

Colposcopy Quality Improvement Committee 2022 Annual Report

Quality Management Activities for 2022

Prepared December, 2023

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Executive Summary

In 2022, colposcopy services soared, overcoming such challenges as specialist shortages in some locations, the merging of clinics in Calgary, new additions to workflow with the introduction of HPV Test of Cure (HPV ToC) and the decommissioning of SCM application, as well as navigating a post-pandemic world. We applaud everyone for their tenacity and resilience during these difficult times. This 2022 report affirms that together we can build healthy communities and healthy Albertans.

Since November 2019, Alberta Health Services (AHS) has been moving into the Connect Care platform to facilitate the use and sharing of health information across the province to improve patient care. This migration also resulted in changes in how data is received by the Alberta Cervical Cancer Screening Program (ACCSP) from colposcopy clinics. For example, 'Final Diagnosis' data field now corresponds to the 'ECC' and 'Biopsy' fields if any of these are marked off as completed. This means that if both fields are marked as complete, the same value is recorded for each of these fields as that of final diagnosis. Furthermore, these changes impact the current calculations of certain quality indicators like CQM 4, 5 and 7. As with any change management process, this is currently a work in progress as the ACCSP continues to align with the changing environment and the program's partnership with colposcopy clinics and quality improvement strategies for better and efficient health services delivery to eligible Albertans.

In 2022, ACCSP received a total of 21,210 Alberta Colposcopy Records from colposcopists, a 0.8% decrease in forms from year 2021. With the exception of Connect Care records, which continue to require fixing, the paper and SCM records' completion of required fields was excellent, but there is room for improvement for all optional fields to ensure data accuracy.

All colposcopists' documentation of the type of transformation zone seen and opinion on nature of abnormality and requirements for management exceeded the 95% target (CQP2).

Of patients with a referral cytology of ASC-H or worse, 45.0% were seen within 6 weeks (target 90%), 87.7% were seen within 3 months (target is 95%) and the median (IQR*) wait was 46 (29,63) days. For persistent ASC-US or LSIL, 87.0% were seen within 6 months (target is 95%), here the median (IQR) wait was 92 (46,140) days.

16,805 colposcopy exams were performed in 2022. 20.8% of all colposcopy appointments were No-Shows (NS) or Rebooks in 2022 as opposed to 18.2% in 2021.

32.6% of referral cytology results were ASC-US, 24.1% were low grade and 31% were high grade abnormalities. Cytology was performed during 50.9% of first colposcopy visits.

*IQR: Interquartile range is a measure of statistical dispersion, being equal to the difference between 75th and 25th percentiles.

Colposcopy exam results are summarized as follows:

- 83.1% of patients with a referral cytology result of ASC-H or worse had a colposcopic biopsy, 87.4% had an ECC and 97.1% had either a biopsy or an ECC (target 95% for either – CQM4).
- For 94.8% of colposcopy exams, the colposcopic impression and final diagnosis result were the same or within one step (i.e. NIL – Low grade – High grade – microinvasion – malignant).
- 44.8% of the diagnostic recommendations were to repeat colposcopy, 42.0% were discharged to screening and 13.2% were recommended treatment. LEEP was the most common treatment recommended (i.e. 7.8% of all recommendations and 59.3% of treatment recommendations).
- HPV reflex tests resulted in 26.7% of the first-time referrals to colposcopy. Of the 1,580 positive reflex tests, 1,356 (85.8%) were for patients over 30 years of age with ASC-US and 220 (13.9%) for patients over 50 years of age with LSIL. 4 (0.3%) of HPV tests were performed at the request of pathologist or colposcopist.
- HPV TOC was readily integrated into clinic flow. 73.3% of the HPV ToC completed were negative of which 80.4% were discharged from colposcopy.

Table of Contents

Chapter One: Program Information and Colposcopist Participation

1. Alberta Cervical Cancer Screening Program (ACCSP)	5
2. Colposcopy Records	5
3. Participating Colposcopists	5
4. Number of Records Received and Processed	6

Chapter Two: Colposcopy Examinations

1. Site Examined During the Colposcopic Examinations	7
2. Type of transformation zone seen at colposcopy examinations involving the cervix	8
3. Referral Cytology at First Colposcopy Visit	9
4. Colposcopy Cytology at the First Colposcopy Visit	11
5. HPV Test of Cure (HPV ToC)	12
6. Final Recommendations for the Most Recent Visit	13

Chapter Three: Quality Measures and Practices

CQP 1: Education requirements for physicians doing colposcopy	15
CQP 2: Documentation	15
CQP 3: Workload per year stratified by colposcopist	16
CQM 1: Proportion of patients with a referral cytology result of ASC-H or worse	18
CQM 2: Proportion of patients referred for colposcopy with a referral cytology result	19
CQM 3: "No-show" rates	20
CQM 4: Proportion of patients who have a biopsy and/or an ECC done upon discharge	21
CQM 5: Result at Final Diagnosis	22
CQM 6: Correlation of referral cytology result with histology result(s) done within 12 months	23
CQM 7: Correlation between colposcopic impression and final diagnosis result	23
CQM 8: Treatment Success	23
APPENDIX A: Pap Test in Colposcopy	24
APPENDIX B: HPV ToC Algorithm	25
APPENDIX C: Colposcopy Record	26

Chapter One: Program Information and Colposcopist Participation

1. Alberta Cervical Cancer Screening Program (ACCSP)

The Alberta Cervical Cancer Screening Program (ACCSP) is a population based program coordinated by Alberta Health Services (AHS) Screening Programs. The ACCSP's mission is to reduce cervical cancer incidence and mortality through early detection and treatment of precursor conditions. The Program is a provincial collaborative involving Albertans, healthcare providers, laboratories, health zones and other key stakeholders.

Since 2003, the ACCSP Colposcopy Quality Improvement Committee has undertaken quality improvement activities for colposcopists and colposcopy clinics delivering cervical cancer screening and treatment services in Alberta. To assist in monitoring patient's follow-up and to support professional quality improvement and assurance for colposcopy, the ACCSP encourages colposcopists across Alberta to complete a Colposcopy Record form for each procedure and at the end of each month, send a copy of the forms to the program. For clinics on Connect Care, the request is for each encounter to be documented in the electronic Colposcopy Record and the program will extract the data. This report is intended to support quality improvement activities.

2. Colposcopy Records

The 2022 colposcopy data analyzed for this annual report were provided to the ACCSP by colposcopists as of December 22, 2023. The overall validity of results is dependent on the quality and completeness of each form and encounter. Significantly, the colposcopy data extracts from Connect Care impacted the data interpretation with 'Final Diagnosis' representing 'ECC' and 'Biopsy' if these are reported as completed.

3. Participating Colposcopists

63 colposcopists submitted forms to the ACCSP in 2022.

4. Number of Records Received and Processed

ACCSP received a total of 21,210 Colposcopy Records for year 2022 (Table 1), which represented a 0.8% decrease from 2021. On average 1,768 forms were received each month.

Table 1. Colposcopy Records Processed by ACCSP per month in 2022

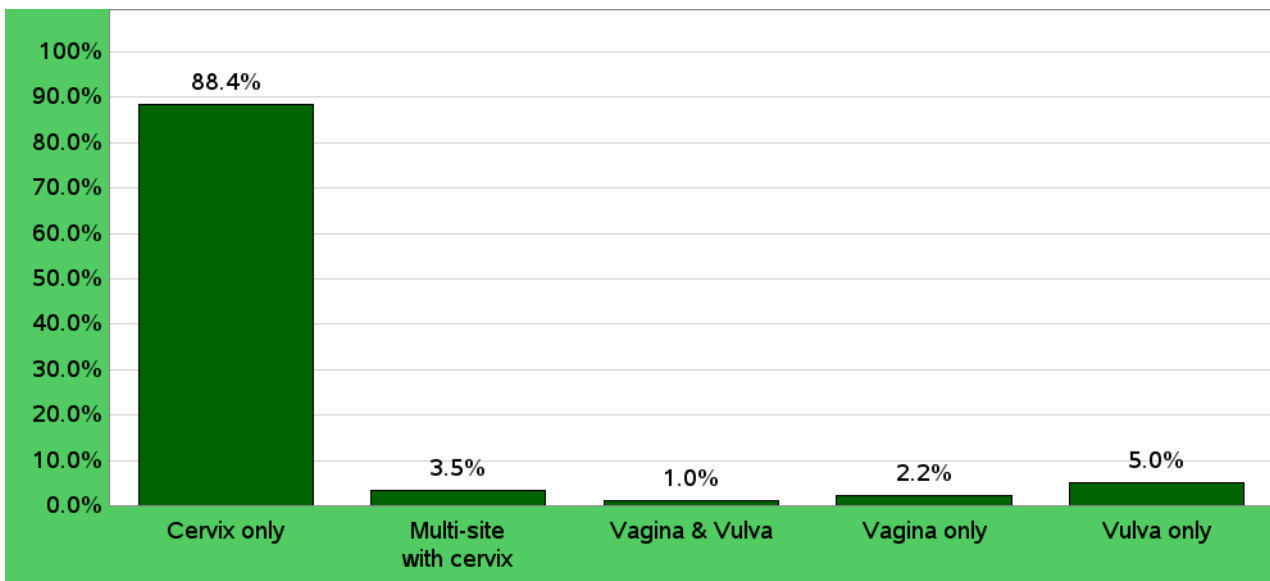
Month	Connect Care	Paper Form	Total	Percentage
January	603	1,108	1,711	8%
February	490	1,115	1,605	8%
March	688	1,310	1,998	9%
April	709	1,261	1,970	9%
May	675	1,172	1,847	9%
June	742	1,333	2,075	10%
July	687	1,046	1,733	8%
August	760	1,227	1,987	9%
September	305	1,157	1,462	7%
October	696	1,165	1,861	9%
November	1,066	453	1,519	7%
December	1,163	279	1,442	7%
Total	8,584	12,626	21,210	100%

Chapter Two: Colposcopy Examinations

This chapter includes information on sites examined during colposcopy, the type of transformation zone seen at colposcopy examinations involving the cervix, referral and colposcopy cytology.

1. Site Examined During Colposcopy

Figure 1: Sites examined during colposcopy procedures (n=16,805)

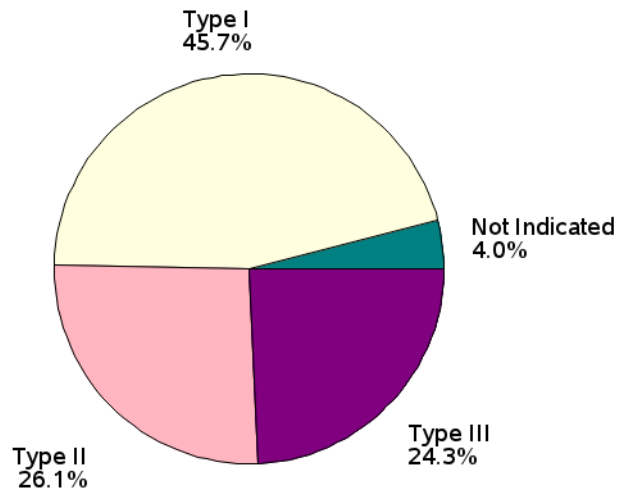


91.8% of reported exams included the cervix, while 4.5% of exams involved multiple sites.

Note 100% of the records indicated which site(s) were examined.

2. Type of Transformation Zone (TZ) seen at Colposcopy Examinations Involving the Cervix

Figure 2: Type of TZ seen (n=15,430)



The International Federation of Cervical Pathology and Colposcopy has classified the transformation zone (TZ) into three categories:

- A Type I TZ is completely ectocervical and fully visible.
- A Type II TZ is fully visible, has an endocervical component, and may have an ectocervical component.
- A Type III TZ is predominantly endocervical, not fully visible, and may have an ectocervical component.

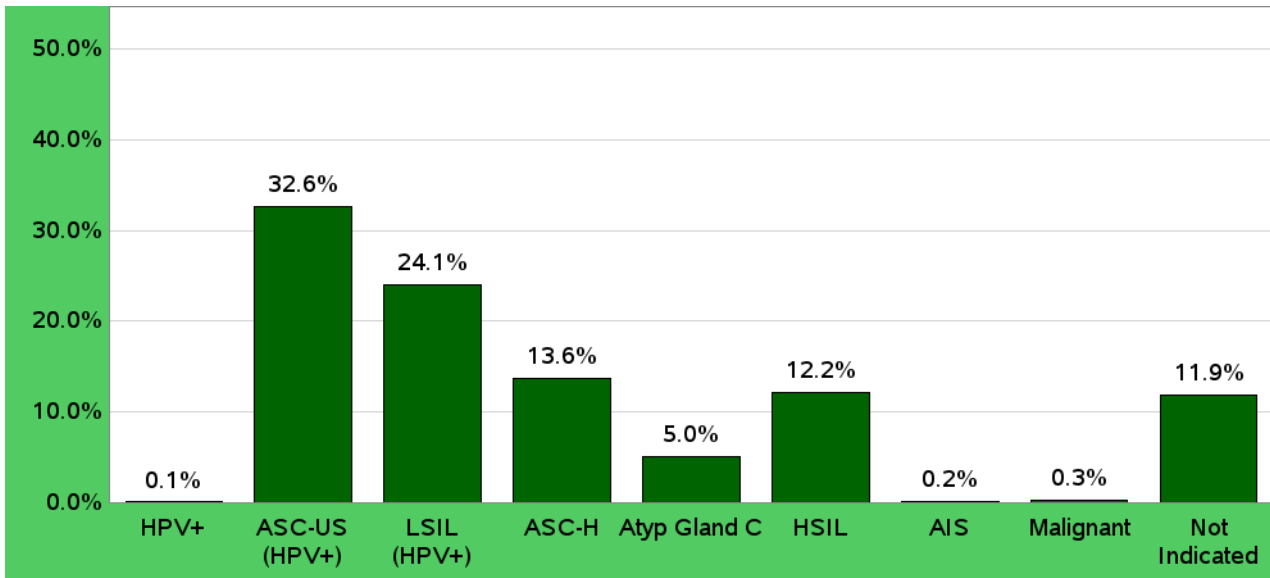
Reference:

The TZ Type I & II are considered satisfactory, replacing the term 'Satisfactory' to categorize the colposcopy. The transformation zone is to be described as Type I, II or III.

SOGC Joint Clinical Practice Guideline. (2012). Colposcopic Management of Abnormal Cervical Cytology and Histology. *Journal of Obstetrics and Gynaecology Canada*, 34(12), 1188–1202.

3. Referral Cytology at First Colposcopy Visit

Figure 3: Referral cytology at first colposcopy visit (n=5,913)



Of the 5,913 first colposcopy visits, 1,930 (32.6%) had referral cytology results that indicated ASC-US. 1,424 (24.1%) were low-grade abnormalities (LSIL). 1,835 (31.0%) were high-grade abnormalities (ASC-H, Atypical Glandular Cells, HSIL, or AIS), and 17 (0.3%) of the referral cytology results indicated malignancy.

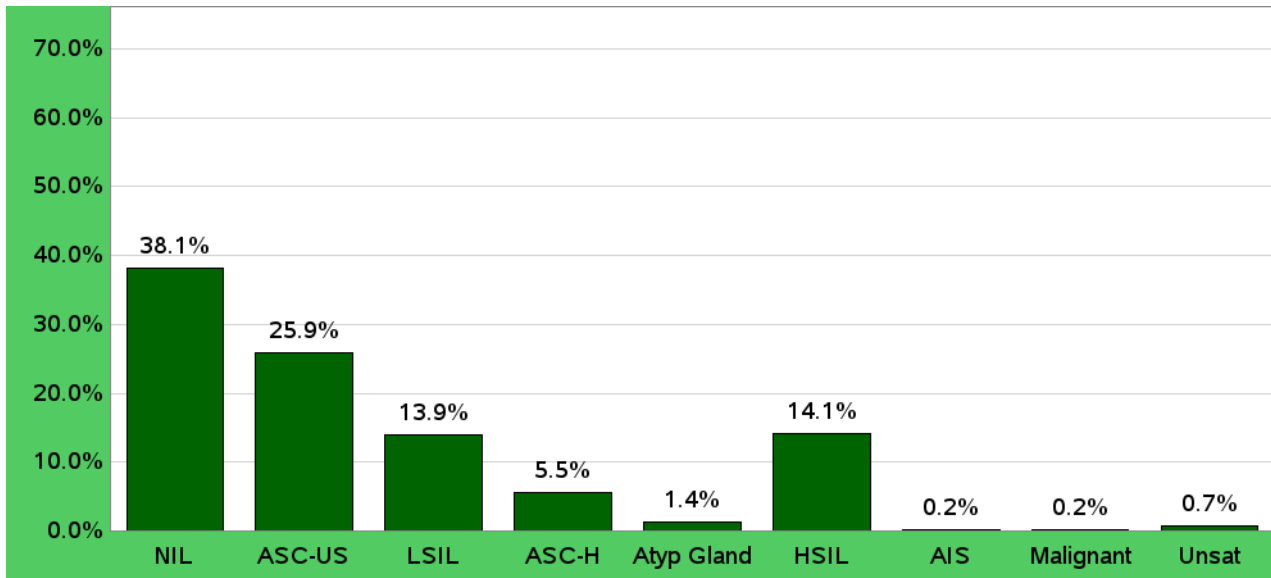
Table 2. Referral cytology at first colposcopy visit with HPV+ reason (n=1,580)

	Referral Result	N	Percent
HPV Reflex Test done	ASC-US	1,356	85.8%
	LSIL	220	13.9%
	Others	4	0.3%
Total		1,580	100%

The purpose of reflex HPV testing is to detect the Human Papillomavirus (HPV) in an abnormal Pap test sample, to inform follow up requirements for patients 30 years and above with a low grade Pap test result of ASC-US or patients 50 years and above with a low grade Pap test result of LSIL. 26.7% of first-time referrals to colposcopy were HPV Reflex positive tests. Of the 1,580 positive reflex tests, 1,356 (85.8%) were for patients 30 years and above with ASC-US and 220 (13.9%) for patients 50 years and above with LSIL. 4 (0.3%) of HPV tests were performed at the request of pathologist or colposcopist.

4. Colposcopy Cytology at First Colposcopy Visit

Figure 4: Colposcopy cytology performed at first colposcopy visit (n=3,012)



Cytology was performed during 3,012 (50.9%) of the 5,913 first colposcopic examinations, which represented a 5.0% increase from last year.

1,147 (38.1%) of these 3,012 results were NIL; 781 (25.9%) indicated ASC-US; 420 (13.9%) indicated LSIL; 637 (21.2%) had cytology results of high-grade abnormalities (ASC-H, Atypical Glandular Cells, HSIL, or AIS); results from 5 (0.2%) exams indicated malignancy; and 22 (0.7%) exams indicated results Unsatisfactory.

Of the 16,805 colposcopy examinations completed overall, cytology was performed in 11,441 (68.1%) of them.

The ACCSP Colposcopy Quality Improvement Committee recommends that Pap testing be performed in accordance to the colposcopy care pathway. Please refer to appendix A: Pap testing in colposcopy for the recommended scenarios.

5. HPV Test of Cure (HPV ToC)

Table 3. Pap test results for HPV ToC records (n=604)

Pap Test Result	HPV Negative		HPV Positive		Total
	Number	Percent	Number	Percent	
NIL	377	85.1%	41	25.5%	418
ASC-US	47	10.6%	48	29.8%	95
LSIL	9	2.0%	36	22.4%	45
ASC-H	0	0.0%	9	5.6%	9
HSIL	1	0.2%	24	14.9%	25
HSIL+	1	0.2%	2	1.2%	3
Missing	8	1.8%	1	0.6%	9
Total	443	100%	161	100%	604

HPV ToC launched as a colposcopy tool on September 15, 2022 to facilitate discharge after LEEP treatment of high grade lesions.

Of the 604 HPV ToC completed, 443 (73.3%) were HPV negative and 161 (26.7%) were HPV positive.

Of the 443 HPV negative, there were 377 (85.1%) NIL, 47 (10.6%) ASC-US, 9 (2%) LSIL, 1 (0.2%) HSIL, 0 (0%) ASC-H Pap results.

Of the 161 HPV positive, there were 41 (25.5%) NIL, 48 (29.8%) ASC-US, 36 (22.4%) LSIL, 24 (14.9%) HSIL, 9 (5.6%) ASC-H Pap results.

The ACCSP Colposcopy Quality Improvement Committee recommends including LEEP date in requisition orders for HPV ToC and that HPV ToC be performed in accordance with the HPV Algorithm. Please refer to Appendix B.

6. Final Recommendations for the Most Recent Visit

Table 4. Recommendations (n=13,899)

Recommendations	Number	Percent
Discharge due to NS	26	0.2%
Discharge annual screening	5,685	40.9%
Discharge no routine screening	122	0.9%
Repeat 2-3 months postpartum	83	0.6%
Repeat 6 months postpartum	5	0.0%
Repeat colposcopy in X months	6,143	44.2%
Laser	214	1.5%
LEEP	1,088	7.8%
Conization	98	0.7%
Cold Knife Conization	4	0.0%
HPV Test of Cure	0	0.0%
Refer to Gyne Oncology	18	0.1%
Excision Vulva	30	0.2%
Hysterectomy	60	0.4%
Other Specify	192	1.4%
QA Review	131	0.9%
Total	13,899	100%

5,833 (42.0%) of the final recommendations included discharge to screening at either 6 or 12 months.

6,231 (44.8%) of the final recommendations included repeat colposcopic examination in a specified number of months.

1,835 (13.2%) of the final recommendations included treatment. LEEP was the most common treatment recommended, i.e. 1,088 (7.8%) of all recommendations and 59.3% of treatment recommendations.

Laser	Number	Percent
Cervix	60	28.0%
Cervix & Vagina	5	2.3%
Vagina	24	11.2%
Vagina & Vulva	13	6.1%
Vulva	109	50.9%
Not Indicated	3	1.4%
Total	214	100%

Summary

63 colposcopists submitted forms to the ACCSP in 2022. For patients undergoing their first visit, 31% of their referral cytology indicated high-grade abnormalities, 24.1% indicated low grade and 32.6% indicated ASC-US. Colposcopic cytology was completed at 50.9% of the first colposcopy visits and at 68.1% of visits overall. The most common final recommendation was "Repeat colposcopy in X months". 42.0% of final recommendations included discharge to screening.

Chapter Three: Colposcopy Quality Practices and Measures

1. Colposcopy Quality Practices and Colposcopy Quality Measures

The ACCSP Colposcopy Quality Improvement Committee has identified 3 Colposcopy Quality Practices (CQP) and 8 Colposcopy Quality Measures (CQM).

CQP 1: Education requirements for physicians doing colposcopy

Target: 100% of physicians doing colposcopy in Alberta meet the guidelines for training requirements in colposcopy as recommended by the Society of Obstetricians and Gynecologists of Canada.

- ACCSP presently does not gather data to report on this quality practice.

CQP 2: Documentation

Target: 95% of colposcopist assessments have documented the type of transformation zone seen and have an opinion on nature of abnormality and requirements for management.

- Overall, colposcopists documented the type of transformation zone seen for 100% of procedures; and colposcopists had an opinion on nature of abnormality and requirements for management for 100% of procedures.
- All colposcopists reached the 95% target.

CQP 3: Workload per year stratified by colposcopist

Target: Colposcopists are to see at least 100 patients per year to maintain skill and expertise.

Figure 5.1: Number of new and returning patients in total number of exams

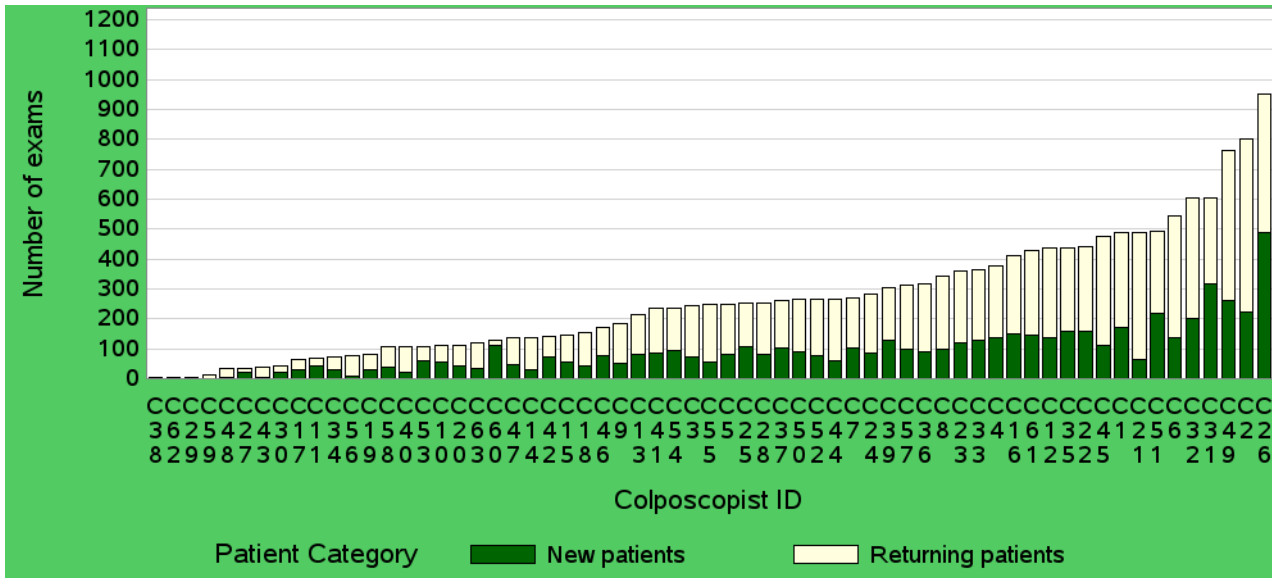


Figure 5.2: Number of colposcopies performed

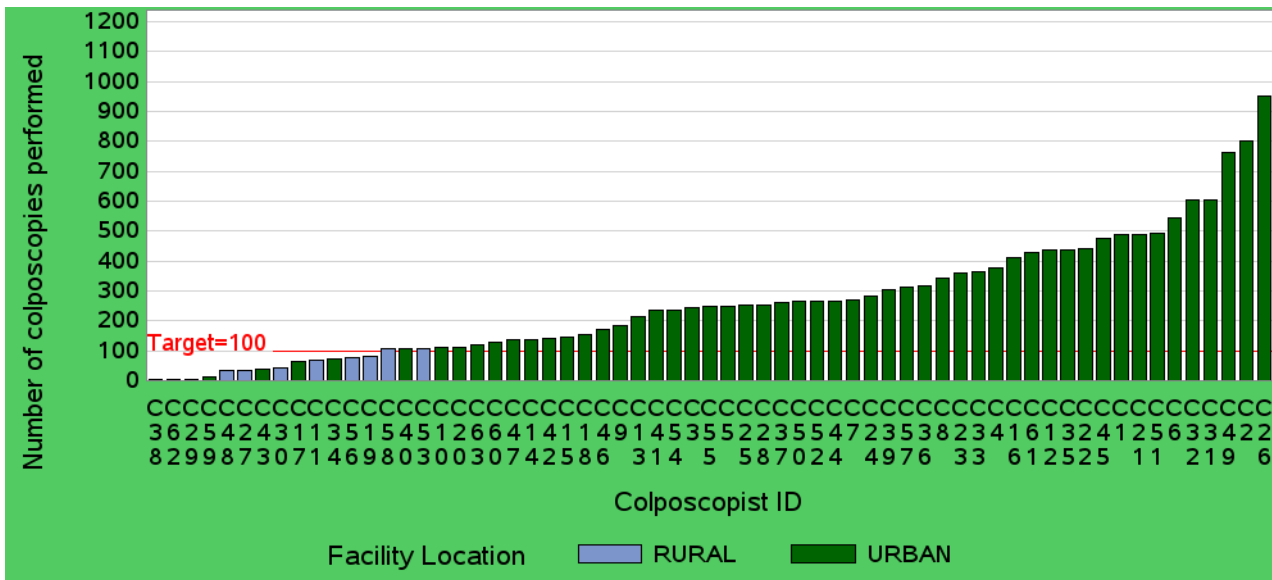


Figure 5.3: Total number of new patients seen by colposcopists in past 5 years

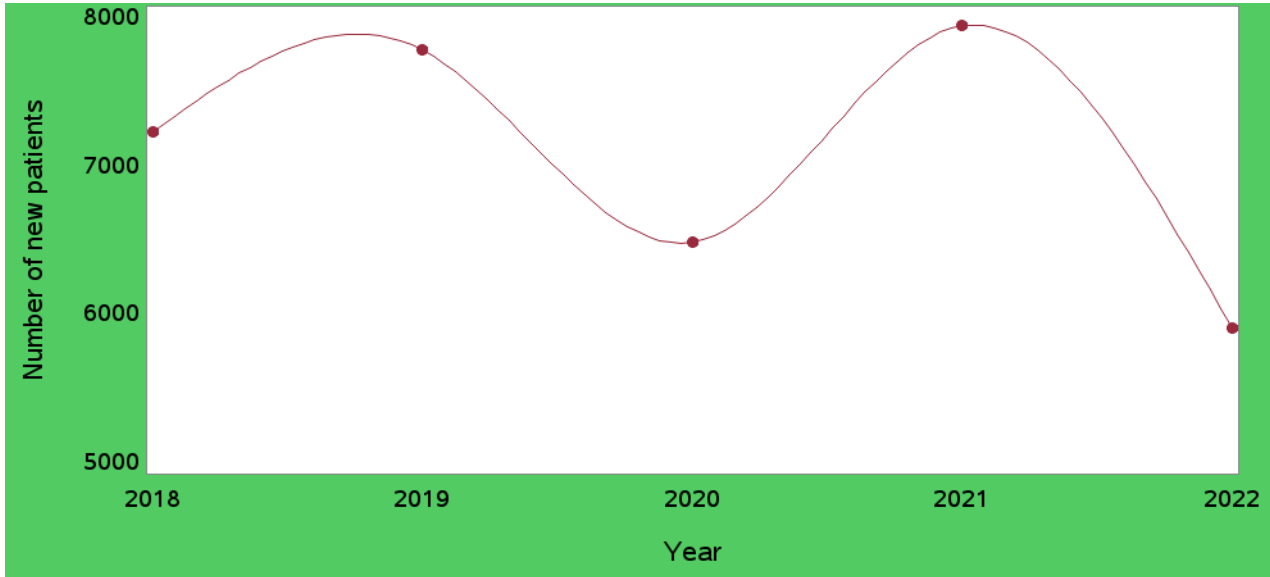
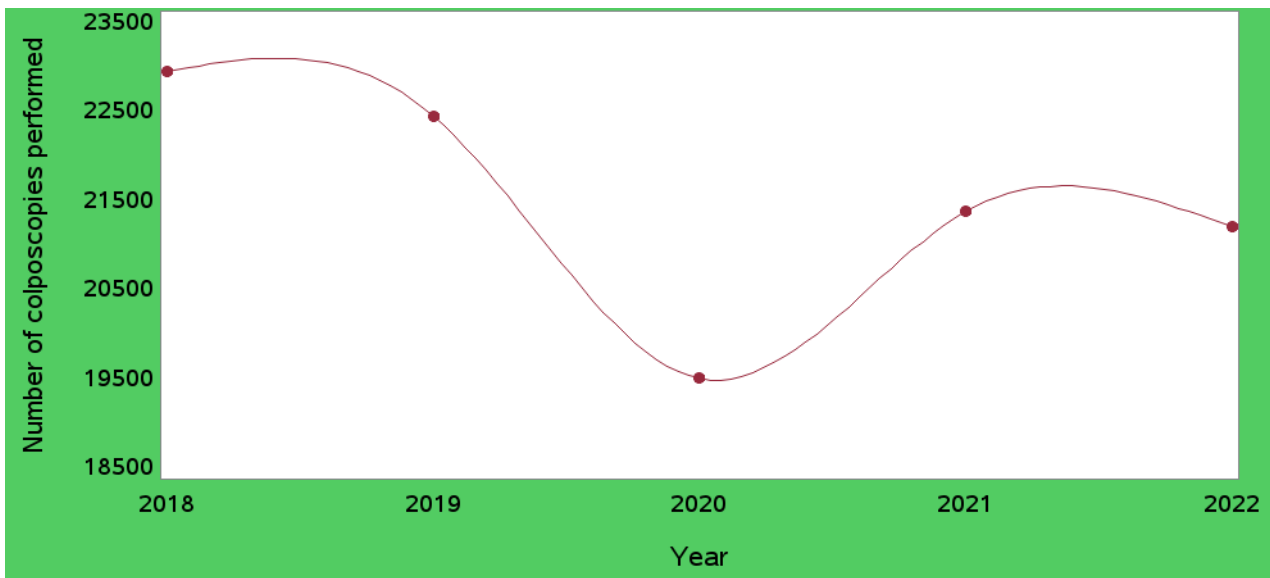


Figure 5.4: Total number of colposcopies performed in past 5 years



CQM 1: Proportion of patients with a referral cytology result of ASC-H or worse who are seen in colposcopy within 6 weeks of the date of the referral cytology result

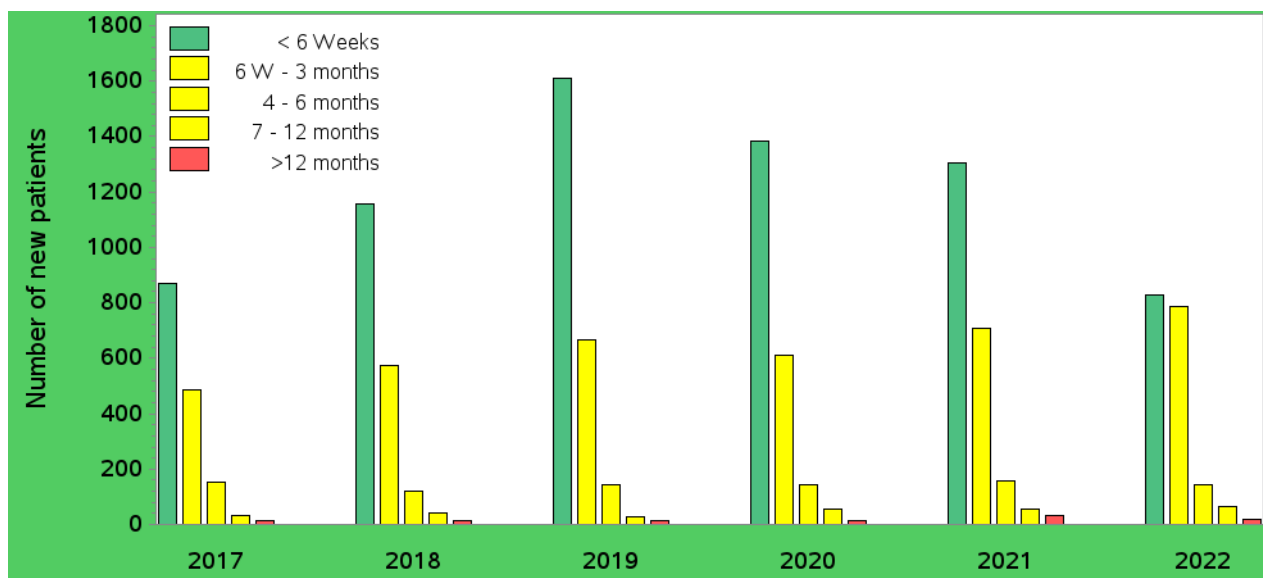
Target: 90% of patients with a referral cytology result of ASC-H or worse are seen by colposcopy within 6 weeks of the date of the referral cytology.

Table 5. Proportion of patients with a referral cytology result of ASC-H or worse seen in colposcopy by timeframe

Wait Time	Number of new patients seen by colposcopy	Percent
< 6 Weeks	830	45.0%
6 Weeks - 3 months	789	42.7%
4 months - 6 months	142	7.7%
7 months - 12 months	67	3.6%
>12 months	18	1.0%
Total	1,846	100%

This analysis is restricted to the 1,846 cases where the Alberta Cervical Cancer Screening Program (CCS database) has a record of referral cytology of ASC-H or worse.

45.0% of patients with a referral cytology result of ASC-H or worse were seen in colposcopy within 6 weeks from the date of referral cytology. 87.7% of patients with a referral cytology result of ASC-H or worse were seen in colposcopy within 3 months of the date of referral cytology, the median (IQR) wait time was 46 (29,63) days.



CQM 2: Proportion of patients referred for colposcopy with a referral cytology result of persistent ASC-US or persistent LSIL who are seen by colposcopy within 6 months of the date of the referral cytology result

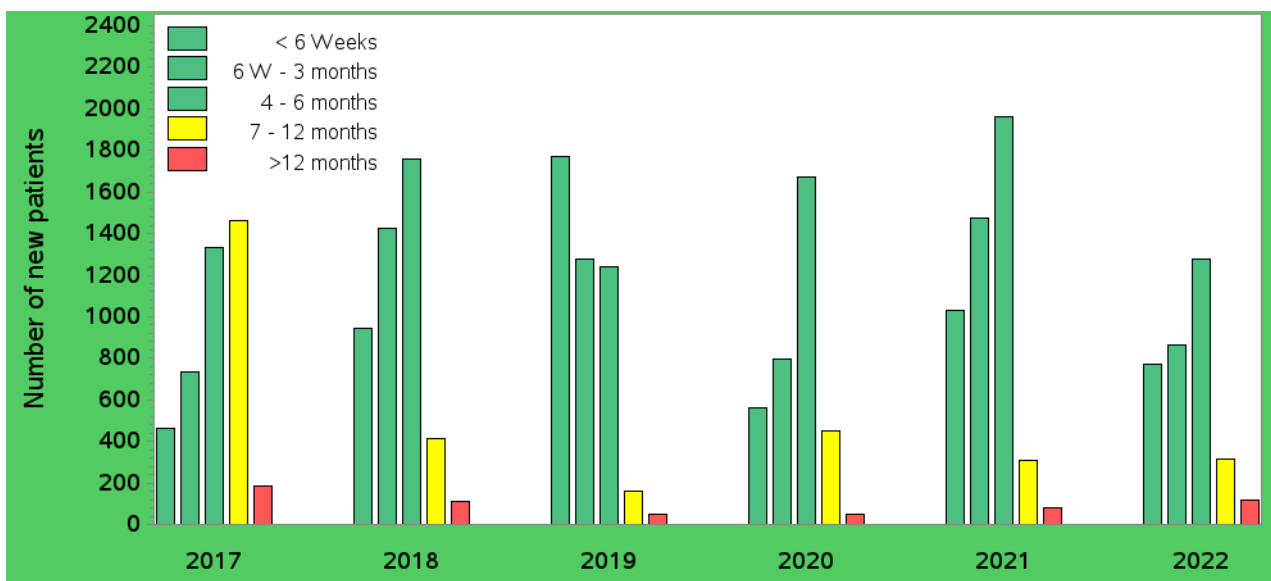
Target: 95% of patients with a referral cytology result of persistent ASC-US or LSIL to be seen by colposcopy within 6 months of the date of the referral cytology result.

Table 6. Proportion of patients referred for colposcopy with a referral cytology result of persistent ASC-US or persistent LSIL seen in colposcopy by timeframe

Wait Time	Number of new patients seen by colposcopy	Percent
< 6 Weeks	770	23.0%
6 Weeks - 3 months	864	25.8%
4 months - 6 months	1,275	38.1%
7 months - 12 months	318	9.5%
>12 months	118	3.5%
Total	3,345	100%

This analysis is restricted to the 3,345 cases where the Alberta Cervical Cancer Screening Program (CCS database) has a record of referral cytology of persistent ASC-US or persistent LSIL.

Only 87.0% of patients with a referral cytology result of persistent ASC-US or LSIL were seen in colposcopy within 6 months of the date of the referral cytology, although the median (IQR) wait time was 92 (46,140) days.



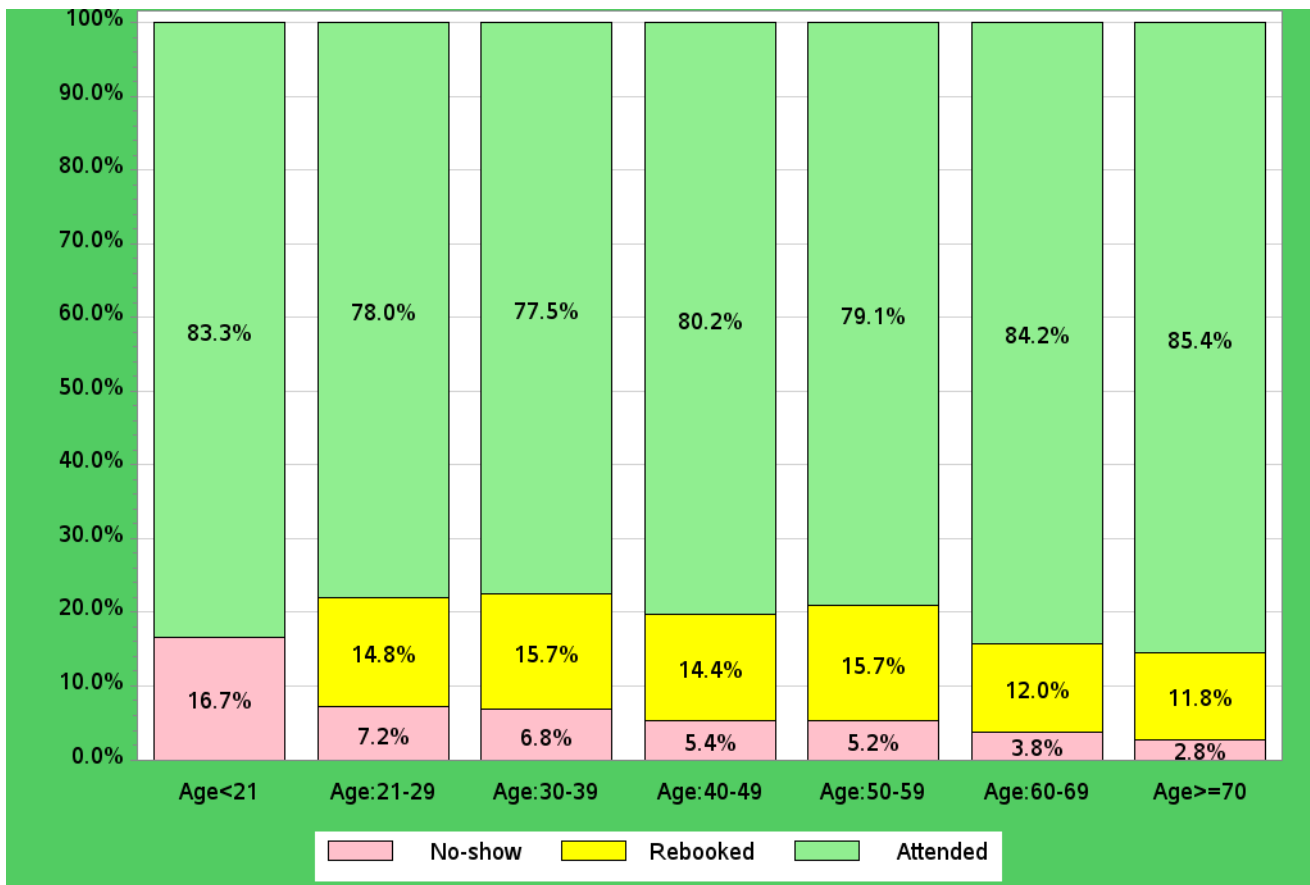
CQM 3: “No-show” rates

Target: To be determined.

Table 7. No-show / rebooked colposcopy appointments

	No-show	Rebooked	Attended	Total
Number of forms	1,267 (6.0%)	3,138 (14.8%)	16,805 (79.2%)	21,210

Figure 6: Percentage of colposcopy appointments that were attended, no-show, or rebooked by age group (n=21,210)



- Approximately 79.2% of the appointments (at all facilities) were 'Attended'.
- The no-show rate decreased as age advanced. Patients in the younger age groups (less than 21 and 21-29) were more likely to be No-show or Rebooked than patients 30 years and older.

CQM 5: Result at Final Diagnosis

With changes to data fields of 'Final Diagnosis' replacing 'ECC' and 'Biopsy', the current CQM 5 indicator can't be measured. Thus, this indicator has been updated from “Satisfactory ECC and/or biopsy specimen for histological diagnosis” to “Result at Final Diagnosis”.

Target: NA

- Histology results are not currently being captured in the ACCSP CCS application. This data was reported by the colposcopist on the Colposcopy Record Forms.

Table 9. Result at Final diagnosis

Result	Count
Other	755 (3.6%)
HPV ToC Negative	85 (0.4%)
HPV ToC Positive	19 (0.1%)
Negative	7,955 (37.5%)
NIL - HPV only	977 (4.6%)
Condyloma	19 (0.1%)
SIL unqualified	495 (2.3%)
Cervix LSIL	3,227 (15.2%)
Cervix HSIL	2,600 (12.3%)
Vagina LSIL	94 (0.4%)
Vagina HSIL	58 (0.3%)
Vulva LSIL	61 (0.3%)
Vulva HSIL	191 (0.9%)
Vulva dVIN	27 (0.1%)
AIS	102 (0.5%)
Microinvasion	19 (0.1%)
Malignant	107 (0.5%)
Done, no details	4,419 (20.8%)
Total	21,210 (100%)

- This performance measure is under review by the Colposcopy QI Committee.

CQM 6: Correlation of referral cytology result with histology result(s) done within 12 months of referral cytology result

Target: To be defined.

- Histology results are not currently being captured in the ACCSP CCS application.

CQM 7: Correlation between colposcopic impression and final diagnosis result

Target: To be defined once baseline data is available.

Table 10. Correlation between colposcopic impression and final diagnosis result

Correlation	Frequency Count	Percent
Same step	3,306	61.1%
Undercall -1	1,135	21.0%
Overcall +1	688	12.7%
Total: same step or +/- 1	5,129	94.8%
Undercall -2 or less	182	3.4%
Overcall +2 or more	100	1.8%

- Correlation between colposcopic impression and colposcopic final diagnosis for the same step or +/-1 difference was 94.8%.
- In 5.2% of cases the colposcopic impression was 2 or more steps different from the colposcopy final diagnosis result.

CQM 8: Treatment Success - Proportion of patients with a histologically confirmed HSIL who complete treatment and do not have HSIL on cytology or histology results within 18 months of patient discharge from colposcopy services

Target: 90% or more of patients do not have HSIL on cytology or histology done within 18 months of discharge from colposcopy services.

- Histology results are not currently being captured in the ACCSP CCS application.

Appendix A: Pap Test in Colposcopy



Alberta Cervical Cancer Screening Program

Last Revision Date: 3 November 2017

Pap Testing in Colposcopy

The ACCSP Colposcopy QI Committee recommends that Pap testing to be used in colposcopy only in the following circumstances:

Recommended Indications for Pap in Colposcopy

- Pregnancy*
- AGC Referral*
- For VAIN referral*
- Referral cytology outside Alberta
- ASC-H: recommended at 2nd colposcopy visit
- HSIL and negative 1st colposcopy visit, repeat Pap at 2nd and 3rd colposcopy
- Referral Pap > 6/12 prior to colposcopic assessment
- Clinical discretion

*Do not repeat if referral Pap was within 3/12 of colposcopic examination

Appendix B: HPV ToC Algorithm

