National Screening Unit

National Cervical Screening Programme

Biannual Independent Monitoring Reports

Technical specifications for calculating the indicators

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Generic Specification

Report Type	Biannual Monitoring Report
Monitoring Period	January – June, July – December each year
Date of Data Extract	Data for reports will be extracted two and a half (2.5) months after the monitoring period end date.

Indicator 1: Coverage

Indicator	**Overall Programme** 3 year coverage of women
Definition	Method 1: The proportion of all 25-69 year old women who have had a cervical sample, HPV or histology specimen taken in the previous 3 years ("women screened") – NEW method to be adopted from report 30 forward Method 2: The proportion of all 20-69 year old women who have had a cervical sample, HPV or histology specimen taken in the previous 3 years ("women screened") – for comparison with previous calculation method.
Target	75% hysterectomy adjusted
Extract Period	Same 6 month period of report date
Codes	Cytology Bethesda All groups: S1 S2 UA-UG Specimen taken date used
Calculation	The number of women 1) aged 25-69 years; and 2) aged 20-69 years at the end of the monitoring period who have had a cervical sample taken (specimen_taken_date) in the 3 years prior to the end of the monitoring period (counts), and as a proportion of the hysterectomy-adjusted total of all 1) 25-29 year old women and 2) 20-69 year old women. The number of women aged 1) aged 25-69 years; and 2) 20-69 years at the end of the monitoring period who have had a cervical sample taken (specimen_taken_date) in the 5 years prior to the end of the monitoring period (counts), and as a proportion of the hysterectomy-adjusted total of all 1) aged 25-69 years; and 2) 20-69 year old women is also reported. Exclusions: women who have withdrawn from the programme, whose results will not be available on the NCSP-R (ie women do not need to be explicitly excluded) Group by: 5 year age group, ethnicity, DHB Ethnicity presented in terms of: • Maori • Pacific • Asian • Other (all other groups, including unspecified ethnicity) Screens of women during previous 3 years who were under 20 years of age at the time the test sample was taken (specimen_taken_date), reported by DHB: o number of women with a cervical specimen (cytology, histology, or HPV) taken (based on specimen_taken_date) during the previous three years who were aged <20 years at the at the time the sample was taken o screens of women aged 15-19 years at the time of the cervical sample, as a proportion of women aged 15-19 years. Denominator to use has been provided by NCSP, and is based on 2006 census data

	o screens of women aged <20 as a proportion of all women screened ie number of women with a cervical sample taken in the last 3 years who were aged <20 at the time of their test sample (specimen_taken_date) / number of women of any age with a cervical specimen taken in the last 3 years
Report details	Age-range Overall coverage will be reported for women aged 1) 25-69 years, and 2) 20-69 years. For the numerator, the age taken will be based on upon the women's age at the end of the monitoring period. The hysterectomy-adjusted population (2006 estimates) aged 1) 25-69 years and 2) 20-69 years will be used for the denominator. (Once there is agreement on the issues, the 2006 Census population data will be used for the denominator population projections.) Age-specific coverage will be reported for women between the ages of 20 and 69 years, based on their age at the end of the monitoring period, in 5-year age groups. Screens of women aged < 20 years is based on the age of the woman at the time the smear was taken (not at the end of the reporting period, as for coverage) Hysterectomy Adjustment Denominator population only is adjusted based upon modelled hysterectomy prevalence estimates in New Zealand for a given year period (C.Wright). Women with hysterectomy status codes will be retained in the numerator. Ethnicity analysis Overall coverage (ie counts of women screened and percentages) in women aged 1) 25-69 years, and 2) 20-69 years will be reported by ethnicity. Unadjusted and adjusted counts and percentages will be shown by ethnicity, where adjusted values use the ethnicity adjustors for 2006 from *Wright 2008.* The adjustors will be applied to the number of women screened. Ethnicity adjustors are not applied to the hysterectomy-adjusted population, as the adjustors in *Wright 2008* apply to NCSP-R data specifically, and hysterectomy prevalence estimates are ethnicity-specific. Regional Analysis Participants are allocated according to their DHB code (ie dhb_code from the woman's participant record). If there is no dhb_code for the woman, the DHB of responsible_health_facility is used, which is accessed via the geo-coded meshblock.
Related documents	Report Specification for the NCSP Register Redevelopment - RS009 : Coverage and Participation (version b)

Indicator 2: First Screening Event

Indicator	**Overall Programme** First Screening Event
Definition	The number of women aged 20-69 years at the end of the monitoring period, with no cytology, histology, or HPV test specimens taken prior to the current monitoring period, who have had a cervical specimen taken during the monitoring period ("new Enrolments"). Also expressed i) as a proportion of eligible women, and ii) as a proportion of women with a specimen taken during the monitoring period ("Screened Women").
Target	No Target
Extract Period	Same 6 month period of report date
Codes	New enrolments
Calculation	Specimen taken date must be within the extract period. The number of new Enrolments and as a percentage of i) eligible women (defined as the hysterectomy-adjusted 2006 census population aged 20-69 years) , and ii) women aged 20-69 years at the end of the monitoring period, with a cervical sample taken during the monitoring period. These three measures will be reported by: a) DHB b) Ethnicity c) 5-year age group Age distribution of first screening events will be presented, ie i) Number of women with first screening by age group (< 20 yrs, by 5-year age group between ages 20-69 yrs, 70+ yrs) ii) Proportion of first screening events (all ages) which occurred in that age group iii) Proportion of first screening events (in women aged 20-69 years) which occurred in that age group (includes >20 and <70). Ethnicity analysis: Ethnicity presented in terms of: • Maori • Pacific • Asian • Other (all other groups, including unspecified ethnicity)
Report Details	Age-range New Enrolments will be reported for women between the ages of 20 and 69 years, by 5-year age group (based on their age at the end of the monitoring period), by ethnicity, and by DHB. 20-69 years kept for both the numerator and denominator. For the numerator, the age taken will be based on upon the women's age at the end of the monitoring period. The hysterectomy-adjusted 2006 Census population data will be used for the first denominator population.

	The second denominator population is the number of women aged 20-69 years at the end of the monitoring period who have had at least one test result (cytology, HPV or histology) relating to a cervical specimen taken during the monitoring period ("Screened Women"). Hysterectomy Adjustment Denominator population only will be adjusted based upon modelled hysterectomy prevalence estimates in New Zealand for a given year period (C.Wright). Women with hysterectomy status codes will be retained in the numerator. Ethnicity analysis Results will be presented by ethnicity. Unadjusted and adjusted counts and percentages will be shown by ethnicity, where adjusted values use the ethnicity adjustors for 2006 from *Wright 2008.* The adjustors will be applied to the number of new Enrolments, and to the number of Screened Women. Ethnicity adjustors are not applied to the hysterectomy-adjusted population, as prevalence estimates are ethnicity-specific, and the adjustors in *Wright 2008* apply to NCSP-R data specifically. Regional Analysis Participants are allocated according to their DHB code (ie dhb_code from the woman's participant record). If there is no dhb_code for the woman, use the DHB of responsible_health_facility, which is accessed via the geo-coded meshblock. **Group by:** 5 year age group, ethnicity, DHB
Related documents	

Indicator 3: Withdrawal rates

Indicator	**Overall Programme** Withdrawal rates
Definition	The number of women aged 20-69 on the NCSP-R by age group, ethnicity and DHB, whose enrolment ended during the monitoring period.
Target	Zero for ages 20-69 years
Extract Period	Same 6 month period of report date
Codes	enrolment_status_code
Calculation	The number of participants (women aged 20-69 years) not currently enrolled on the NCSP-R and whose enrolment ended (enrolment_end_date) within the monitoring period Plus any participants with a "WITHDRAW" event during the period, who are not included in the first group (defined above). Likely to be zero as events for these women removed when they withdraw. Expressed as counts, and as a proportion of the number of women who were enrolled at the beginning of the monitoring period.
Reporting detail and calculation	Age-range Withdrawals will be reported for women between the ages of 20 and 69 years by ethnicity and DHB, and for all ages by 5-year age group. 20-69 years kept for both the numerator and denominator. For the numerator and denominator, the age taken will be based on upon the women's age at the end of the monitoring period. The women enrolled immediately prior to the commencement of the monitoring period (ie 30 June 2008) will be used for the denominator. Regional Analysis Participants are allocated according to their DHB code (ie dhb_code from the woman's participant record). If there is no dhb_code for the woman, use the DHB of responsible_health_facility, which is accessed via the geo-coded meshblock. Ethnicity analysis Unadjusted and adjusted counts, and percentages, will be shown by ethnicity, where adjusted values use the ethnicity adjustors for 2006 from *Wright 2008.* The adjustors are applied to counts of both the number of women who withdrew (numerator), and the number of women enrolled at the start (denominator). Note that as a result in percentages, they cancel out. **Group by**: 5 year age group, DHB, ethnicity
Related documents	Report Specification for the NCSP Register Redevelopment - RS009 : Coverage and Participation (version b)

Indicator 4: Early Re-screening / Short Interval Re-screening

Indicator	**Overall Programme** Early Re-screening / Short Interval Re-screening
Definition	Method 1: The proportion of women aged 20-69 years at the end of the monitoring period who were recommended to return for their next 3 yearly smear during the previous 33 months, and who have a subsequent smear within the current 33 months. The proportion of women aged 20-69 years period, ie women that have had a sample earlier than the recommended interval of the screening policy (use 33 months to allow flexibility around the recommended screening interval) Method 2: The proportion of women with a smear which had an R1 code taken in the period 1 February – 31 March 2006 and who were aged 20-66 years at the time of the smear, who had another smear (specimen_taken_date) in <=30 months of their R1 index smear. Women with recent abnormal history, or no smear for extended period/ first ever smear, who are recommended to have earlier follow up are excluded from this measure via the use of the recommendation code. Recognises that some early re-screening occurs opportunistically after a negative report and this may be appropriate.
Target	Should not exceed 10% of women screened
Extract Period	As defined in *definition*
Codes	**Bethesda codes that generate short interval rescreen on prior smear ie exclusions for method 1** **Recommendation:** R3, R6, R7, R8, R12 (1 year repeat) R5 (6 month repeat) R2, R4 (3 month repeat) R9, R10, R14 (referral) **Adequacy codes:** S1, S2 (satisfactory) not associated with R1 UA-UG (unsatisfactory) **General codes:** G2, G3 (indicate abnormality)
Calculation	Method 1a (approximation of previous reporting method): The number of 20-69 year old women with at least one cytology result accompanied by a recommendation to return at the routine interval (R1) in the previous two years and nine months, who have at least one subsequent cytology test (satisfactory OR unsatisfactory sample), in the current two years and nine months. Also expressed as a proportion of the women with the last cytology result within the previous 33 months accompanied by a recommendation to return at the routine interval (R1) (routine screening group).

	Cases for exclusion (women with > 1 S1 or S2 smears who correctly have SIR): - No smear result in the timeframe with a recommendation to return at the routine interval (R1), ie women whose only cytology results are associated with a recommendation code of R2 - R14 (excluded from numerator and denominator) - The "early" smear has a recommendation code of R14 (suggestive of clinical symptoms) (excluded from numerator only) Method 1b (exploratory for report 30): As for method 1a, but a 30 month period (1 Jul 2006 - 31 Dec 2008 inclusive) is used, rather than a 33 month period. Method 2 (cohort approach): Select all women who had a smear (specimen_taken_date) in February or March 2006 which had an R1 code, who were aged 20-66 years at the time of the smear (specimen_taken_date) (therefore eligible for screening throughout the monitoring period). Count how many of these women had another smear (specimen_taken_date) in <=30 months of their R1 index smear. To be expressed as counts, and as a proportion of the original selected cohort As previously, women who attend early but have an R14 recommendation code attached to their [first] "early" smear are not regarded as SIR, as this is suggestive of clinical symptoms. They are excluded from the numerator, but may remain in denominator. For both methods, report counts and percentages by age group, by DHB, and by ethnicity (unadjusted and adjusted).
Report Details	Method 1 definition**:** 1a Time frame = 33 months (ending last day of the reporting period) 1b Time frame = 30 months (ending last day of the reporting period) Take all women with at least 1 x R1 smear within the time frame Determine SIR by the number of women with at least one S1 or S2 smear within the time frame which occurs after the previous R1 smear, provided that the smear does not have an R14 recommendation. Earlier than recommended SIR is shown as number and percentage of all women with at least 1 x R1 event Method 1 Calculation**:** Within the time frame number and percentage of earlier than recommended SIR women against total women with at least 1 R1 event: Number of women with at least 1 event = Number of women with at least 1 x R1 event over the time frame (33 months or 30 months) Number of SIR women = number of women with at least 1 x R1 event, followed by at least one other S1 or S2 smear over time frame (33 months or 30 months). Exclude from number of SIR women those for whom their "early" subsequent smear is associated with a recommendation code of R14, as these women may have presented as a result of clinical symptoms Percentage of SIR = (number of SIR women)/(all women with at least 1 x R1 smear) x100

	Method 2 definition and calculation: Routine Screening Cohort = number of women who had a smear (specimen_taken_date) in February or March of 2006 (ie between 1 Feb 2006 to 31 Mar 2006 inclusive) which had an R1 code, and who were aged 20-66 years at the time of the smear (specimen_taken_date). Number of SIR women = number of women within the Routine Screening Cohort who had a subsequent smear (satisfactory or unsatisfactory, based on specimen_taken_date) in <=30 months of their R1 index smear. Exclude women for whom their "early" subsequent smear is associated with a recommendation code of R14, as these women may have presented as a result of clinical symptoms. Percentage of SIR = Number of SIR women / Routine Screening Cohort Reported by age group, by DHB, and by ethnicity Regional Analysis Counts and percentages are to be calculated for each DHB. The dhb_code for each participant will be used; if there is no dhb_code for the woman, use the DHB of her responsible_health_facility, which is accessed via the geo-coded meshblock for the facility). Ethnicity analysis Unadjusted and adjusted counts, and percentages, will be shown by ethnicity, where adjusted values use the ethnicity adjustors for 2006 from *Wright 2008.* The adjustors are applied to both the number of women screened (denominator) and the number of women screened early (numerator) when these are reported separately. Note that in percentages they cancel out.
Related documents	Report Specification for the NCSP Register Redevelopment - RS009 : Coverage and Participation (version da15)
	Cohort method (2) 1. Find all women with a [satisfactory] R1 smear where specimen taken date is between 1/2/2006 and 31/3/2006 2. Restrict to women aged 20-66 years at the time the specimen was taken 3. If there are multiple smears meeting these criteria for a woman, keep the one with the earliest specimen taken date as the index smear {denom} 4. Now restrict to women with any subsequent smears (ie where specimen taken date is > index smear specimen taken date) which are within 30 months of her index smear 5. Keep the first subsequent smear only (earliest specimen taken date) 6. Exclude women where this (first subsequent) smear is R14 7. Remaining women have been re-screened "early" {num} Method 1a 1. Find all women with a [satisfactory] R1 smear where specimen taken date is between 1/4/2006 and 31/12/2008 2. Restrict to women aged 20-69 years on 31/12/2008

	3. If there are multiple smears meeting these criteria for a woman, keep the one with the earliest specimen taken date as the index smear {denom} 4. Now restrict to women with any subsequent smears which are within the 33-month time window (ie smears where specimen taken date is > index smear specimen taken date AND specimen taken date <=31/12/2008) 5. Keep the first subsequent smear only (earliest specimen taken date) 6. Exclude women where this (first subsequent) smear is R14 7. Remaining women have been re-screened "early" {num} Notes: • {denom} : the count of these women is the denominator • {num}: the count of these women is the numerator • The process followed for the methods is very similar, they just use different date criteria to define the index smear, and subsequent smears occur within a different timeframe (highlighted in red).

Indicator 5: Laboratory Indicators

Laboratory Indicators include cytology, histology reports (encompassing smear reporting rates, PPV of predicting HSIL) turnaround times and unsatisfactory smears. The accuracy of negative cytology reports are still to be developed). In future, reports will include volumes of HrHPV tests according to NCSP guidelines.

5.1: Laboratory cytology reporting

Indicator	**Laboratory** Laboratory cytology reporting
Definition	A breakdown of cytology reporting by categories for squamous and glandular abnormalities relating to all cytology specimens taken within the monitoring period. The Bethesda reporting system (TBS) introduced in NZ on 1 July 2006 is a NZ modification of the Bethesda 2001 cytology reporting system. The NCSP register collects cytology, histology and HrHPV test results of samples taken from the cervix and vagina. Total smears include all cytology samples (satisfactory and unsatisfactory) reported by laboratories which relate to cytology specimens taken within the monitoring period including proportion of conventional Pap smears (CPS) and liquid based cytology (LBC) samples. Reporting rates for negative cytology and total abnormal cytology will be as a percentage of all satisfactory cytology samples. Where a smear has more than one interpretation result, the most serious abnormality category recorded for the smear will be used. Where analysis by age is performed, the woman's age at the time that the relevant smear sample was taken is used. In future, it is proposed to identify smears taken at colposcopy clinics and in the community (where possible) Colposcopy clinics = hospital DHB clinics This report provides volumes and percentages for the number of (CPS) and (LBC) samples up to 30 June 2010* (all labs 100% LBC from 1 July 2010) and the following cytology reporting categories (based on Bethesda codes) for individual laboratories and nationally. Both ASC-H and HSIL cytology are managed by referral to colposcopy. There may be differences in laboratory reporting ratio of ASC-H:HSIL reflecting reporting practice of a particular laboratory. There may also be differences in reporting practice for ASC-US:LSIL. In future, the reporting rates will be further analysed to identify smears taken at colposcopy clinics and in the community/primary care/sexual health facilities. It must be noted that this data is limited by the difficulty in separating treatment and non treatment (follow up) colposcopy clinics and is only a guide to the composition of a laboratories workload i.e. diagnostic versus screening. **Cytology reporting by type of sample (table xx)** o All cases (target 1) o CPS o LBC o COM (combined) **Cytology reporting by satisfactory status (table xx)**

	o All cases o Satisfactory cases o Unsatisfactory cases **Cytology reporting by general result (table xx)** o NILM (target 2) o Abnormal (target 3) **Cytology reporting category by laboratory as workload case volume and percentage of all satisfactory cases** o NILM o ASC-US o LSIL o ASC-H o HSIL (target 4) o Invasive SCC o AGC/AIS (AG1-5, AIS) o Adenocarcinoma (AC1-AC4) o Malignant neoplasm (AC5) **Cytology reporting category by 5-year age group* as case volume and percentage** o NILM o ASC-US o LSIL o ASC-H o HSIL o Invasive SCC o AGC/AIS (AG1-5, AIS) o Adenocarcinoma (AC1-AC4) o Malignant neoplasm (AC5) *** based on the woman's age at the time the cytology specimen was taken** **Cytology reporting category for unsatisfactory category as workload case volume and percentage** o CPS (target 5) o LBC (target 6) o COM (combined)
Target	Number of satisfactory (S1, S2) reports by a laboratory in the following categories: • Negative for intraepithelial lesion or malignancy (TBS G1) = Not more than 96% reported as negative • HSIL (TBS HS1/HS2) = not less than 0.6% reported as HSIL • Total abnormalities (TBS G2 and G3) = Not more than 10% reported as total abnormalities Number of Unsatisfactory samples (UA-UG) by laboratory against all samples (unsatisfactory and satisfactory) • Number of sample reports by a laboratory reported as unsatisfactory (TBS UA-UG) • Conventional CPS sample: Not less than 1% and not more than 8% • LBC sample: Not less than 1% and not more than 5%
Extract Period	Same 6 month period of report date
Codes	CPS conventional Pap smear LBC Liquid based cytology NILM negative for intraepithelial lesion or malignancy ASC-US atypical squamous cells of undetermined significance

	LSIL low grade squamous intraepithelial lesion ASC-H atypical squamous cells, a high grade squamous intraepithelial lesion cannot be excluded HSIL high grade squamous intraepithelial lesion AGC atypical glandular cells AIS endocervical adenocarcinoma on situ SCC squamous cell carcinoma
Calculation	**Cytology reporting by type of sample and general result** Based on specimen taken date o The sum of all cases processed (negative, abnormal, unsatisfactory) o The sum of all LBC cases and the percentage of all LBC cases to total cases o The sum of all CPS cases and the percentage of all CPS cases to total cases o The sum of all combined (COM) cases and the percentage of all COM cases to total cases **Cytology reporting by general result** o The sum of all negative cases and the percentage of all negative cases to total satisfactory cases o The sum of all abnormal cases and the percentage of all abnormal cases to total satisfactory cases **Cytology reporting category as workload case volume and percentage of all satisfactory cases** o The sum of all negative cases and the percentage of all negative cases to total number of satisfactory cases o The sum of all ASC-US cases and the percentage of all ASC-US cases to total number of satisfactory cases o The sum of all LSIL cases and the percentage of all LSIL cases to total number of satisfactory cases o The sum of all ASC-H cases and the percentage of all ASC-H cases to total number of satisfactory cases o The sum of all HSIL cases and the percentage of all HSIL cases to total number of satisfactory cases o The sum of all SC cases and the percentage of all SC cases to total number of satisfactory cases o The sum of all AGC and AIS cases and the percentage of all AGC and AIS cases to total number of satisfactory cases o The sum of all Adenocarcinoma cases (AC1-AC4) and the percentage of all Adenocarcinoma (AC1-AC4) cases to total number of satisfactory cases o The sum of all malignant neoplasm (AC5) cases and the percentage of all malignant neoplasm (AC5) cases to total number of satisfactory cases **Cytology reporting category by 5 year age group as case volume and percentage of all satisfactory cases** o The sum of all ASC-US cases and the percentage of all ASC-US cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years o The sum of all LSIL cases and the percentage of all LSIL cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years

	o The sum of all ASC-H cases and the percentage of all ASC-H cases to total number of satisfactory cases for under 20, for 5 year age group 20 and 69 years, and for 70+ years o The sum of all HSIL cases and the percentage of all HSIL cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years o The sum of all SCC cases and the percentage of all SCC cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years o The sum of all AGC and AIS cases and the percentage of all AGC and AIS cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years o The sum of all adenocarcinoma cases and the percentage of all adenocarcinoma cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years o The sum of all malignant neoplasm cases and the percentage of all malignant neoplasm cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years o The sum of all NILM cases and the percentage of all NILM cases to total number of satisfactory cases for under 20, for 5 year age group between 20 and 69 years, and for 70+ years **Cytology reporting category for unsatisfactory category as workload case volume and percentage** o The sum of unsatisfactory CPS cases and the percentage of unsatisfactory CPS cases to total number of all CPS cases o The sum of unsatisfactory LBC cases and the percentage of unsatisfactory LBC cases to total number of all LBC cases o The sum of unsatisfactory COM cases and the percentage of unsatisfactory COM cases to total number of all COM cases
Report Details	**Definition** Cases classified as satisfactory by Bethesda Coding (TBS) S1 and S2 and are o NILM (TBS=G1) o ASC-US (TBS=ASL) o LSIL=CIN1 and/or HPV (TBS=LS) o ASC-H (TBS=ASH) o HSIL (TBS=HS1+HS2) o AGC (TBS=AG1–AG5) o AIS (TBS=AIS) o Invasive SCC (TBS=SC) o Adenocarcinoma (TBS=AC1-AC4) o Malignant neoplasm (TBS=AC5) o Total abnormalities (TBS =G2+G3) **Calculations:** Cytology reporting by type of sample and general result o Total all cases (TBS=G1+G2+G3+U) Calculation: G1+G2+G3+UA+UB+UC+UD+UE+UF+UG o Total CPS cases Calculation: CPS:G1+G2+G3+UA+UB+UC+UD+UE+UF+UG o Percentage CPS cases Calculation: (((CPS:G1+G2+G3+UA+UB+UC+UD+UE+UF+UG)/ All (G1+G2+G3+UA+UB+UC+UD+UE+UF+UG))x100))) o Total LBC cases

	Calculation: LBC:G1+G2+G3+UA+UB+UC+UD+UE+UF+UG o Percentage LBC cases Calculation: (((LBC:G1+G2+G3+UA+UB+UC+UD+UE+UF+UG)/ All (G1+G2+G3+UA+UB+UC+UD+UE+UF+UG))x100))) o Total COM cases Calculation: COM:G1+G2+G3+UA+UB+UC+UD+UE+UF+UG o Percentage COM cases Calculation: (((COM:G1+G2+G3+UA+UB+UC+UD+UE+UF+UG)/ All (G1+G2+G3+UA+UB+UC+UD+UE+UF+UG))x100))) o Total NILM Calculation: G1 o Percentage NILM of all satisfactory cases Calculation: (G1/(S1+S2))x100 o Total abnormal cases Calculation: G2+G3 o Percentage abnormal cases of all satisfactory cases Calculation: ((G2+G3)/(S1+S2))x100 **Cytology reporting category as workload case volume and percentage of all satisfactory cases** Number of S1 and S2 cases in the following cytology categories and as a percentage of all S1 and S2 cases: o The number of ASC-US (TBS = ASL) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2) Calculation: (ASL/(S1+S2))x100) o The number of LSIL (TBS = LS) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2) Calculation: (LS/(S1+S2))x100) o The number of ASC-H (TBS = ASH) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2) Calculation: (ASH/(S1+S2))x100) o The number of HSIL (TBS = HS1+HS2) as a percentage of all satisfactory samples (TBS = S1 and S2). Note cytology of SCC (TBS = SC) are excluded Calculation: ((HS1+HS2)/(S1+S2))x100). o The number of SCC (TBS = SC) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2). Calculation: ((SC)/(S1+S2))x100 o The number of AGC and AIS (TBS = AG1-5, AIS) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2). Note cytology of invasive adenocarcinoma and other malignancy (TBS = AC1-5) are excluded Calculation: ((AG1+AG2+AG3+AG4+AG5+AIS)/(S1+S2))x100 o The number of Adenocarcinoma (TBS = AC1-4) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2). Note cytology of malignant neoplasm (TBS = AC5) are excluded Calculation: ((AC1+AC2+AC3+AC4)/(S1+S2))x100 o The number of malignant neoplasm (TBS = AC5) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2). Calculation: ((AC5)/(S1+S2))x100 o The number of negative (TBS = G1) cases reported as a percentage of all satisfactory samples (TBS = S1 and S2) Calculation: (G1/(S1+S2)x100) **Cytological category by 5 year age group** Calculations are as above and further reported by 5 year age group as <20

	years, and 5 yearly between 20 and 69 years, 70+ years There are no targets for these individual age reporting categories **Cytology reporting category for unsatisfactory category as workload case volume and percentage** o Total number of CPS cases reported as unsatisfactory Calculation: CPS:UA+UB+UC+UD+UE+UF+UG o Unsatisfactory CPS cases as a percentage of all CPS cases Calculation: ((CPS:UA+UB+UC+UD+UE+UF+UG)/ (CPS:S1+S2+UA+UB+UC+UD+UE+UF+UG))x100 o Total number of LBC cases reported as unsatisfactory Calculation: LBC:UA+UB+UC+UD+UE+UF+UG o Unsatisfactory LBC cases as a percentage of all LBC cases Calculation: ((LBC:UA+UB+UC+UD+UE+UF+UG)/ (LBC:S1+S2+UA+UB+UC+UD+UE+UF+UG))x100 o Total number of COM cases reported as unsatisfactory Calculation: COM:UA+UB+UC+UD+UE+UF+UG o Unsatisfactory COM cases as a percentage of all COM cases Calculation: ((COM:UA+UB+UC+UD+UE+UF+UG)/ (COM:S1+S2+UA+UB+UC+UD+UE+UF+UG))x100
Related documents	**OPQS Section 5**
Future Enhancements	*Laboratories will be 100% LBC as from 1 July 2010 Propose to identify smears taken at colposcopy clinics and in the community (where possible) Colposcopy clinics = hospital DHB clinics **Colposcopy versus community cases** o Analysis of the above cytology reporting categories to separate colposcopy from community cases specifically for ASC-H, HSIL and total abnormalities There are no targets for these subcategories of reporting

5.2: Accuracy of cytology predicting HSIL

Indicator	**Laboratory** Accuracy of cytology predicting HSIL
Definition	The accuracy of cytology predicting HSIL/SCC is defined as the probability of a high grade histological report (CIN2/3) or higher given an HSIL/invasive SCC report. It is a measure of the effectiveness of high grade cytology as a predictor of true high grade or worse disease confirmed by histology (tissue biopsy). This report provides additional PPV calculations (information only, no targets) for other combinations of cytology reporting categories with a high grade status that have a management recommendation to refer for colposcopy: o ASC-H o ASC-H+HSIL+SCC o glandular lesions AGC+AIS+AC
Target	HSIL/SCC: Not less than 65% and not greater than 85%. There are no PPV targets for: o ASC-H o ASC-H+HSIL+SCC o glandular lesions AGC+AIS+AC
Extract Period	See *report details/calculations*
Codes	**For cyto-histo cross correlation to calculate PPV:** o All TBS codes (appendix xx table x2) o All SNOMED codes (appendix xx table x1) **For PPV report:** ASC-H atypical squamous cells, a high grade squamous intraepithelial lesion cannot be excluded (TBS=ASH) HSIL high grade squamous intraepithelial lesion (TBS=HS1, HS2) SCC Invasive squamous cell carcinoma (TBS=SC) AGC atypical glandular cells (TBS=AG1-5) AIS endocervical adenocarcinoma on situ (TBS=AIS) AC Adenocarcinoma (TBS=AC1-4)
Calculation	The calculation of PPV for cytological HSIL/SCC is based on cross correlation of all cytology reporting categories (excluding unsatisfactory samples) for individual women against any histology (excluding unsatisfactory samples) taken within 6 months after the cytology. If there are multiple cytology and/or histology events within the time period for an individual woman, then the most significant result is taken. The number of HSIL/SCC cytology cases confirmed histologically as high grade or worse (true positives) are added together, and the number of HSIL cytology cases not confirmed histologically as high grade or worse (false positives) are added together. To calculate PPV the sum of the true positives are measured against the sum of true positives and false positives i.e. o True positives ÷ (true positives + false positives) The final result is expressed as a percentage.

	The same calculation is used for the other PPV categories measured. Women without histology results are excluded from the PPV denominator.
Report Details	**Definition** HSIL/SCC The accuracy of cytology predicting HSIL/SCC (TBS=HS1+HS2+SC) is defined as the probability of a high grade histological report (CIN2/3) or higher given an HSIL/SCC cytology Additional calculations for cytology categories • ASC-H (TBS=ASH) • ASC-H+HSIL+SC (TBS=ASH+HS1+HS2+SC) • glandular lesions AGC+AIS+AC (TBS=AG1+AG2+AG3+AG4+AG5+AIS+AC1+AC2+AC3+AC4) **Calculations**: All satisfactory cytology samples (S1 or S2) that were reported as defined in the PPV tables and taken within the required six month period (i.e. the six months ending six months prior to the end of the current monitoring period) are identified (this time frame can be varied). Where a woman has more than one abnormal cytology in this period, the worst one is used for the PPV calculation. <u>HSIL PPV</u> For each woman, all histology results taken in the period from five days before the HSIL or worse cytology specimen_taken_date to six months after that cytology specimen_taken_date, are identified. When more than one histology result is present, the worst histology which is classified as high grade or cancer according to NCSP-R SNOMED codes is used. Confirmed cases refer to cases where histology is available, and is CIN2+ Unconfirmed cases refer to cases where histology is available, but it is CIN1 or less Cytology cases without any subsequent histology are excluded from the denominator, but will be included as counts in the table for information purposes. Cyto-**histo** cross correlation Refer to table x3 and x4 appendix xx for data fields HSIL+SC **cytology** Number of women with a cytological report of HSIL/invasive carcinoma (TBS=HS1+HS2+SC) who are confirmed as HSIL or worse on histology within 6 months, as a proportion of all women with an HSIL/invasive carcinoma cytology report (histo specified in Appendix yy Table x1: Technical specification for calculation of PPV for for cytology of ASC-H; HSIL+SCC; ASC-H+HSIL+SCC; AG1-5+AIS+AC1-4) PPV=(confirmed cytology cases)/(confirmed cytology cases+unconfirmed cytology cases))x100 **Cytology** ASC-H Percentage of cytology reporting of ASC-H (TBS=ASH) confirmed as HSIL or worse on histology PPV=(confirmed cytology cases)/(confirmed cytology cases+unconfirmed cytology cases))x100 **Cytology** of ASC-H+HSIL+SC Percentage of cytology reporting of ASC-H+HSIL+SCC (TBS = ASH+HS1+HS2+SC) confirmed as HSIL or worse on histology PPV=(confirmed cytology cases)/(confirmed cytology cases+unconfirmed cytology cases))x100 **Cytology** AGC+AIS+AC Percentage of cytology reporting of AGC+AIS+AC (TBS = AG1-5+AIS+AC1-4))

	confirmed as HSIL or worse on histology PPV=(confirmed cytology cases)/(confirmed cytology cases+unconfirmed cytology cases))x100 Refer to table x3 and x4 appendix xx for PPV calculation
Related documents	**OPQS Section 5**

5.3: Accuracy of negative cytology reports

Indicator	**Laboratory** Accuracy of negative cytology reports
Definition	The percentage of negative cytology cases with subsequent high grade or worse histology that are upgraded to high grade or worse category following slide review. The ability of a laboratory to correctly identify a negative smear and false negative cytology. This report is the analysis of data received from NCSP laboratories for the review of negative cytology cases with subsequent high grade or worse histology. The cases are extracted by the laboratory from the 42 month lookback report data provided by the NSU on a monthly basis. The number and percentage of unsatisfactory cytology cases upgraded to a high grade or worse cytology category following review are also calculated. The NCSP provides laboratories with a monthly update of cases requiring review (42 month lookback data) and flags review cases as either high grade squamous or glandular histology. The outcome of review is reported to the NCSP
Target	The target is not more than 20% cases should be upgraded from negative.
Extract Period	Returns from laboratories for same 6 month period of report date
Codes	**Bethesda** Cytology for review where subsequent histology is high grade or worse: • All unsatisfactory UA-UG • All satisfactory and negative G1 Cytology categories to be reported to NCSP following review • ASC-H - ASH • HSIL - HS1 and HS2 • SCC - SC • AGC - AG3-5 • AIS - AIS • Adenocarcinoma/other cancer - AC1-5
Calculation	For women with a histological diagnosis of HSIL or invasive squamous cell carcinoma in the 6 months, the proportion of slides originally reported within the 42 months before the histological diagnosis as negative (or unsatisfactory) for intraepithelial neoplasia or malignancy which on review of slides are upgraded to high grade or worse Cytology upgrade to glandular abnormality is also calculated
Report Details	**Cytology** upgrade - All cases The number of cytology negative cases (TBS = G1) upgraded to high grade or worse (TBS=ASH, HS1, HS2, AG3-5, AIS, AC1-5) Calculation: (upgrade to ASH+HS1+HS2+AG3+AG4+AG5+AIS+AC1+AC2+AC3+AC4)/G1)x100 The number of cytology unsatisfactory cases (TBS = UA-UG) upgraded to high grade or worse (TBS=ASH, HS1, HS2, AG3-5, AIS, AC1-5) Calculation: (upgrade to ASH+HS1+HS2+AG3+AG4+AG5+AIS+AC1+AC2+AC3+AC4)/sum of UA-UG)x100 The number of cytology negative and unsatisfactory cases (TBS = G1+UA-UG)

	upgraded to high grade or worse (TBS=ASH, HS1, HS2, AG3-5, AIS, AC1-5) Calculation: (upgrade to ASH+HS1+HS2+AG3+AG4+AG5+AIS+AC1+AC2+AC3+AC4)/sum of G1+UA-UG)x100 **Cytology negative upgrade - Squamous** **ASC-H** The number of negative cytology cases (TBS = G1) upgraded to ASC-H (TBS = ASH) Calculation: upgrade to (ASH/G1)x100 **HSIL** The number of negative cytology cases (TBS = G1) upgraded to HSIL/SCC (TBS = HS1, HS2 and SC) Calculation: upgrade to (HS1+HS2+SC/G1)x100 **Cytology negative upgrade - Glandular** **AGC** The number of negative cytology cases (TBS = G1) upgraded to AGC (TBS = AG3-5) Calculation: upgrade to (AG3+AG4+AG5/G1)x100 AIS/AC The number of negative cytology cases (TBS = G1) upgraded to AIS/Adenocarcinoma (TBS = AIS, AC1-4)) Calculation: upgrade to (AIS+AC1+AC2+AC3+AC4/G1)x100
Related documents	OPQS Section 5 standard 522

5.4: Histology reporting

Indicator	**Laboratory** Histology reporting
Definition	Number and percentage of women with histology results by SNOMED category, by broad diagnostic category, and further categorised by 5 year age group (under 20; 20-69 years, 70+ years)
Target	None
Extract Period	Same 6 month period of report date
Codes	All SNOMED codes that represent the following reporting categories. There are currently 2 versions of SNOMED used by NZ laboratories (1986 or 1993)

Adequacy of specimen	1986 Code	1993 Code
Insufficient or unsatisfactory material for diagnosis	M09000	M09010
There is no code for satisfactory materials.		

Site (topography) of specimen	1986 Code	1993 Code
Vagina	T81	T82000
Cervix (includes endocervix and exocervix)	T83	T83200

Summary diagnosis	Code stored on register	1986 Code	1993 Code
Negative result – normal tissue		M00100	M60000
Inflammation		M40000	M40000
Microglandular hyperplasia		M72480	M72480
Squamous Metaplasia		M73000	M73000
Atypia		M69700	M67000
HPV, koilocytosis, condyloma (NOS) Condyloma acuminatum	 M76700	M76700 M76720	M76700 M76720
Dysplasia / CIN NOS		M74000	M67015
CIN I (LSIL) (VAIN I when used with T81/ T82000)		M74006	M67016
CIN II (HSIL) (VAIN II when used with T81/ T82000)		M74007	M67017
CIN III (HSIL) (VAIN III when used with T81/ T82000) Carcinoma in situ	 or M67017 or M67017	M74008 M80102 M80702	M67017 M80102 M80702
HSIL not otherwise specified			M67017
Polyp		M76800	M76800
Other (Morphologic abnormality, not dysplastic or malignant)		M01000	M01000
Microinvasive squamous cell carcinoma		M80765	M80763
Invasive squamous cell carcinoma		M80703	M80703
Benign glandular atypia		M81400	M67030
Glandular dysplasia		M81401	M67031
Adenocarcinoma in situ		M81402	M81402
Invasive adenocarcinoma		M81403	M81403
Adenosquamous carcinoma		M85603	M85603
Metastatic tumour		M80006	M80006
Undifferentiated carcinoma		M80203	M80203
Sarcoma		M88003	M88003

Other codes accepted	Code stored on register	1986 Code	1993 Code
*Carcinosarcoma	M88003	M89803	M89803
#Choriocarcinoma	M80003	M91003	M91003
#Miscellaneous primary tumour	M80003	M80003	M80003
#Small cell carcinoma	M80003	M80413	M80413
#Malignant tumour, Small cell type	M80003	M80023	M80023
#Melanoma	M80003	M87203	M87203
#Other primary epithelial malignancy	M80003	M80103	M80103

The register stores Carcinosarcoma* as Sarcoma (M88003) and the other categories# as Other malignancy (M80003).

Calculation

All histology results relating to histology specimens taken within the monitoring period are to be retrieved. Where there is >1 histology SNOMED diagnosis for a woman single event, the most serious SNOMED category will be used for the final result.
Sum of each histology by reporting category calculated from SNOMED nationally as per table above

Also suggested grouping by broader diagnostic category as follows:
Negative/benign (non neoplastic)
HPV
CIN1
CIN2
CIN3
Microinvasive SCC
SCC
Glandular dysplasia
AIS
Adenocarcinoma
Adenosquamous Carcinoma
Other malignancy

Further categorisation of each category into women aged below 20 years and then 5 yearly for ages 20-69 years, 70+ years
A woman's age is defined as her age at the end of the monitoring period.

Report details

All cases
Sum of each histological reporting category derived from SNOMED code table (see *codes* above)

Also suggested grouping by broader diagnostic category as follows:

Histology category	1986	1993
Negative/benign (non neoplastic)	M00100 M40000 M72480 M73000 M76800 M01000 M81400	M60000 M40000 M72480 M73000 M76800 M01000 M67030
HPV	M76700 M76720	M76700 M76720
CIN1	M69700 M74000 M74006	M67000 M67015 M67016
CIN2	M74007	M67017
CIN3	M74008	M67017
HSIL		M67017

	Microinvasive	M80765	M80763
	SCC	M80703	M80703
	Glandular dysplasia	M81401	M67031
	AIS	M81402	M81402
	Adenoca	M81403	M81403
	A/S Ca	M85603	M85603
	Other Ca	M80006 M80203 M88003 M80003	M80006 M80203 M88003 M80003

By national total for each SNOMED category.
By percentage of total for each SNOMED category
By national total for each broad diagnostic category.
By percentage of total for each broad diagnostic category

By age group
Broad diagnostic category (nationally) sub categorised by under 20; 20-69 years in 5 year intervals, 70+ (see cytology reporting)

By ethnicity

Related documents	

5.5: Laboratory turnaround times

Indicator	**Laboratory** Laboratory turnaround times
Definition	The timeliness of laboratories to report cytology and histology requests from time of receipt of the sample to time of final report to the requester. Two reports are provided showing the TAT for histology and cytology (HPV TAT will be provided in later reports to coincide with guidelines). Reporting to include: **Cytology reporting:** The report includes • Total number of cases received by laboratories during monitoring period • The number and percentage of cases reported from receipt to 7 working days • The number and percentage of cases reported from 7 to 15 working days • The cumulative number and percentage of cases reported from receipt to 15 working days • The number and percentage of cases not reported after 15 days **Histology reporting** The report includes • Total number of cases received by laboratories during monitoring period • The number and percentage of cases reported from receipt to 5 working days • The number and percentage of cases reported from 5 to 15 working days • The cumulative number and percentage of cases reported from receipt to 15 working days • The number and percentage of cases not reported after 15 days **HrHPV test reporting** The report includes • Total number of cases received by laboratories during monitoring period • The number and percentage of cases reported from receipt to 15 working days • The number and percentage of cases not reported after 15 days
Target	**Cytology reporting:** Laboratories are required to report 90% of final gynaecological cytology results to smear takers within 7 working days of receipt of the specimen and 100% within 15 working days (standard 513). **Histology reporting** Laboratories are required to report 90% of final histology results to referring colposcopists within 5 working days of receipt of the specimen and 99% of final histology results within 15 working days of receiving the specimen (standard 516). **HrHPV testing** Laboratories are required to report 100% of final HrHPV test results to smear takers within 15 working days of receipt of the specimen (standard 513).
Extract Period	Same 6 month period of report date
Codes	Reports received by the NCSP-R **Cytology Bethesda**

	Any cytology: CPS (conventional Pap smear) LBC (Liquid based cytology) COM (combined CPS and LBC) **Histology SNOMED** Any histology : T81 (vagina) T82 (vagina) T83 (cervix) **HrHPV testing** Detected Not detected Invalid
Calculation	Turnaound time is the time period in working days between the time a specimen is received by the laboratory (specimen_received_at_lab_date) and reported to the requestor e.g. smear taker, colposcopist for cytology and histology (reported_to_requestor_date). Cases will be grouped according to the turnaround time category into which they fall (<= 7 working days; 8-15 working days; > 15 working days). Presented as case numbers and as a percentage of total cases, by laboratory and nationally for each target. **Cytology reporting:** • Total number of cases = number of cases received by laboratories within the monitoring period • Receipt to seven days = number and percentage of all cases reported within (inclusive) 7 working days of the receipt date • 8-15 days = number and percentage of all cases reported between the 8 and 15 days from the receipt date • cumulative within 15 days = number and percentage of all cases reported in 15 working days or less from receipt • After 15 days = the difference between the number and percentage of cases reported within 15 working days and the total number of cases for the monitoring period **Histology reporting:** • Total number of cases = number of cases received by laboratories within the monitoring period • Receipt to 5 days = number and percentage of all cases reported in 5 working days or less of the receipt date • 6-15 days = number and percentage of all cases reported between the 6 and 15 days from the receipt date • cumulative within 15 days = number and percentage of all cases reported in 15 working days or less from receipt • After 15 days = the difference between the number and percentage of cases reported within 15 working days and the total number of cases for the monitoring period **HrHPV testing** • Total number of cases = number of cases received by laboratories within the monitoring period • Cumulative within 15 days = number and percentage of all cases reported in 15 working days or less from receipt • After 15 days = the difference between the number and percentage of cases reported within 15 working days and the total number of cases for

	the monitoring period
Report Details	**Definition:** • A Week is defined as 5 working days and Public Holidays are included as working days. • Turnaround time days include the day that the result was reported to the smear taker (Std 513),or the colposcopist (Std 516), but does not include the day the smear and or HrHPV test was received by the laboratory. This means that if, for instance, a sample was received by the laboratory on Monday and the result reported to the smear taker (Std 513) or colposcopist (Std 516) on Tuesday, then 1 day would be the calculated turnaround time. **Calculation:** Time period between time specimen received by laboratory and date of the report to the specimen taker (cytology, histology, or HPV; reported_to_requestor_date). Presented by laboratory and nationally for each target. **Cytology** • Total cases = number of cases received by labs during the monitoring period • Number in 7 working days = number of cases reported on within 7 (ie <= 7) working days of the received date (inclusive of 7 days; exclusive of the received date) • Percentage in 7 working days = (number in 7 working days /total number of cases received during monitoring period)x100 • Number between 8 and 15 working days = number of cases reported on between 8 and 15 working days (inclusive) after the received date • Percentage for 8 – 15 working days = (number of cases reported on between 8 and 15 working days (inclusive) after the received date/total number of cases received during monitoring period)x100 • Cumulative number within 15 days = number of cases reported on within 15 (ie <=15) working days (inclusive) from the received date • Cumulative percentage = (number of cases reported on in <=15 working days from the received date/total number of cases received during monitoring period)x100 • More than 15 days = total number of cases – cumulative number of cases received by and reported within 15 days • Percentage more than 15 days = (total number of cases – cumulative number of cases received by and reported in <=15 days) /total number of casesx100 **Histology** • Total cases = number of cases received for the monitoring period • Number in 5 working days = number of cases reported on within 5 (ie <= 5) working days of the received date • Percentage in 5 working days = (number of cases reported on within 5 (ie <= 5) working days of the received date/total number of cases received during monitoring period)x100 • Number between 6 and 15 working days = number of cases reported on between 6 and 15 working days after the received date • Percentage for 6 - 15 working days = (number of cases reported between 6 and 15 working days after the received date/total number of cases received during monitoring period)x100 • Cumulative number within 15 days= number of cases reported on within 15 (ie <=15) working days from the received date

	• Cumulative percentage = (number of cases reported on within 15 (ie <=15) working days from the received date/ total number of cases received during monitoring period)x100 • More than 15 days = total number of cases – cumulative number in <=15 days • Percentage more than 15 days = (total number of cases – cumulative number in <=15 days) /total number of cases received during monitoring periodx100 **HrHPV tests** • Total cases = number of cases received during the monitoring period • Number in 15 working days = number of cases reported on within 15 (ie <= 15) working days of the received date • Percentage in 15 working days = (number of cases reported on within 15 working days of the received date/total number of cases for search period)x100 • More than 15 days = total number of cases – number of cases received by and reported in <=15 days after the received date • Percentage more than 15 days = (total number of cases – number of cases received by and reported in <=15 days after the received date)/total number of casesx100
Related documents	**OPQS section 5 standards 513 and 516**
Future Enhancements	Public holidays may be excluded from count of working days in future

Indicator 6: Follow-up of women with high grade cytology, no histology

Indicator	**Overall Programme** Follow-up of women with high grade cytology, no histology
Definition	As from 15 August 2006 the NCSP reclassified all glandular cell abnormalities as high grade. Therefore for cytology taken on or after 15 August 2006, 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 proportion of women (aged 20-69 years at the end of the monitoring period) who have had a high grade cytology result relating to a cervical smear taken (specimen_taken_date) in the preceding 6 months with/ without a subsequent histological report. This is measured as each woman with a high grade cytology result where the specimen was taken in the 6 months immediately prior to the monitoring period (e.g.1 Jan to 30 Jun 2008) with/ without a follow up histology report dated up to (ie <=) 90 days after her high grade cytology report date. The longer time periods are also reported up to (ie <=) a maximum of 180 days. Women already under specialist management (NZ modified TBS 2005 R13) are excluded from both the numerator and the denominator. Follow-up histology is defined as a histology result relating to a specimen collected on or after the date on which the cytology specimen was collected.
Target	The targets for the follow-up of women with high grade cytology are as follows: • 90% of women should have a histology report within (<=) 90 days of the smear report • 99% of women should have a histology report within (<=) 180 days of the smear report.
Extract Period	See *calculation*
Codes	**Cytology** Bethesda ASC-H (ASH) HSIL (HS1, HS2) SCC (SC) AGC (AG1-5) AIS (AIS) Adenocarcinoma (AC1-4) Other malignancy (AC5) **Histology** SNOMED Any histology which is taken on or after the date of the referring cytology specimen taken date Note: The NCSP only has authority to receive histology from the cervix and vagina (SNOMED T81, T82, T83). Therefore histology from other gynaecological sites are not available eg endometrium. This limits data analysis when calculated by histology receipt by NCSP.
Calculation	Referred women = The number of enrolled women aged 20 to 69 years at the end of the monitoring period who had a high grade cytology result relating to a specimen taken in the 6 months immediately prior to the monitoring period (ie 1 Jan 2008 – 30 Jun 2008).

	This is calculated by DHB and ethnicity as: • The number of women with a histology specimen taken within (<=) 90 days, between 91 days and 180 days, and the total within 180 days (inclusive) after their high grade cytology result (based on date cytology taken). This is expressed as a proportion of the total number of women with a high grade cytology reported within the current monitoring period. Subsequently the number and proportion of women with high grade cytology and no histology are determined by DHB, (by age, and by ethnicity) for each of the time periods. • For report 30, also perform the following two exploratory analyses: o Number and proportion of Referred women with no event (where event = sample taken for cytology, histology or HPV testing or colposcopy attendance) in <= 180 days o Number and proportion of Referred women with no event (where event = sample taken for cytology, histology or HPV testing or colposcopy attendance) in <= 360 days • Women without a subsequent histology recorded on the NCSP Register: o whether they had a subsequent smear taken by either a non-specialist or specialist o no further screening event This Indicator is calculated for women of all ethnic groups, and separately for Māori, Pacific, and non-Māori, non-Pacific women. It is also calculated for each DHB. Notes: • Histology taken on the same day as the high grade cytology specimen is counted as follow up. Histology specimens taken prior to the date the cytology specimen was taken are excluded. • In rare cases histology may be taken at the same time or shortly after the cytology specimen, but have a report date which is earlier than the cytology report date. This is regarded as follow-up occurring within 90 days. • Histological follow-up for women of all ages with high grade cytology where the specimen was collected in the 6-month period immediately prior to the reporting period is also presented, as this group of women is the same as those considered for Indicator 7.1.
Report Details	High grade cytology that recommend referral (Bethesda codes) = ASH, HS1, HS2, SC, AG1-5, AIS, AC1-5 Histology = any SNOMED diagnosis for T83 (cervix), T81 or T82 (vagina) Number and percentage of women with high grade smear and histology taken within the following time frames on the same day or after the high grade cytology calculated as: Sum of women with high grade cytology and sum with high grade cytology with subsequent histology Proportion of women with subsequent histology = (High grade cytology with subsequent histology/all high grade cytology) x100 - up to and including 90 days - between 91 days and 180 days - greater than 180 days For DHB, by age and ethnicity (ie show by DHB (overall), and by DHB and age, and by DHB and ethnicity)

	Ethnicity analysis Ethnicity adjustors will NOT be used when results are presented broken down by both DHB & ethnicity simultaneously, ie only unadjusted counts and percentages are required. Ethnicity presented in terms of: • Maori • Pacific • Asian • Other (all other groups, including unspecified ethnicity) Regional Analysis Participants are allocated according to their DHB code (ie dhb_code from the woman's participant record). If there is no dhb_code for the woman, the DHB of responsible_health_facility is used, which is accessed via the geo-coded meshblock).
Related documents	
Future Enhancement	1. "Smear taken date" is now "smear reported date" 2. Interval of 12 weeks reported as 90 days

Indicator 7: Colposcopy

C1 Waiting time for colposcopic assessment for HSIL or ASC-H possible high grade

7.5 Adequacy of recording at colposcopy

7.6 Minimum colposcopy volumes

7.7 High grade disease correctly predicted (colpo/histo correlations)

7.8 Residual high grade after treatment / adequacy of treatment

Indicator 8: HPV tests

Indicator	**Overall Programme** HPV triage tests
Definition	HPV tests <u>HPV triage:</u> For women with an LSIL or ASC-US (LG) cytology result relating to a cervical specimen taken in the monitoring period, report on: • The proportion who have an accompanying HPV test • The proportion of those with an HPV test result whose HPV test result is positive • The proportion of those with an HPV test result whose HPV test result is invalid • Also the above by test type Reported separately for ASC-US and LSIL, by: • Laboratory, and • Age (2 categories: < 30 years; 30 years and older) – based on the woman's age at the time the sample was taken UNDER DEVELOPMENT

Appendix A: Definitions, calculations and rules

Criteria	Component	Rule/Exceptions/Limitations
Population	Definition	• The population for the month to be reported is calculated by an extrapolation using the projected populations for 2006 and 2007 to the month required.
Coverage	Definition	• Participants aged 20-69 years who have had a cervical smear, HPV or histology result recorded on the NCSP-Register in the 5 years prior to the end of the reporting period and also 3 years prior to the end of reporting period. • **Exclusions**: women who have withdrawn from the NCSP during the previous 3 or 5 years as appropriate .
Coverage Calculation	Age-range	• Coverage will be reported for women between the ages of 20 and 69 years (based on their age at the end of the monitoring period), and in 5-year age groups. • 20-69 years kept for both the numerator and denominator. • For the numerator, the age taken will be based upon the woman's age on the date of end of the monitoring period. • The hysterectomy-adjusted 2006 census population will be used for the denominator population.
	Hysterectomy Adjustment	• Denominator populations will be adjusted based upon modelled hysterectomy prevalence estimates in New Zealand for a given year period (C. Wright). • Women with hysterectomy status codes will be retained in the numerator
	Regional Analysis	• Participants are allocated to the region in which their residential address (Geo-Coded Mesh block), current at the time of the reporting data extract, is located. The geo-coded addresses will be mapped to DHB regions. • DHB code attached to the woman's individual participant record is used
Number of First Screening Events	Definition	• The number of new women aged 20-69 years at the end of the monitoring period with no prior cytology, HPV or histology recorded on the register, who have a test result recorded in the 6 months prior to the end of the reporting period (new Enrolments)

Criteria	Component	Rule/Exceptions/Limitations
Percentage of First Screening Events	Calculation	• The number of new Enrolments as a percentage of the number of eligible women aged 20-69 years (based on hysterectomy-adjusted 2006 census population). • The number of new Enrolments as a percentage of the number of women aged 20-69 years at the end of the monitoring period who have had at least one result (cytology/histology) in the 6 months prior to the end of the monitoring period. For example: First Screening Events for the month of June 2007 = # new Enrolments / (# participants who have had at least one cytology/histology between 1 July 2006 and (30 June 2007 plus 7 days lag period)) / 12)
Withdrawals	Calculation	• The number of women aged 20-69 years at the end of the monitoring period who are not currently enrolled on the register, and whose enrolment end date occurred within the monitoring period.
Percentage of withdrawals	Calculation	• The number of withdrawn participants as a percentage of the number of women aged 20-69 years at the end of the monitoring period who have were enrolled at the beginning of the monitoring period
Total Women on the Register	Calculation	• Total number of women excluding those deceased and withdrawn from the programme.
Ethnicity	"Other"	• Includes all women with ethnicity: ▪ 52 (Latin American / Hispanic), ▪ 53 (African). ▪ 54 (Other), ▪ 12 (Other European), ▪ 10 (European not further defined), ▪ 11 (NZ European), ▪ 99 (Not Stated)

Appendix B: Coverage criteria rules, exceptions and limitations

Criteria	Component	Rule/Exceptions/Limitations
Coverage	Definition	• Participants aged 20-69 years who have had a cervical smear, HPV or histology result recorded on the NCSP-Register in the 3 years prior to the end of the monitoring period expressed as a percentage of eligible women • **Exclusions**: women who have withdrawn from the NCSP during the 3 years prior to the end of the monitoring period .
Coverage Calculation	Age-range	• Coverage will be reported for women between the ages of 20 and 69 years, in 5-year age groups. • 20-69 years kept for both the numerator and denominator. • For the numerator, the age taken will be based upon the woman's age on the date of the end of the monitoring period. • The hysterectomy-adjusted 2006 census population will be used for the denominator population)
	Hysterectomy Adjustment	• Numerator and Denominator populations will be adjusted based upon modelled hysterectomy prevalence estimates in New Zealand for a given year period • Women with hysterectomy status codes will be retained in the numerator (data is incomplete)
	Regional Analysis	• Participants are allocated to the region in which their residential address (Geo-Coded Mesh block), current at the time of the reporting data extract, is located. The geo-coded addresses will be mapped to DHB regions. In practice, analysis for monitoring reports uses the dhb_code field for a woman

Appendix C: The Bethesda System 2001 (NZ Modified) for cytology reporting

TBS code	Descriptor
Specimen type	
CPS	Conventional pap smear
LBC	Liquid based cytology
COM	Combined (conventional and liquid based)
Specimen site	
T	Vault
R	Cervical
V	Vaginal
Adequacy	
S1	The specimen is satisfactory for evaluation (optional free text)
S2	The specimen is satisfactory for evaluation (optional free text). No endocervical/transformation zone component present
UA	The specimen is unsatisfactory for evaluation because of insufficient squamous cells
UB	The specimen is unsatisfactory for evaluation because of poor fixation/preservation
UC	The specimen is unsatisfactory for evaluation because foreign material obscures the cells
UD	The specimen is unsatisfactory for evaluation because inflammation obscures the cells
UE	The specimen is unsatisfactory for evaluation because blood obscures the cells
UF	The specimen is unsatisfactory for evaluation because of cytolysis/autolysis
UG	The specimen is unsatisfactory for evaluation because … (free text)
General	
G1	Negative for intraepithelial lesion or malignancy
G2	Epithelial cell abnormality: See interpretation/result
G3	Other: See interpretation/result
Interpretation	
O1	There are organisms consistent with Trichomonas vaginalis
O2	There are fungal organisms morphologically consistent with Candida species
O3	There is a shift in microbiological flora suggestive of bacterial vaginosis
O4	There are bacteria morphologically consistent with Actinomyces species
O5	There are cellular changes consistent with Herpes simplex virus
OT1	There are reactive cellular changes present (optional free text)
OT2	There are endometrial cells present in a woman over the age of 40 years
OT3	There are atrophic cellular changes present
ASL	There are atypical squamous cells of undetermined significance (ASC-US) present
ASH	There are atypical squamous cells present. A high grade squamous intraepithelial lesion cannot be excluded (ASC-H)
LS	There are abnormal squamous cells consistent with a low grade squamous intraepithelial lesion (LSIL; CIN1/HPV)
HS1	There are abnormal squamous cells consistent with a high grade squamous intraepithelial lesion (HSIL). The features are consistent with CINII or CINIII
HS2	There are abnormal squamous cells consistent with a high grade squamous intraepithelial lesion (HSIL) with features suspicious for invasion
SC	There are abnormal squamous cells showing changes consistent with squamous cell carcinoma
AG1	There are atypical endocervical cells present
AG2	There are atypical endometrial cells present
AG3	There are atypical glandular cells present
AG4	There are atypical endocervical cells favouring a neoplastic process

TBS code	Descriptor
AG5	There are atypical glandular cells favouring a neoplastic process
AIS	There are abnormal endocervical cells consistent with adenocarcinoma in-situ (AIS)
AC1	There are abnormal glandular cells consistent with endocervical adenocarcinoma
AC2	There are abnormal glandular cells consistent with endometrial adenocarcinoma
AC3	There are abnormal glandular cells consistent with extrauterine adenocarcinoma
AC4	There are abnormal glandular cells consistent with adenocarcinoma
AC5	There are abnormal cells consistent with a malignant neoplasm
Recommendation	
R1	The next smear should be taken at the usual screening interval
R2	Please repeat the smear within 3 months
R3	Please repeat the smear within 3 months of the end of pregnancy
R4	Please repeat the smear in 3 months
R5	Please repeat the smear in 6 months
R6	Please repeat the smear in 12 months
R7	Because a previous smear showed atypical squamous cells or low grade changes, please repeat the smear in 12 months
R8	Annual smears are indicated because of previous high grade abnormality
R9	Referral for specialist assessment is indicated
R10	Urgent referral for specialist assessment is indicated
R11	Further assessment is recommended
R12	Please repeat the smear shortly after a course of oestrogen treatment
R13	Under specialist care
R14	In view of the abnormal clinical history provided, urgent referral for assessment is recommended regardless of cytological findings

Appendix D: Technical specification of laboratory report of the register results for the calculation of PPV

Each field is populated by the sum of each cross correlating cyto-histo case

Cyto-Histo Correlations for PPV Reporting Period: Result posted on or after: '1-Sep-07' , Result posted on or before: '31-Aug-08'											
Organisation: Lab XXX											
	G1	**Squamous (G2)**					**Glandular (G2)**			**Other (G3)**	**Total**
	G1	**ASL**	**LS**	**ASH**	**HS1/2**	**SC**	**AG1-5**	**AIS**	**AC1-4**	**AC5**	
Histology Diagnosis											
Negative											
Squamous Atypia NOS											
Squamous Low Grade/CIN1/HPV											
Squamous High Grade/CIN2-3											
Squamous MI SCC											
Squamous Invasive SCC											
Glandular Benign Atypia											
Glandular Dysplasia											
Glandular -AIS											
Glandular Invasive Adeno											
Other Malignant Neoplasm											
Total											

Appendix E: Technical specification for calculation of PPV for cytology of ASC-H; HSIL+SCC; ASC-H+HSIL+SCC; AG1-5+AIS+(AC1-4)

Histology Diagnosis	G1	Squamous (G2)					Glandular (G2)			Other (G3)	Total
	G1	ASL	LS	ASH	HS1/2	SC	AG1-5	AIS	AC1-4	AC5	
Negative				q	y	y	a	a	a		
Squam-Atypia NOS				q	y	y	a	a	a		
Squam-Low Grade/CIN1/HPV				q	y	y	a	a	a		
Squam-High Grade/CIN2-3				p	x	x	b	b	b		
Squam MI SCC				p	x	x	b	b	b		
Squam-Invasive SCC				p	x	x	b	b	b		
Gland-Benign Atypia				q	y	y	a	a	a		
Gland-Dysplasia				p	x	x	b	b	b		
Gland-AIS				p	x	x	b	b	b		
Gland-Invasive Adeno				p	x	x	b	b	b		
Other Malignant Neoplasm				p	x	x	b	b	b		
				PPV% (ASC-H)= sum(p) / (sum(p)+sum(q)	PPV% (HSIL)= sum(x) / (sum(x)+sum(y)		PPV% (AG+AIS+AC)= sum(b) / (sum(b)+sum(a)				
				PPV% (ASC-H+HSIL+SC)= sum(p) + sum(x) / (sum(p)+sum(q) +sum(x) + sum(y)							

Appendix F: Sample table

Laboratory	Total ASC-US results		Women with an HPV test				HPV+ result			
	women aged < 30yrs	Women aged 30+ yrs	women aged < 30yrs		Women aged 30+ yrs		women aged < 30yrs		Women aged 30+ yrs	
	N	N	N	%	N	%	N	%	N	%
Lab 1										
Lab 2										
Lab 3										
…										
Total										

Laboratory	Total LSIL results		Women with an HPV test				HPV+ result			
	women aged < 30yrs	Women aged 30+ yrs	women aged < 30yrs		Women aged 30+ yrs		women aged < 30yrs		Women aged 30+ yrs	
	N	N	N	%	N	%	N	%	N	%
Lab 1										
Lab 2										
Lab 3										
…										
Total										