

Quarterly Monitoring Report 14

National Cervical Screening Programme

January to March 2004

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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 January 2004 to 31 March 2004. For reasons described, not all indicators are included in this report. For the indicators used, there has been little change, for better or worse, in any of the indicators. Where changes have occurred, these are described in the text.

Follow-up of women with high grade cytology

In total, 4,411 women had a high grade cytology result recorded on the NCSP Register between 1 April 2002 and 31 March 2003. More than three-quarters (79.1%) of these women were recorded as having had a histology specimen taken within 12 weeks of their high grade smear being taken. This was less than the target of 90%. The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was also below the 99% target (93.0%). For 269 of the 4,411 women, a subsequent histology result was not recorded on the NCSP Register. This is similar to the proportion reported in the last quarter. The proportions of women who had no histology recorded on the NCSP Register varied widely amongst the NCSP regions and by ethnicity.

Laboratory smear reporting

Twelve laboratories reported cervical cytology during this quarter. Overall, of the 100,691 satisfactory or satisfactory but limited smears processed during the quarter, 7.5% were reported as abnormal, which was within the target of not more than 10%. Four laboratories reported abnormalities outside this target, with the highest reporting abnormalities in 22.8% of smears read. The overall proportion of smears reported as negative for dysplasia or malignancy was 92.5%, which was within the target of not more than 96%. The overall proportion of smears reported as high grade squamous intra epithelial lesion (HSIL) was 1.2%, which was within the target of not less than 0.6%. One laboratory was outside both these targets, and reported 97.5% of the smears they read as negative for dysplasia or malignancy and 0.3% as HSIL.

Laboratory cytology turn around time

Ten of the 12 laboratories reporting cervical cytology met the 7-day cytology turn around time target (90%), compared with 9 which met this target in the last quarter. Seven laboratories met the 14-day turn around time target of 100%, which is the same number as in the last quarter.

Laboratory histology turn around time

Twenty-eight laboratories reported cervical histology during the quarter. Four laboratories did not meet the 5-day histology turn around time target of 90%. Two of these four have consistently failed to meet this target in the previous three quarters. Eighteen laboratories reported 100% of histology results within 10 working days and a further four laboratories reported 99% of histology results within this time frame.

Satisfactory but limited and unsatisfactory smears

The proportion of smears reported as satisfactory but limited varied considerably among the laboratories. Two laboratories exceeded the target of not more than 20% of smears being satisfactory but limited. One laboratory reported below the 0.5 – 2% target range for unsatisfactory smears, and one reported above the target range.

All smear taker groups (lay, medical, nurse, specialist and midwife) met the target for satisfactory but limited smears. When split by annual smear taking volume, smear taker subgroups who took greater volumes of smears appeared to do better in terms of satisfactory but limited smears compared to those with a low annual volume. Almost all smear taker groups and subgroups split by annual smear volume met the target for the proportion of unsatisfactory smears.

2. Background

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

To catch up with the reports that were overdue, the National Screening Unit (NSU) approached the Centre for Public Health Research (CPHR), Massey University, with a request to provide independent reports on the quality indicators for the NCSP from April 2003. The resulting reports formed Quarterly Reports 11, 12 and 13.

In 2005 the CPHR was appointed through an open tender process to carry out the independent monitoring. The current report, Quarterly Report 14, is the first to be produced under this contract. Raw data from which the indicators included in these reports are calculated were provided to CPHR by the NSU.

3. Abbreviations

The following abbreviations are used in this report:

ASCUS:	Atypical squamous cells of undetermined significance
ASCUS-HG:	Atypical squamous cells of undetermined significance, possible high grade
CIN:	Cervical intra-epithelial neoplasia; I: low grade; II, III: high grade
DHB:	District Health Board
HPV:	Human papilloma virus
HSIL:	High grade squamous intra-epithelial lesion
LSIL:	Low grade squamous intra-epithelial lesion
NSU:	National Screening Unit of the Ministry of Health

4. Recommendations

4.1 General issues

1. All service providers are to routinely provide explanations when a target is not being met.
2. The NSU is to arrange for the development of a background paper on the target for unsatisfactory smears to monitor the introduction of Bethesda 2001 (NZ modified).

4.2 Data issues

1. The NSU is to analyse the trend data with respect to laboratory cytology turnaround time, and follow up consistent trends outside the target.

4.3 Service issues

1. The NSU is to investigate why 269 women with a high grade cytology have no subsequent histology result recorded on the NCSP register, prioritising Canterbury region.
2. The NSU is to investigate reasons for ethnic disparity in histology follow up time and look at the extent to which this contributes to inequality in outcomes. Investigate whether Māori/Pacific health expertise would make a difference.
3. The NSU is to undertake a review of the signed in/signed out policy for women undergoing treatment.
4. The NSU is to investigate why MedLab Bay of Plenty are above the total abnormalities target.
5. The NSU is to investigate why Auckland Hospital Laboratory are above the total abnormalities target.
6. The NSU is to investigate Valley Diagnostic Laboratory's reporting pattern including their 42 month look back statistics. Note: Following consultation with VDL on this report, it is apparent that the calculation for VDL is not based on the total number of smears from VDL for this quarter, due to late submission of some results. Therefore further work on this recommendation is not required.
7. The NSU is to follow up MedLab Central with respect to their cytology turnaround time.

8. The NSU is to investigate the histology turnaround time target of Auckland Hospital Laboratory, Hutt Hospital, Rotorua Hospital, and Wellington Hospital.
9. The NSU is to investigate persistent outliers, starting with a breakdown of unsatisfactory smears by reason, and then looking at smear taker volumes.

5. Methods

The NSU of the Ministry of Health (MoH), through a committee of experts and a consultation process, established national indicators for the NCSP in 2000. Where it was considered appropriate and feasible, the NSU set targets for the indicators. Each indicator is described in the results section under separate headings that identify the specific indicators. The results for each indicator are discussed in relation to the set targets. For indicators with and without a target, changes over time are described.

To calculate the indicators for this report anonymised data, provided by the NSU, of women enrolled on the NCSP Register were used. This report includes results for Māori and Pacific women. Both the National Kaitiaki Group and the Pacific Women's Data Advisory Group approved the use of data for enrolled women recorded as identifying with Māori and Pacific ethnic groups, respectively, on the NCSP Register. For the purposes of the monitoring reports, women recorded on the NCSP Register as being not Māori or Pacific were grouped together as the non-Māori, non-Pacific group. This group includes women whose ethnic group was unknown, estimated as 9% of the total number of women on the NCSP Register.

Unless otherwise stated, a woman's age at the end of the reporting quarter was used when calculating the indicators. The registration status and demographic details of each woman at the time of the data download were used for all calculations. Women were assigned to both a NCSP region and a District Health Board (DHB) area by the NCSP Register. Each woman was allocated to the NCSP region and DHB area in which they lived, with two exceptions. Women whose address was unknown were allocated to the NCSP region according to their previously known address. Women who usually had their smears in a NCSP region other than the one where they lived were allocated to the NCSP region where they usually had their smears. For women in either of these situations, if the NCSP regions to which they were allocated had boundaries identical to a DHB area, then they were allocated to that DHB, otherwise the DHB area in which they lived was recorded as unspecified.

6. Results

6.1 Follow-up of women with high grade cytology

Definition

High grade cytology is defined as a cytology result of ASCUS possible high grade (ASCUS-HG), HSIL or more serious abnormality according to the hierarchy of the Revised Bethesda Coding System (1998) (Appendix 1). Follow-up of women with a high grade cytology result is estimated using the timeliness with which a histology specimen is taken following the high grade cytology result.

Targets

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

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

and

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

Calculation

The number of enrolled women aged 20-69 years at 31 March 2004 who had a high grade cytology result recorded on the NCSP Register between 1 April 2002 and 31 March 2003 was calculated. For each of these women the time between the date that the smear was taken and the date that the subsequent histology specimen was taken (including specimens taken up to 5 days before the smear) was calculated. The numbers of women with a histology specimen taken within 12 weeks, between 13 and 26 weeks, between 27 and 52 weeks and more than 52 weeks after their ASCUS-HG, HSIL or more serious cytology result were expressed as proportions of the total number of women with a high grade cytology taken between 1 April 2002 and 31 March 2003. 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 April 2002 and 31 March 2003, 4,411 women had a high grade cytology result. Of these, 3,488 (79.1%) had a histological specimen taken within 12 weeks of the abnormal cytology, compared to the target of 90%. This value is similar to that reported in the previous two quarters (78.0% and 77.8%). The proportion of women who had a histological specimen taken within 52 weeks of the high grade cytology was 93.0% (n=4,102). This value is similar to those reported in the previous two quarters (92.8% and 92.6%). There was no histology reported on the NCSP Register for 269 (6.1%) 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, 81.8% of non-Māori, non-Pacific women had a report of a histological specimen, compared to 67.9% of Māori and 61.6% of Pacific women. These figures are almost identical to those reported in the last quarter (80.8%, 67.0% and 61.6%, respectively). The differences by ethnicity persisted for all time periods following a suspected high grade smear. Statistical tests showed the differences between the groups are 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 histological report within this time period was Otago-Southland (84.4%). The poorest performer was Nelson/Marlborough (73.7%).

In all regions, the proportion of women who had a high grade smear result with a subsequent histology taken within 52 weeks was more than 90%, but no region reached the target of 99% of women having histological specimens taken within 52 weeks of a high grade smear. All of the regions have similar timeliness in reporting histological results for women with high grade smears compared to the previous quarter.

A relatively large number of women (n=269, 6.1%) had no histology report recorded on the NCSP Register following a high grade smear. The absence of such a report was much more common in Pacific (13.8%) and Māori (8.6%) women compared to non-Māori, non-Pacific women (5.3%), see Table 2. There were also differences by region in the absence of a histological report following a high grade smear, see Table 3. Such an absence was common (above 6%) in Auckland, Canterbury and Taranaki and least common in Nelson/Marlborough. In the last two reports, the absence of a histological report following a high grade smear was also common in Auckland and Canterbury.

Further details of the 269 women who had no histology result recorded on the NCSP Register following a high grade smear are shown in Table 4. Of these, 78 (29.0%) had no subsequent smear recorded and 84 (31.2%) had a follow-up smear taken by a non-specialist. Of these 162 women who had either no follow-up smear or a smear taken by a non-specialist, 77 (48%) were recorded on the register as having been ‘signed in’ following their high grade smear result, indicating that they were being recalled by the NCSP. The remaining 85 (52%) women did not appear to have been signed in, indicating that their follow-up was less clear.

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

- had further investigations and treatment, but their histology reports were erroneously omitted from the NCSP Register
- moved overseas and had follow-up there
- no indications for biopsy at colposcopic examination
- chosen not to have their histology results recorded on the NCSP Register.

Recommendations

Service issues

1. The NSU is to investigate why 269 women with a high grade cytology have no subsequent histology result recorded on the NCSP register, prioritising Canterbury region.
2. The NSU is to investigate reasons for ethnic disparity in histology follow up time and look at the extent to which this contributes to inequality in outcomes.
Investigate whether Maori/Pacific health expertise would make a difference.
3. The NSU is to undertake a review of the signed in/signed out policy for women undergoing treatment.

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

Time period	n	Proportion %	Cumulative Proportion %
Within 12 weeks	3,488	79.1	79.1
13 to 26 weeks	427	9.7	88.8
27 to 52 weeks	187	4.2	93.0
More than 52 weeks	40	0.9	93.9
Subtotal	4,142		
No histology recorded on NCSP Register	269	6.1	100
Total	4,411		

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

Table 2: Timeliness of a histology report after a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

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	457	67.9	67.9	85	61.6	61.6	2,946	81.8	81.8
13 to 26 weeks	101	15.0	82.9	21	15.2	76.8	305	8.5	90.3
27 to 52 weeks	45	6.7	89.6	8	5.8	82.6	134	3.7	94.0
More than 52 weeks	12	1.8	91.4	5	3.6	86.2	23	0.7	94.7
Subtotal	615			119			3,408		
No histology recorded on NCSP Register	58	8.6	100	19	13.8	100	192	5.3	100
Total	673			138			3,600		

Difference between ethnic groups P<0.001

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

Note: the follow-up of the 269 women with no histology recorded on the NCSP Register is shown in Table 4

Table 3: Timeliness of histology report after a high grade cytology result for enrolled 20 to 69 year old women by NCSP region

NCSP region	Time Periods										Total
	Within 12 weeks		13 to 26 weeks		27 to 52 weeks		Within 52 weeks		No Histology		
	n	%	n	%	n	%	n	%	n	%	
Auckland	1,027	76.2	133	9.9	57	4.2	1217	90.3	113	8.4	1,348
Bay of Plenty	268	77.5	41	11.9	20	5.8	329	95.1	14	4.1	346
Canterbury	446	81.7	40	7.3	13	2.4	499	91.4	44	8.1	546
Hawke's Bay	155	82.0	18	9.5	10	5.3	183	96.8	6	3.2	189
Manawatu/Wanganui	222	83.2	14	5.2	17	6.4	253	94.8	13	4.9	267
Northland	126	78.8	20	12.5	5	3.1	151	94.4	6	3.8	160
Nelson/Marlborough	101	73.7	25	18.6	6	4.4	132	96.4	4	2.9	137
Otago/Southland	357	84.4	31	7.3	12	2.8	400	94.6	20	4.7	423
Tairāwhiti	32	84.2	3	7.9	0	0.0	35	92.1	2	5.3	38
Taranaki	99	79.8	8	6.5	7	5.7	114	91.9	9	7.3	124
West Coast	18	78.3	4	17.4	0	0.0	22	95.7	1	4.4	23
Waikato	222	79.3	30	10.7	13	4.6	265	94.6	12	4.3	280
Wellington	415	78.3	60	11.3	27	5.1	502	94.7	25	4.7	530
Total	3,488	79.1	427	9.7	187	4.2	4,102	93.0	269	6.1	4,411

Difference between NCSP regions P<0.001

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

Table 4: The number of women with high grade cytology but no histology result recorded, by NCSP Register status and source of any subsequent smear

Subsequent smear	Women's status since high grade cytology result		
	Not signed in	Signed in	Total
	n	n	n (%)
No subsequent smear	35	43	78 (29.0)
Subsequent smear taken by non-specialist	50	34	84 (31.2)
Smear taken by specialist	42	65	107 (39.8)
Total	127	142	269

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

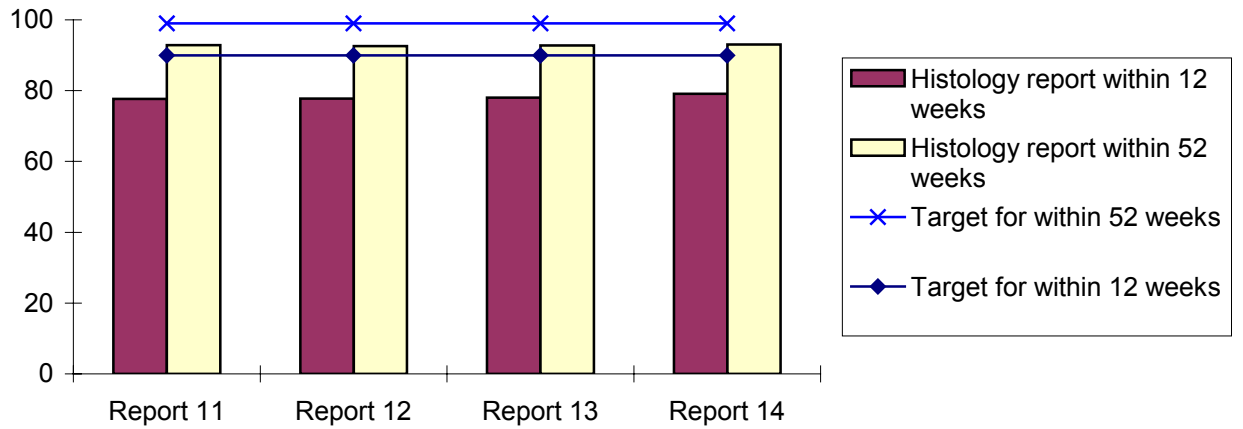


Figure 2: Timeliness of a histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

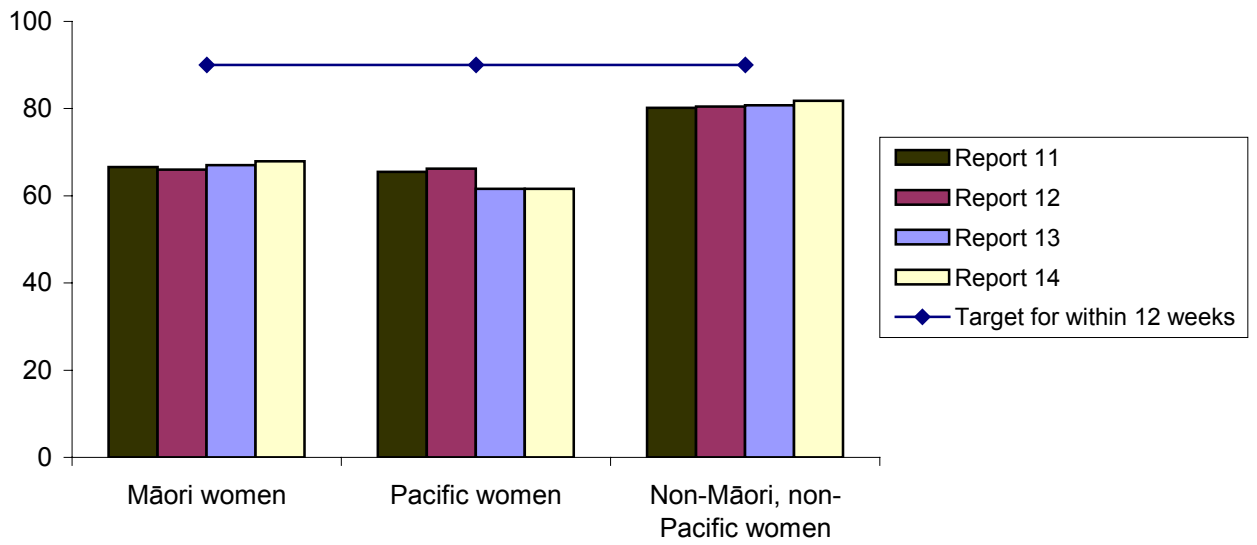


Figure 3: Timeliness of a histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by ethnicity

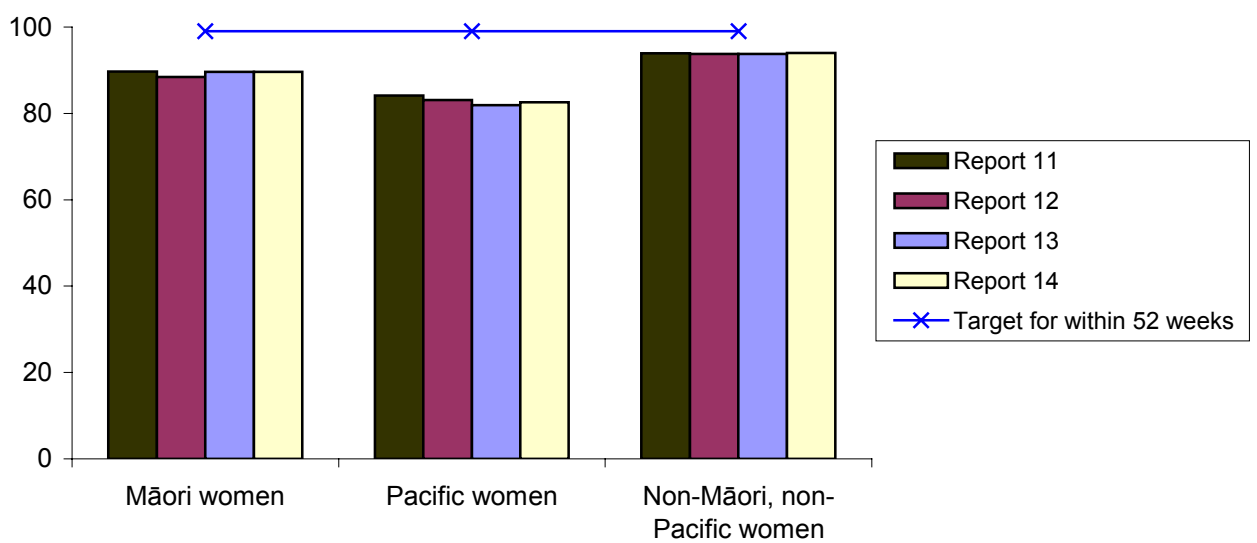


Figure 4: Timeliness of histology report within 12 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP region

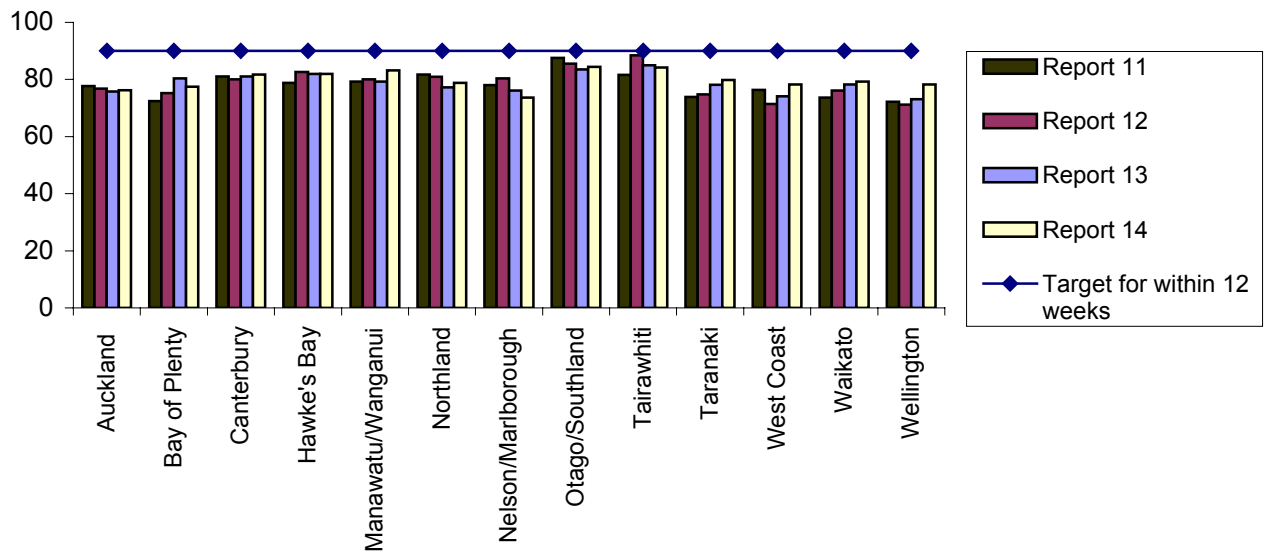
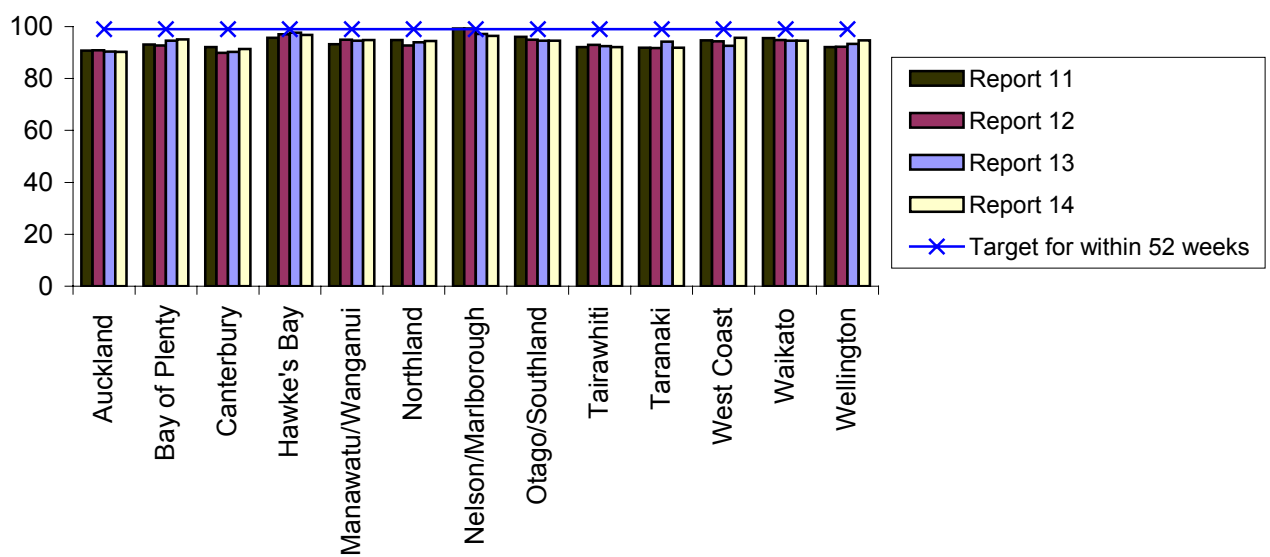


Figure 5: Timeliness of histology report within 52 weeks of a high grade cytology result for enrolled 20 to 69 year old women by NCSP region



6.2 Laboratory smear reporting

Definition

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

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

Targets

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

1. Negative for dysplasia or malignancy: not more than 96%
2. HSIL: not less than 0.60%
3. Total abnormalities: not more than 10%

Calculation

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

Results

During the quarter, 100,691 satisfactory or satisfactory but limited smears were taken. The results of these, by laboratory, are shown in Table 5. The number of such smears reported by each laboratory ranged from 1,576 for MedLab Taranaki to 31,986 for Diagnostic MedLab Auckland. Overall, 93,174 (92.5%) smears were reported as negative for dysplasia or malignancy. This was almost identical to the proportion reported in the last two quarters, and within the target of not more than 96% of smears being negative for dysplasia or malignancy. One laboratory exceeded this upper limit, Valley Diagnostic reported 3,220 (97.5%) smears as negative for dysplasia or malignancy. Auckland Hospital Laboratory reported 2,168 (77.2%) smears as negative for dysplasia or malignancy, a lower proportion than the other laboratories.

The proportion of smears reported with a HSIL abnormality was 1.2% for all laboratories combined. This figure met the target of not less than 0.6% and was identical to that reported for the previous two reporting quarters. Valley Diagnostic Laboratory did not meet that target, reporting 11 (0.3%) smears with a HSIL abnormality. Auckland Hospital Laboratory reported 134 (4.8%) smears with a HSIL abnormality, a higher proportion than the other laboratories.

For all laboratories combined, the target of not more than 10% of smears reported as abnormal was not exceeded. This proportion was 7.5%, almost identical to the previous two quarters. Auckland Hospital Laboratory reported 640 (22.8%) smears processed as abnormal, which is a similar proportion to the last two quarters (22.2% and 24.4%). The other laboratories to report more than 10% total abnormalities were MedLab Bay of Plenty (15.3%), Canterbury Health Laboratories (12.3%) and MedLab Taranaki (12.5%). Auckland Hospital Laboratory, MedLab Bay of Plenty and Canterbury Health Laboratories exceeded the 10% target in the previous quarter.

The proportion of smears reported as LSIL varied between laboratories, but was between 1.5% and 4.9% for all laboratories, with the exception of the two hospital-based laboratories (Auckland Hospital Laboratory: 9.7%; Canterbury Health Laboratories: 5.7%). These two laboratories also reported the highest proportion of LSIL abnormalities in the last quarter. Note that no target is set for proportion of smears reported as LSIL.

Recommendations

Service issues

1. The NSU is to investigate why MedLab Bay of Plenty are above the total abnormalities target.
2. The NSU is to investigate why Auckland Hospital Laboratory are above the total abnormalities target.
3. The NSU is to investigate Valley Diagnostic Laboratory's reporting pattern including their 42 month look back statistics. Note: Following consultation with VDL on this report, it is apparent that the calculation for VDL is not based on the total number of smears from VDL for this quarter, due to late submission of some results. Therefore further work on this recommendation is not required.¹

¹ VDL's assessment of their own HG reporting results with all the available data indicate that the HG reporting level in this document does not reflect the true HG reporting rate in this quarter

Table 5: The number and proportion of satisfactory or satisfactory but limited smears in broad cytological categories for each laboratory

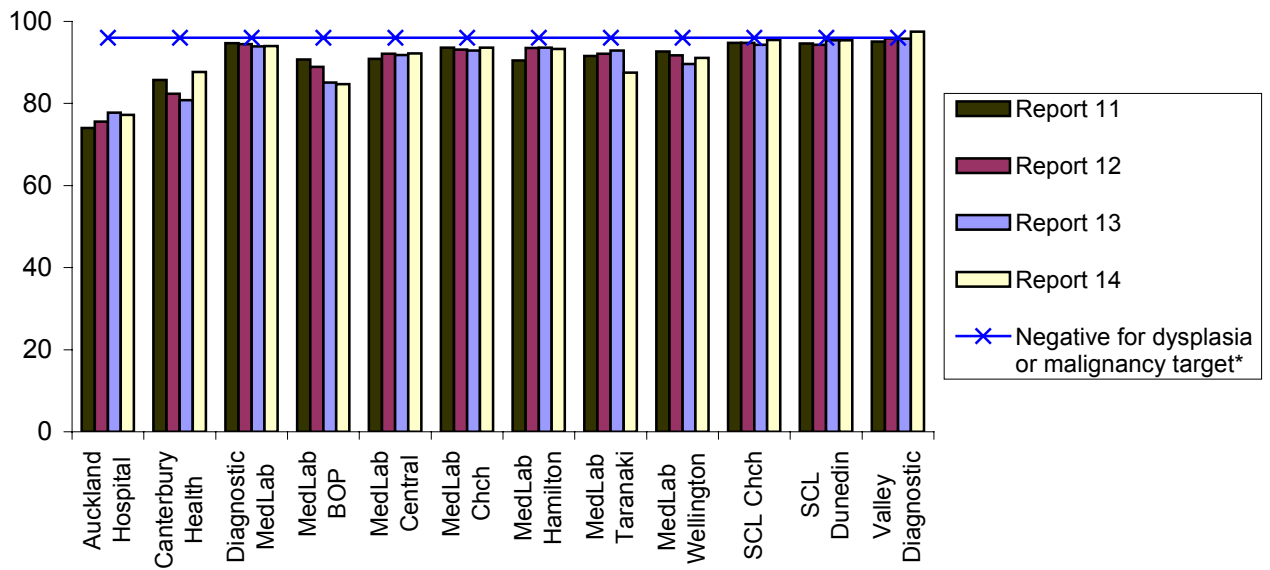
Laboratory	Negative for dysplasia or malignancy ¹		Total ASCUS (ASCUS-HG)		LSIL		HSIL ²		Total Abnormalities ³		Total smears
	n	%	n	%	n	%	n	%	n	%	
Auckland Hospital Lab.	2,168	77.2	224 (12)	8.0 (0.4)	273	9.7	134	4.8	640	22.8	2,808
Canterbury Health Lab.	1,657	87.7	88 (2)	4.7 (0.1)	107	5.7	35	1.9	233	12.3	1,890
Diagnostic MedLab Auckland	30,077	94.0	853 (60)	2.7 (0.2)	707	2.2	327	1.0	1,909	6.0	31,986
MedLab Bay of Plenty	5,685	84.7	646 (10)	9.6 (0.2)	270	4.0	89	1.3	1,025	15.3	6,710
MedLab Central	5,499	92.2	99 (8)	1.7 (0.1)	292	4.9	63	1.1	463	7.8	5,962
MedLab Christchurch	9,623	93.6	322 (34)	3.1 (0.3)	235	2.3	92	0.9	664	6.5	10,287
MedLab Hamilton	7,397	93.3	204 (11)	2.6 (0.1)	224	2.8	95	1.2	535	6.7	7,932
MedLab Taranaki	1,379	87.5	91 (1)	5.8 (0.1)	70	4.4	32	2.0	197	12.5	1,576
MedLab Wellington	10,089	91.1	523 (36)	4.7 (0.3)	379	3.4	64	0.6	982	8.9	11,071
SCL* Christchurch	5,123	95.5	118 (8)	2.2 (0.2)	79	1.5	34	0.6	239	4.5	5,362
SCL* Dunedin	11,257	95.4	41 (28)	0.4 (0.2)	305	2.6	192	1.6	547	4.6	11,804
Valley Diagnostic Lab.	3,220	97.5	15 (3)	0.5 (0.1)	56	1.7	11	0.3	83	2.5	3,303
Total	93,174	92.5	3,224 (213)	3.2 (0.2)	2,997	3.0	1,168	1.2	7,517	7.5	100,691

ASCUS-HG values are shown in parentheses because they are a subset of Total ASCUS. The percentages shown for ASCUS-HG are the percentage of ASCUS-HG in the total number of smears.

* SCL: Southern Community Laboratories

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

Figure 6: The number and proportion of satisfactory or satisfactory but limited smears reported as negative for dysplasia or malignancy for each laboratory



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

Figure 7: The number and proportion of satisfactory or satisfactory but limited smears reported as HSIL for each laboratory

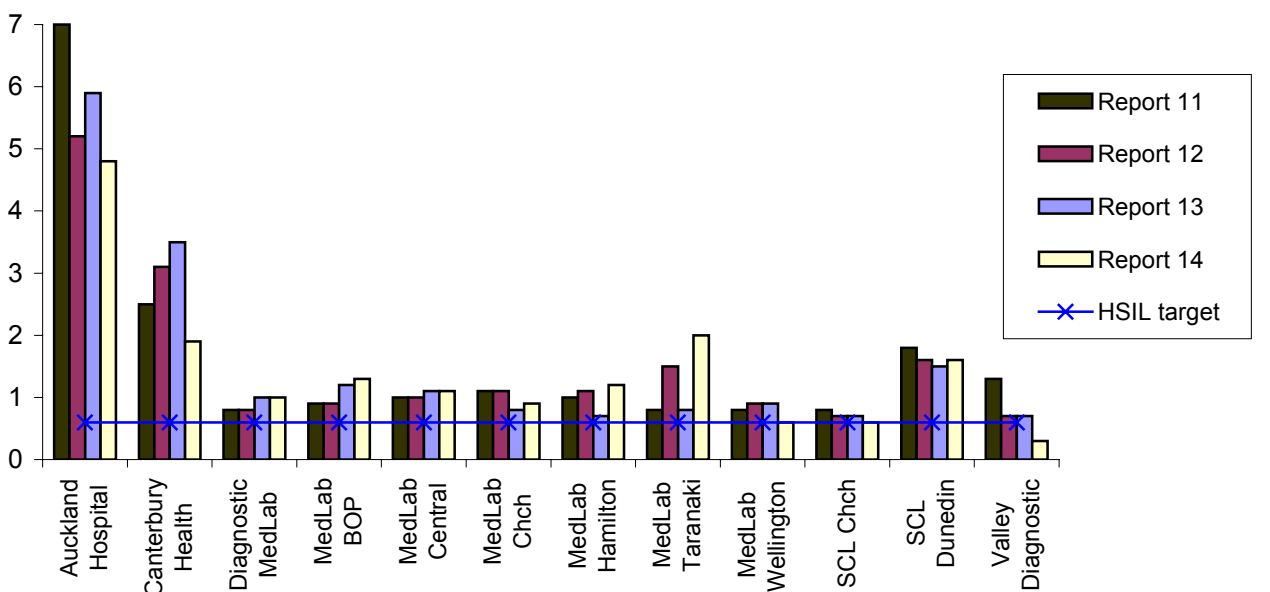
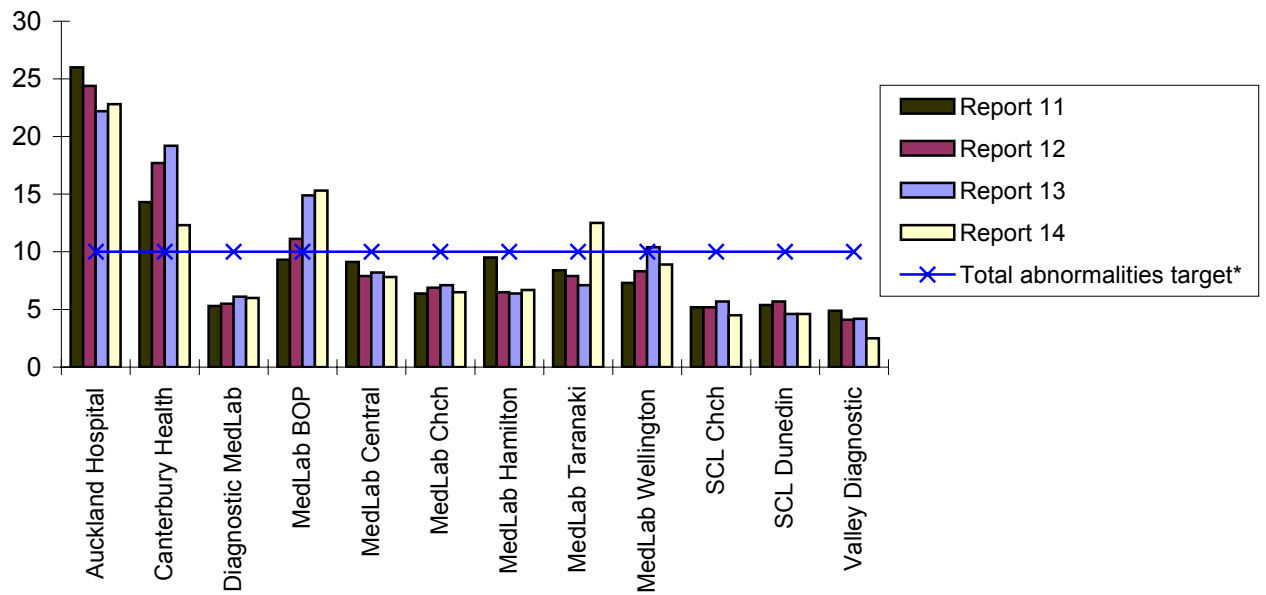


Figure 8: The number and proportion of satisfactory or satisfactory but limited smears reported as total abnormalities for each laboratory



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

6.3 Laboratory cytology turn around time

Definition

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

Targets

The targets for the laboratory cytology turn around time are:

- 90% of cytology reports issued to the smear taker within 7 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, as recorded by the NCSP Register, was used to measure the laboratory turn around time. The numbers of smears reported within 7 working days (Monday – Friday), between 8 and 14 working days and more than 14 working days were expressed as a proportion of the total number of smears processed by the laboratory during the quarter. Smears taken from enrolled women of all ages during the reporting period as recorded on the NCSP Register were included.

Results

The proportion of smears received and reports issued within specified time periods during the period 1 January to 31 March 2004 for each laboratory processing cervical cytology are shown in Table 6. Overall, 97% of the 101,655 smears received by laboratories were reported within 7 working days. This was greater than the target of 90%, and exceeded that reported in the last two quarters. Ten of the 12 laboratories achieved the 7-day target of 90%, compared to nine in the last quarter. The two laboratories that did not meet the 7-day target were MedLab Central (62.5%) and MedLab Taranaki (79.2%).

Overall, the 14-day target of 100% was almost achieved, with 92 smears not reported within 14 working days. MedLab Central reported 64 (1.1%) smears outside the 14-day period. Four other laboratories did not meet the 14-day target but were close to achieving it.

Recommendations

Data issues

1. The NSU is to analyse the trend data with respect to laboratory cytology turnaround time, and follow up consistent trends outside the target.

Service issues

1. The NSU is to follow up MedLab Central with respect to their cytology turnaround time.

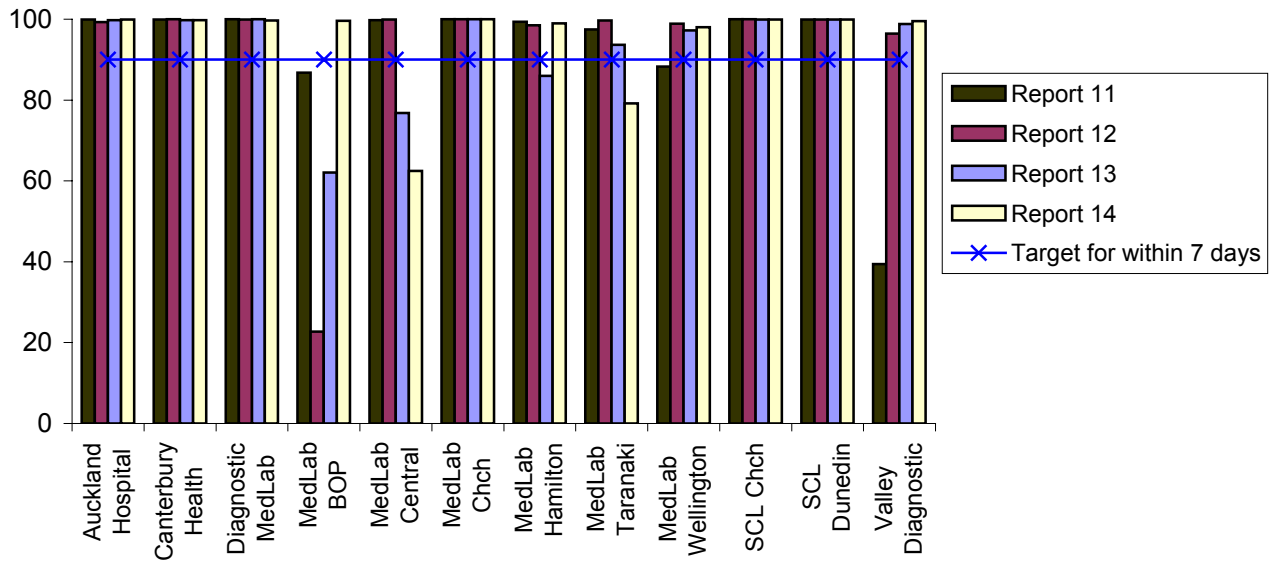
Table 6: Timeliness of the reporting of smears by laboratory

Laboratory	Number of smears processed	Within 7 working days (%)		From 8 to 14 working days (%)		Within 14 working days (cumulative %)		More than 14 working days (%)	
		n	%	n	%	n	%	n	%
Auckland Hospital Lab.	2,847	2,846	>99.9	1	<0.1	2,847	100.0	0	0.0
Canterbury Health Lab.	1,912	1,909	99.8	2	0.1	1,911	99.9	1	0.1
Diagnostic MedLab Auckland	32,181	32,079	99.7	85	0.2	32,164	99.9	17	0.1
MedLab Bay of Plenty	6,755	6,725	99.6	30	0.4	6,755	100.0	0	0.0
MedLab Central	5,985	3,738	62.5	2,183	36.5	5,921	98.9	64	1.1
MedLab Christchurch	10,432	10,432	100.0	0	0.0	10,432	100.0	0	0.0
MedLab Hamilton	7,974	7,896	99.0	78	1.0	7,974	100.0	0	0.0
MedLab Taranaki	1,609	1,275	79.2	334	20.8	1,609	100.0	0	0.0
MedLab Wellington	11,292	11,061	98.0	231	2.0	11,292	100.0	0	0.0
SCL* Christchurch	5,413	5,407	99.9	2	<0.1	5,409	>99.9	4	<0.1
SCL* Dunedin	11,932	11,919	99.9	7	<0.1	11,926	>99.9	6	<0.1
Valley Diagnostic Lab.	3,323	3,305	99.5	18	0.5	3,323	100.0	0	0.0
Total	101,655	98,592	97.0	2,971	2.9	101,563	99.9	92	0.1

* SCL: Southern Community Laboratories

Targets are 90% within 7 working days and 100% within 14 working days

Figure 9: Laboratory cytology turn around time



6.4 Laboratory histology turn around time

Definition

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

Targets

The targets for the laboratory histology turn around time are 90% of final histology reports issued within 5 working days of the specimen being received by the laboratory, and 100% of final histology reports issued within “a reasonable time period” of the specimen being received by the laboratory. A reasonable time period is not defined, but the NCSP Operational Policy and Quality Standards (2000) states that “If it is likely to take more than 10 days for the result to be reported, the colposcopist should be informed”.

Calculation

The difference between the date that the cervical histology specimen was received and the date that the histology result was reported by the laboratory, as recorded on the NCSP Register, was calculated for each laboratory that processed cervical histology. For each laboratory, the numbers of cervical histology specimens received during the quarter and reported within 5 working days, 6–10 working days or more than 10 working days were expressed as proportions of the total number of cervical histology specimens received by each laboratory during the quarter. Cervical histology specimens taken from enrolled women of all ages during the reporting period as recorded on the NCSP Register were included.

Results

The timeliness of histology reporting by the 28 laboratories that provided results to the NCSP Register in this quarter is shown in Table 7. There were a total of 6,131 histology specimens recorded on the NCSP Register, a similar number to the previous

quarter. The number of specimens reported by each laboratory varied considerably, ranging from 9 in Southern Community Laboratories (SCL) Hawke's Bay to 883 in Diagnostic MedLab Auckland. For all laboratories combined, the proportion of histological specimens reported on within five days histology was 94%, exceeding the target of 90%, and similar to the figure reported in the last quarter.

Four laboratories did not meet the 5-day 90% target: Auckland Hospital Laboratory (63.8%), Hutt Hospital (81.2%), Rotorua Hospital (71.4%) and Wellington Hospital (71.9%). None of these four laboratories met this target in the last quarter, with Auckland Hospital and Wellington Hospital falling below the target for the previous three quarters. The results for this quarter represent a slight decrease for Auckland Hospital Laboratory (from 64.8% to 63.8%) and a considerable decrease for Wellington Hospital (from 80.9% to 71.9%).

Most laboratories had reported all or almost all histology results within 10 working days of the specimen arriving at the laboratory. Overall, 53 (0.9%) specimens were reported more than 10 working days after the time that they were received by the laboratory, a figure similar to that reported in the last quarter.

Recommendations

Service issues

1. The NSU is to investigate the histology turnaround time target of Auckland Hospital Laboratory, Hutt Hospital, Rotorua Hospital, and Wellington Hospital.

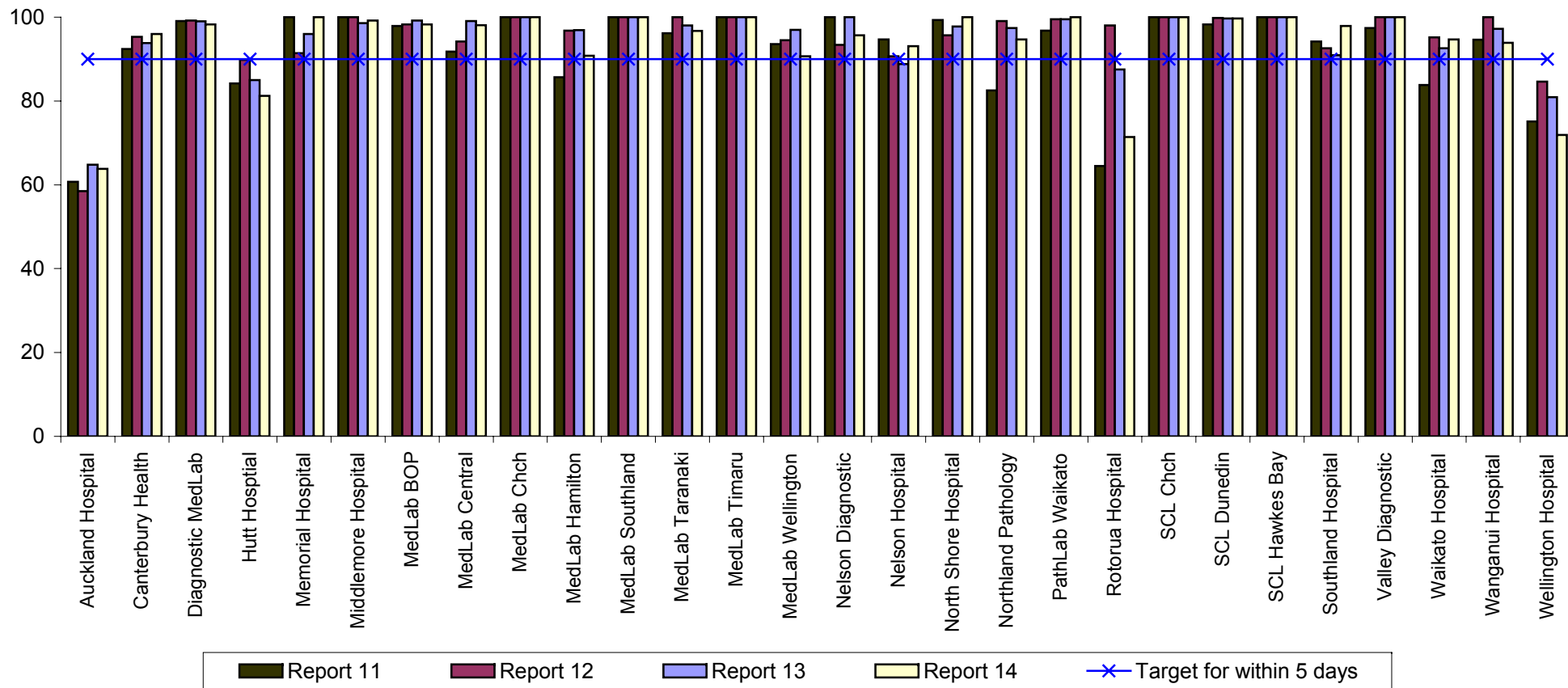
Table 7: Timeliness of the reporting of histology by laboratory

Laboratory	Number of specimens processed n	Within 5 working days		6 to 10 working days		11 or more working days	
		n	%	n	%	n	%
Auckland Hospital Lab.	307	196	63.8	84	27.4	27	8.8
Canterbury Health Laboratories	548	526	96.0	21	3.8	1	0.2
Diagnostic MedLab Auckland	883	868	98.3	15	1.7	0	0.0
Hutt Hospital	117	95	81.2	20	17.1	2	1.7
Memorial Hospital Hastings	59	59	100.0	0	0.0	0	0.0
Middlemore Hospital	257	255	99.2	2	0.8	0	0.0
MedLab Bay of Plenty	473	465	98.3	7	1.5	1	0.2
MedLab Central	424	416	98.1	8	1.9	0	0.0
MedLab Christchurch	53	53	100.0	0	0.0	0	0.0
MedLab Hamilton	65	59	90.8	6	9.2	0	0.0
MedLab Southland	36	36	100.0	0	0.0	0	0.0
MedLab Taranaki	181	175	96.7	6	3.3	0	0.0
MedLab Timaru	83	83	100.0	0	0.0	0	0.0
MedLab Wellington	193	175	90.7	14	7.2	4	2.1
Nelson Diagnostic Lab.	69	66	95.7	3	4.3	0	0.0
Nelson Hospital	160	149	93.1	10	6.3	1	0.6
North Shore Hospital	363	363	100.0	0	0.0	0	0.0
Northland Pathology	206	195	94.7	8	3.9	3	1.4
PathLab Waikato	137	137	100.0	0	0.0	0	0.0
Rotorua Hospital	91	65	71.4	22	24.2	4	4.4
SCL* Christchurch	181	181	100.0	0	0.0	0	0.0
SCL* Dunedin	347	346	99.7	1	0.3	0	0.0
SCL* Hawke's Bay	9	9	100.0	0	0.0	0	0.0
Southland Hospital	141	138	97.9	3	2.1	0	0.0
Valley Diagnostic Lab.	33	33	100.0	0	0.0	0	0.0
Waikato Hospital	417	395	94.7	18	4.3	4	1.0
Wanganui Hospital	49	46	93.9	3	6.1	0	0.0
Wellington Hospital	249	179	71.9	64	25.7	6	2.4
Total	6,131	5,763	94	315	5.1	53	0.9

* SCL: Southern Community Laboratories

Targets: 90% within 5 working days and 100% within a reasonable period of time

Figure 10: Laboratory histology turn around time



6.5 Satisfactory but limited and unsatisfactory smears by laboratory

Definition

Satisfactory but limited smears are those smears reported with a Bethesda adequacy code of A2. Unsatisfactory smears are those smears reported with a Bethesda adequacy of A3 (Revised Bethesda Coding System, 1998). It is important to note that the adequacy coding of a smear is influenced by both smear taking technique and laboratory reporting practice. The revised Bethesda System 2001 no longer includes a satisfactory but limited category. When the NCSP adopts the revised Bethesda System 2001 (from July 2005), consideration will be given to changing the current target for unsatisfactory smears.

Targets

The target for satisfactory but limited smears is not more than 20% of all smears reported for a given laboratory. The target for unsatisfactory smears is not less than 0.5% and not more than 2.0% of all smears reported for a given laboratory.

Calculation

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

Results

The number and proportion of satisfactory but limited and unsatisfactory smears taken during the quarter and reported by each cytology laboratory is shown in Table 8. Overall, 101,655 smears were processed, of which 17.4% were reported as satisfactory but limited, a figure similar to that reported for the last quarter (16.3%) and within the target of not more than 20%. Among the laboratories, the proportion of satisfactory but limited smears varied considerably. This proportion ranged from 6.9% for SCL Dunedin to 22.6% for MedLab Taranaki, which along with Diagnostic

MedLab Auckland (22.2%) reported more than 20% of smears read as satisfactory but limited.

Overall, 964 (0.9%) of the 101,655 smears processed were reported as unsatisfactory for evaluation. This is an identical proportion to that reported in the last quarter and is within the target range of 0.5–2.0%. Each laboratory reported unsatisfactory smears in this target range with the exception of MedLab Central (0.4%) and MedLab Taranaki (2.1%).

Recommendations

Nil.

Table 8: The number and proportion of satisfactory but limited and unsatisfactory smears by laboratory

Laboratory	Smears processed	Satisfactory but limited smears ¹		Unsatisfactory smears ²	
	n	n	%	n	%
Auckland Hospital Lab.	2,847	433	15.2	39	1.4
Canterbury Health Lab.	1,912	315	16.5	22	1.2
Diagnostic MedLab Auckland	32,181	7,153	22.2	195	0.6
MedLab Bay of Plenty	6,755	1,180	17.5	45	0.7
MedLab Central	5,985	1,029	17.2	23	0.4
MedLab Christchurch	10,432	1,612	15.5	145	1.4
MedLab Hamilton	7,974	1,286	16.1	42	0.5
MedLab Taranaki	1,609	364	22.6	33	2.1
MedLab Wellington	11,292	2,126	18.8	221	2.0
SCL* Christchurch	5,413	773	14.3	51	0.9
SCL* Dunedin	11,932	820	6.9	128	1.1
Valley Diagnostic Lab.	3,323	587	17.7	20	0.6
Total	101,655	17,678	17.4	964	0.9

Targets: ¹not more than 20%, ² 0.5–2.0%

* SCL: Southern Community Laboratories

Figure 11: Satisfactory but limited smears by laboratory

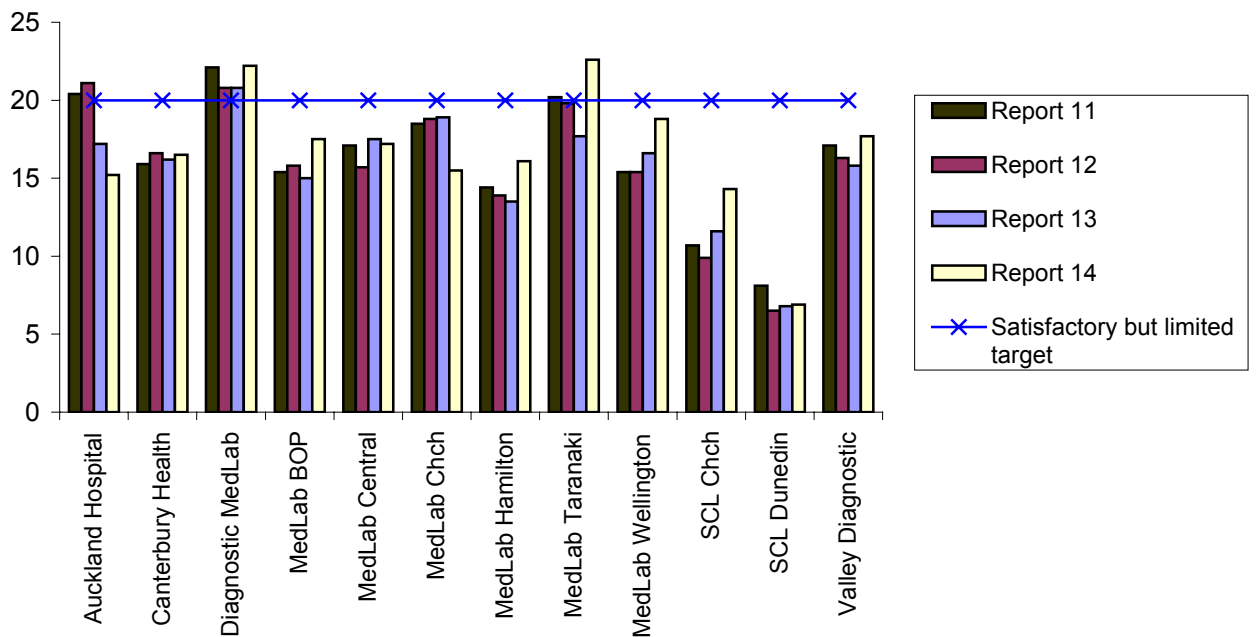
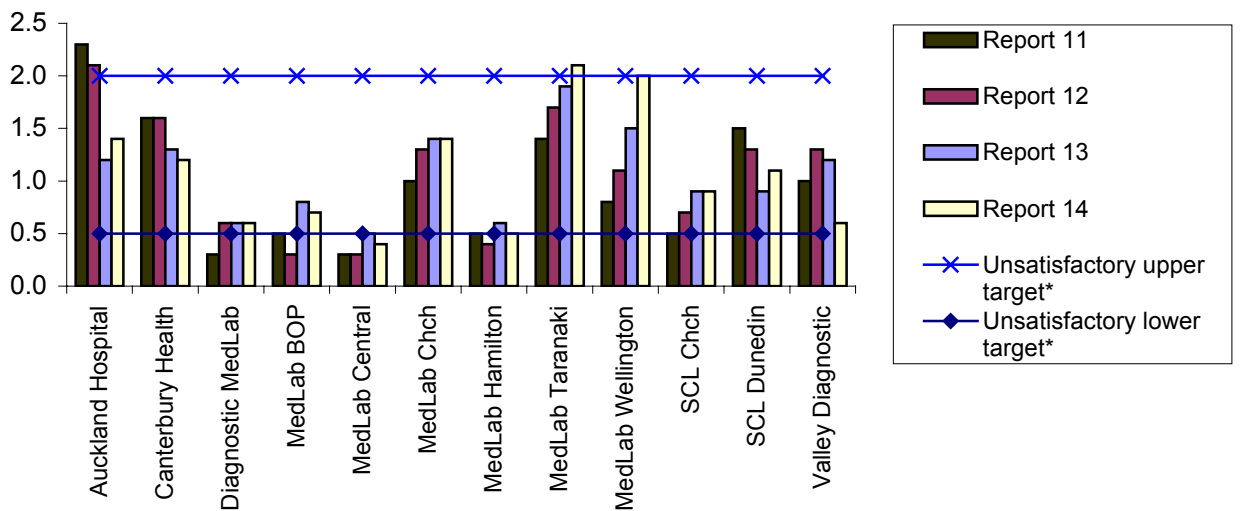


Figure 12: Unsatisfactory smears by laboratory



*Unsatisfactory smears target is not less than 0.5% and not more than 2.0% so laboratories should be between the two target lines

6.6 Satisfactory but limited and unsatisfactory smears by smear taker

Definition

Definitions and a description of the issues surrounding satisfactory but limited and unsatisfactory smears are given on Page 38.

Targets

The target for satisfactory but limited smears is not more than 20% of all smears reported for each smear taker category. The target for unsatisfactory smears is not less than 0.5% and not more than 2.0% of all smears reported for each smear taker category.

Calculation

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

Results

The numbers and proportions of satisfactory, satisfactory but limited and unsatisfactory smears taken in this quarter by annual volume of smears taken by each smear taker group is shown in Table 9. Overall, 101,655 smears were taken during the reporting quarter, of which 14 (<1%) were taken by lay smear takers, 65,247 (64%) by medical smear takers, 27,406 (27%) by nurses, 8,609 (8%) by specialists and 379 (<1%) by midwives. These proportions and volumes are similar to those reported in the last quarter.

The proportion of satisfactory but limited smears was within the target of not more than 20% for each smear taker group as a whole. When smear taker groups were considered by annual volume, the proportion of satisfactory but limited smears was greater than 20% for both medical and specialist smear takers who took fewer than 30 smears in the 12 months prior to 31 March 2004, and for specialists and midwives

who took 30 to 100 smears in that period. The subgroup with the consistently lowest proportion of satisfactory but limited smears was nurses. The numbers of smears in each group, when split by annual volume, is too small for meaningful analyses for some smear taker groups.

The proportion of unsatisfactory smears was within the target range of 0.5–2.0% for all smear taker groups, with the exception of specialist smear takers with an annual volume of under 30 smears (5.7%). None of the smears taken by lay smear takers or those taken by midwives with an annual volume over 30 smears per year were reported as unsatisfactory for assessment.

Recommendations

Service issues

1. The NSU is to investigate persistent outliers, starting with a breakdown of unsatisfactory smears by reason, and then looking at smear taker volumes.

Table 9: The number and proportion of satisfactory but limited and unsatisfactory smears for each smear taker group

Smear taker group	Annual volume of smears	Total number of smears	Satisfactory smears		Satisfactory but limited smears ¹		Unsatisfactory Smears ²	
			n	%	n	%	n	%
Lay	<30	1	1	100.0	0	0.0	0	0.0
	30-100	13	12	92.3	1	7.7	0	0.0
	Total	14	13	92.9	1	7.1	0	0.0
Medical	<30	4,306	3,346	77.7	888	20.6	72	1.7
	30-100	17,680	14,017	79.3	3,455	19.5	208	1.2
	>100	43,261	35,171	81.3	7,698	17.8	392	0.9
	Total	65,247	52,534	80.5	12,041	18.5	672	1.0
Nurse	<30	1,775	1,431	80.6	325	18.3	19	1.1
	30-100	11,321	9,507	84.0	1,742	15.4	72	0.6
	>100	14,310	12,177	85.1	2,067	14.4	66	0.5
	Total	27,406	23,115	84.3	4,134	15.1	157	0.6

continued

Targets: ¹not more than 20%, ² 0.5–2.0%

Smear taker group	Annual volume of smears	Total number of smears	Satisfactory smears		Satisfactory but limited smears ¹		Unsatisfactory Smears ²	
			n	%	n	%	n	%
Specialist	<30	122	86	70.5	29	23.8	7	5.7
	30-100	885	681	77.0	186	21.0	18	2.0
	>100	7,602	6,267	82.4	1,226	16.1	109	1.4
	Total	8,609	7,034	81.7	1,441	16.7	134	1.6
Midwife	<30	118	97	82.2	20	17.0	1	0.9
	30-100	107	80	74.8	27	25.2	0	0
	>100	154	140	90.9	14	9.1	0	0.0
	Total	379	317	83.6	61	16.1	1	0.3
Total		101,655	83,013	81.7	17,678	17.4	964	0.9

Targets: ¹not more than 20%, ² 0.5–2.0%

Figure 13: Satisfactory but limited smears by smear taker

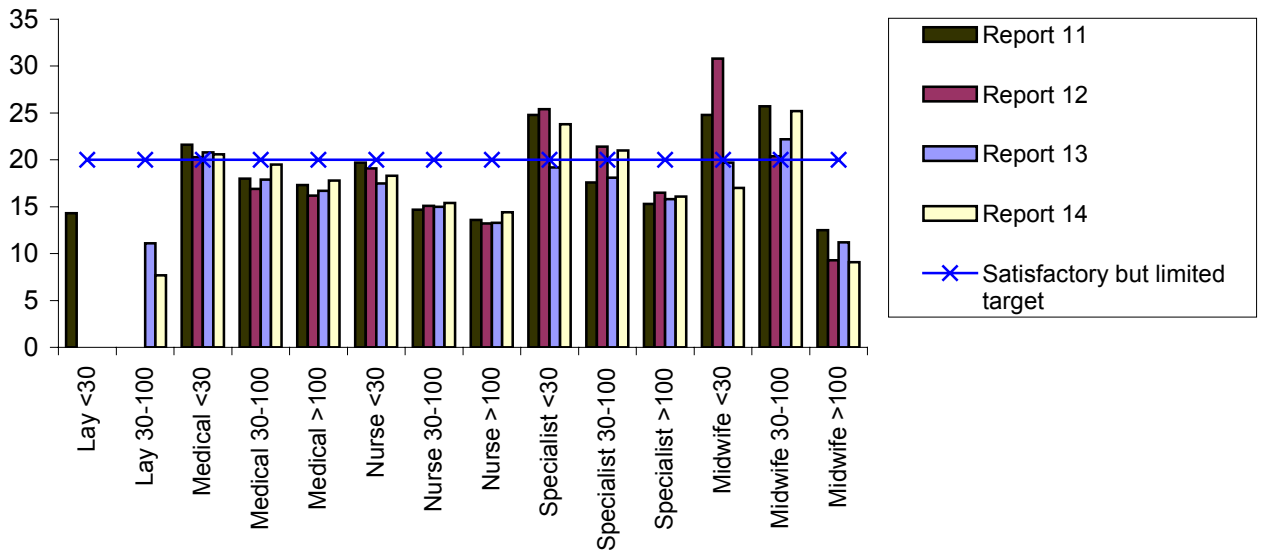
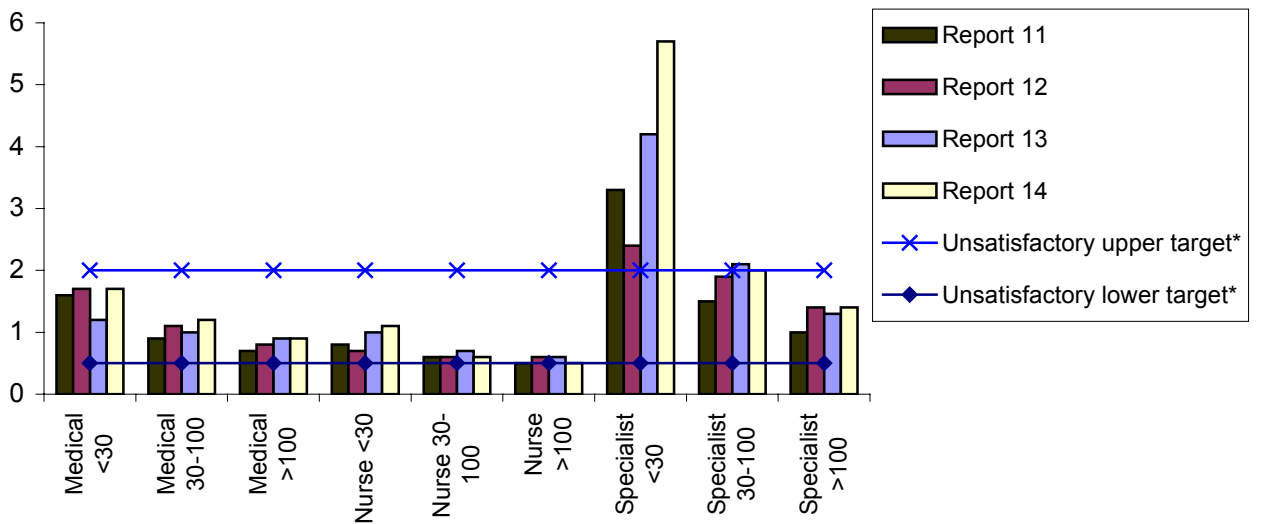


Figure 14: Unsatisfactory smears by smear taker



*Unsatisfactory smears target is not less than 0.5% and not more than 2.0% so smear takers should be between the two target lines. Lay group is not shown here because they have no unsatisfactory smears and Midwives are not shown because of their limited numbers.

Appendix 1: Summary of the Revised Bethesda Coding Standard (1998)

The hierarchy of broad cytological categories is:

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