each laboratory reported a PPV in the target range with the exception of Auckland Hospital Laboratory (86.6%).

Table 18 shows the PPV by laboratory for women with an ASC-H smear. During the period 1 July 2007 to 31 December 2007, there were 1,405 women with an ASC-H cytology report, of whom 1,107 (78.8%) had a subsequent histology result recorded on the NCSP Register. Of these, 529 (47.8%) had HSIL or more serious abnormality on histology. This is similar to the proportion reported in the last reporting period (46.3%).

The proportion of women that had a HSIL or more serious histology result after an ASC-H smear varied between the laboratories. SCL Christchurch (34.5%) had the lowest proportion, while Canterbury Health Laboratories (62.0%) had the highest proportion.

Recommendations

Table 17: Positive predictive value for women with a high grade smear recorded between 1 July 2007 and 31 December 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	65	87.8	48	73.8	9	12.2	74
Auckland Hospital Lab.	179	89.1	155	86.6	22	10.9	201
Canterbury Health Lab.	162	96.4	137	84.6	6	3.6	168
Diagnostic MedLab Auckland	215	88.8	176	81.9	27	11.2	242
MedLab Central	128	87.1	96	75.0	19	12.9	147
MedLab Christchurch	64	94.1	48	75.0	4	5.9	68
Pathlab Bay of Plenty	112	91.8	83	74.1	10	8.2	122
SCL* Christchurch	72	94.7	59	81.9	4	5.3	76
SCL* Dunedin	372	91.0	289	77.7	37	9.0	409
Total	**1,369**	**90.8**	**1,091**	**79.7**	**138**	**9.2**	**1,507**

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 July 2007 and 31 December 2007 for each laboratory

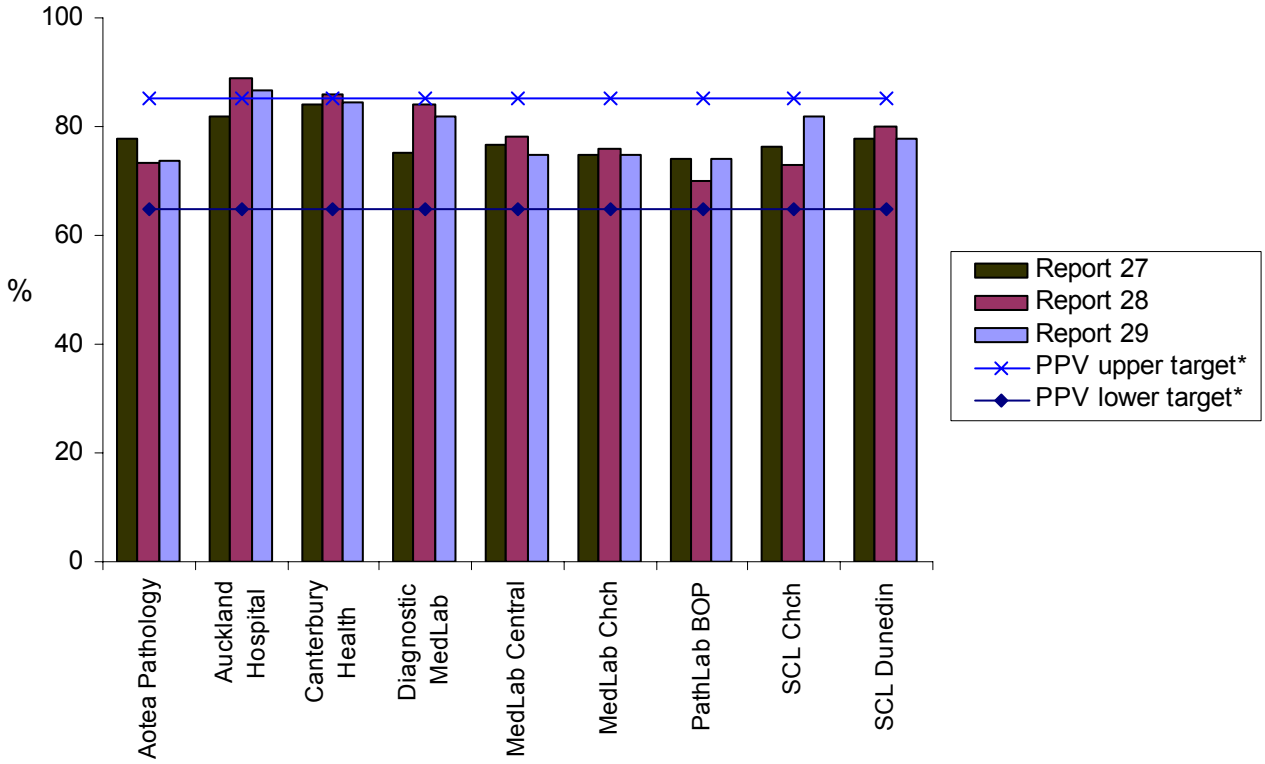
Laboratory	ASC-H reports with a histology report		ASC-H confirmed by histology		ASC-H reports without a histology report		Total ASC-H cytology reports
	n	%	n	%**	n	%	n
Auckland Hospital Lab.	174	80.2	101	58.0	43	19.8	217
Canterbury Health Lab.	121	86.4	75	62.0	19	13.6	140
Diagnostic MedLab Auckland	370	78.9	167	45.1	99	21.1	469
Pathlab Bay of Plenty	113	83.7	42	37.2	22	16.3	135
MedLab Central	70	62.5	30	42.9	42	37.5	112
MedLab Christchurch	65	77.4	36	55.4	19	22.6	84
Aotea Pathology	58	76.3	21	36.2	18	23.7	76
SCL* Christchurch	29	78.4	10	34.5	8	21.6	37
SCL* Dunedin	107	79.3	47	43.9	28	20.7	135
Total	**1,107**	**78.8**	**529**	**47.8**	**298**	**21.2**	**1,405**

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 July 2006 and 30 June 2007 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	116	58.0	89	56.7	1112	74.2	200	157	1,498
Bay of Plenty	77	67.0	<10	*	272	74.5	115	<10	365
Canterbury	49	74.2	<10	*	552	82.1	66	<10	672
Hawke's Bay	30	78.9	0	-	114	85.7	38	0	133
Manawatu/Whanganui	58	66.7	<10	*	188	65.5	87	<10	287
Nelson/Marlborough	<10	*	<10	*	106	80.3	<10	<10	132
Northland	40	65.6	<10	*	115	75.2	61	<10	153
Otago/Southland	17	73.9	<10	*	271	81.4	23	<10	333
Tairawhiti	20	74.1	<10	*	29	82.9	27	<10	35
Taranaki	<10	*	0	-	88	76.5	15	0	115
Waikato	50	61.7	<10	*	279	78.4	81	<10	356
Wellington	31	60.8	<10	*	242	70.6	51	12	343
West Coast	<10	*	<10	*	38	82.6	<10	<10	46

- indicates no women with a high grade cytology result

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

Appendix Table ii: Ethnicity breakdown by NCSP Region for histology reports within 52 weeks after a high grade cytology result recorded between 1 July 2006 and 30 June 2007 on the NCSP Register

NCSP Region	Histology report within 52 weeks after a high grade cytology result					
	Māori		Pacific		Non-Māori, non-Pacific	
	n	%	n	%	n	%
Auckland	164	82.0	131	83.4	1313	87.7
Bay of Plenty	100	87.0	<10	*	339	92.9
Canterbury	64	97.0	<10	*	630	93.8
Hawke's Bay	34	89.5	0	-	125	94.0
Manawatu/Whanganui	72	82.8	<10	*	229	79.8
Nelson/Marlborough	<10	*	<10	*	126	95.5
Northland	52	85.2	<10	*	130	85.0
Otago/Southland	20	87.0	<10	*	316	94.9
Tairawhiti	23	85.2	<10	*	32	91.4
Taranaki	13	86.7	0	-	109	94.8
Waikato	73	90.1	<10	*	326	91.6
Wellington	43	84.3	11	91.7	312	91.0
West Coast	<10	*	<10	*	42	91.3

- indicates no women with a high grade cytology result

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