BC CANCER CERVIX SCREENING

Provincial Health Services Authority

Cervical Cancer: Screening and Management Updates

NOVEMBER 23, 2019

DR. MARETTE LEE

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Disclosures

- Past honoraria from Merck and SOGC

Mitigating Bias

- I will not be discussing or referencing any specific products.

- All honoraria have been donated to BC Cancer Foundation
  - NO, I do not hold grants here!

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Objectives

- Review details of current cervix screening in BC
- Discuss screening challenges and what you can do
- Understand exciting new developments coming in 2020
- Examine 2018 FIGO staging and recent changes in surgical management of early cervical cancer

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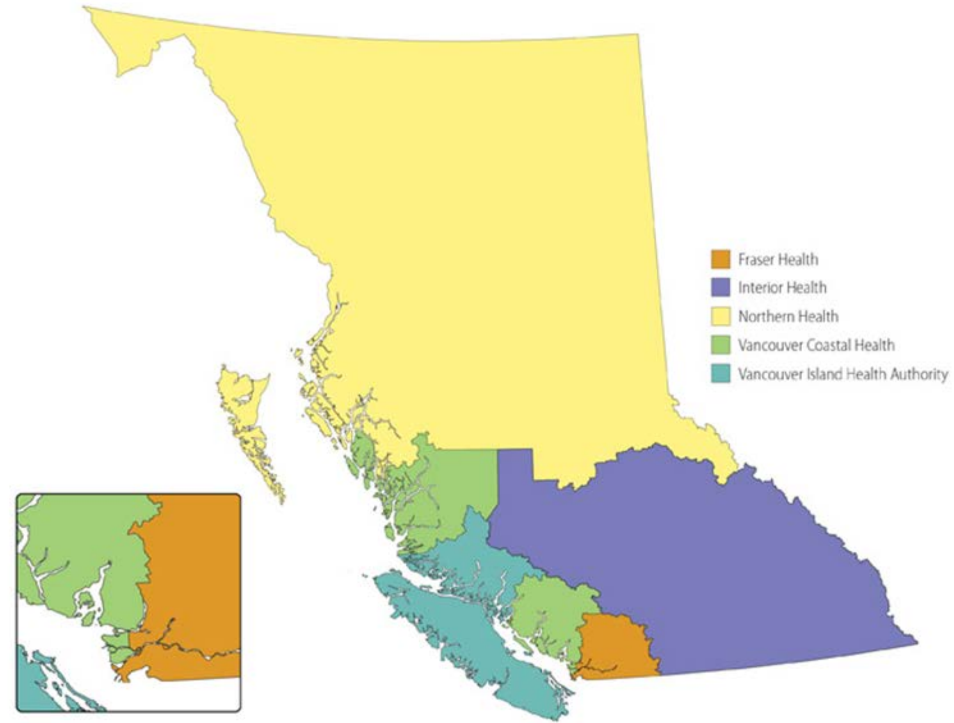
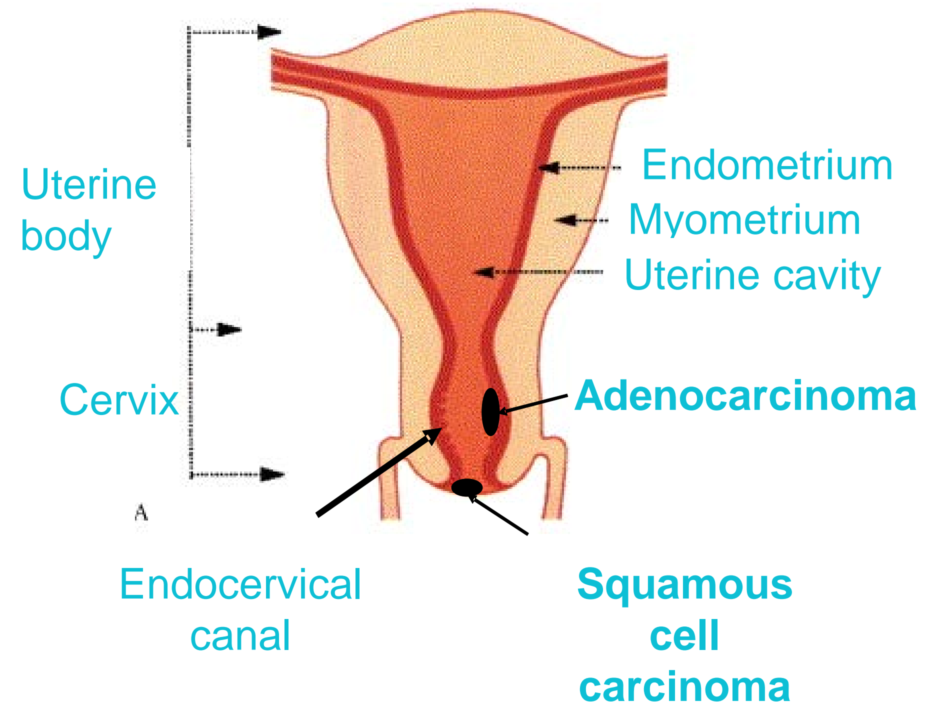


CURRENT CERVIX SCREENING IN BC

Types of cervical cancer

- There are two main types of cervical cancer
  - Squamous cell carcinoma (SCC)
  - Adenocarcinoma

Histological location of adenocarcinoma and squamous cell carcinoma of the cervix



1. Burd EM. Clin Microbiol Rev 2003; 16:1–17;
2. Kjaer SK, et al. Epidemiol Rev 1993; 15:486–498.

Principles of Programmatic Screening

- Evidence from well-conducted studies that early detection improves health outcomes;
- There is accepted treatment for patients with recognised disease;
- There is an effective test available;
- Facilities exist for diagnosis and treatment;
- The benefits of screening outweigh any potential harms;
- Prevalence of the disease is high enough to justify the effort and costs of screening.

- World Health Organization

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Screening is for **Asymptomatic** Women

- **Symptomatic women need to be examined (+/- referred) even if previous cervical screen was normal!**
  - Abnormal vaginal bleeding (such as bleeding in between periods, bleeding during/after sex or after menopause);
  - Abnormal or persistent vaginal discharge; or,
  - Pelvic pain, or pain during sexual intercourse.

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Cervical Cancer Screening Program

PROGRAM OBJECTIVE	To reduce cervical cancer incidence and mortality by finding pre-cancers and cancer at an early stage through routine screening
TARGET POPULATION	Women age 25-69 years
SCREENING TEST	Cytology every 3 years for average risk women *Pap test is provided by health care providers across BC; specimens sent to central lab in Vancouver for processing and reporting*
RESULTS	Results mailed to health care provider
REMINDER	Mailed to health care provider when time to rescreen *Providers are responsible for reminding patients to return to screening*

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BC's Cervical Cancer Screening Policy

		RECOMMENDATION	SCREENING INTERVAL	BALANCE OF HARMS & BENEFITS
AVERAGE RISK	Age 25-69	Screen	3 years	**Benefits outweigh harms**
	Never had sexual contact*	Do not screen	N/A	Harms outweigh benefits
	Received the HPV Vaccine	Screen	3 years	**Benefits outweigh harms**
	In same sex relationships	Screen	3 years	**Benefits outweigh harms**
	Transgender with a cervix	Screen	3 years	**Benefits outweigh harms**
	After TOTAL hysterectomy	Do not screen	N/A	Harms outweigh benefits
	Age <25	Do not screen	N/A	Harms outweigh benefits
	Age >69	Do not screen	N/A	Harms outweigh benefits
HIGHER THAN AVERAGE RISK	Immunocompromised women	Screen	Annual	**Benefits outweigh harms**
	History of pre-cancerous lesions or cervical cancer	Screen	Annual Until 25 years after diagnosis with at least 5 negative cytology in last 10 years	**Benefits outweigh harms**

** Sexual contact includes intercourse as well as digital or oral sexual contact involving the genital area of a partner of either gender*

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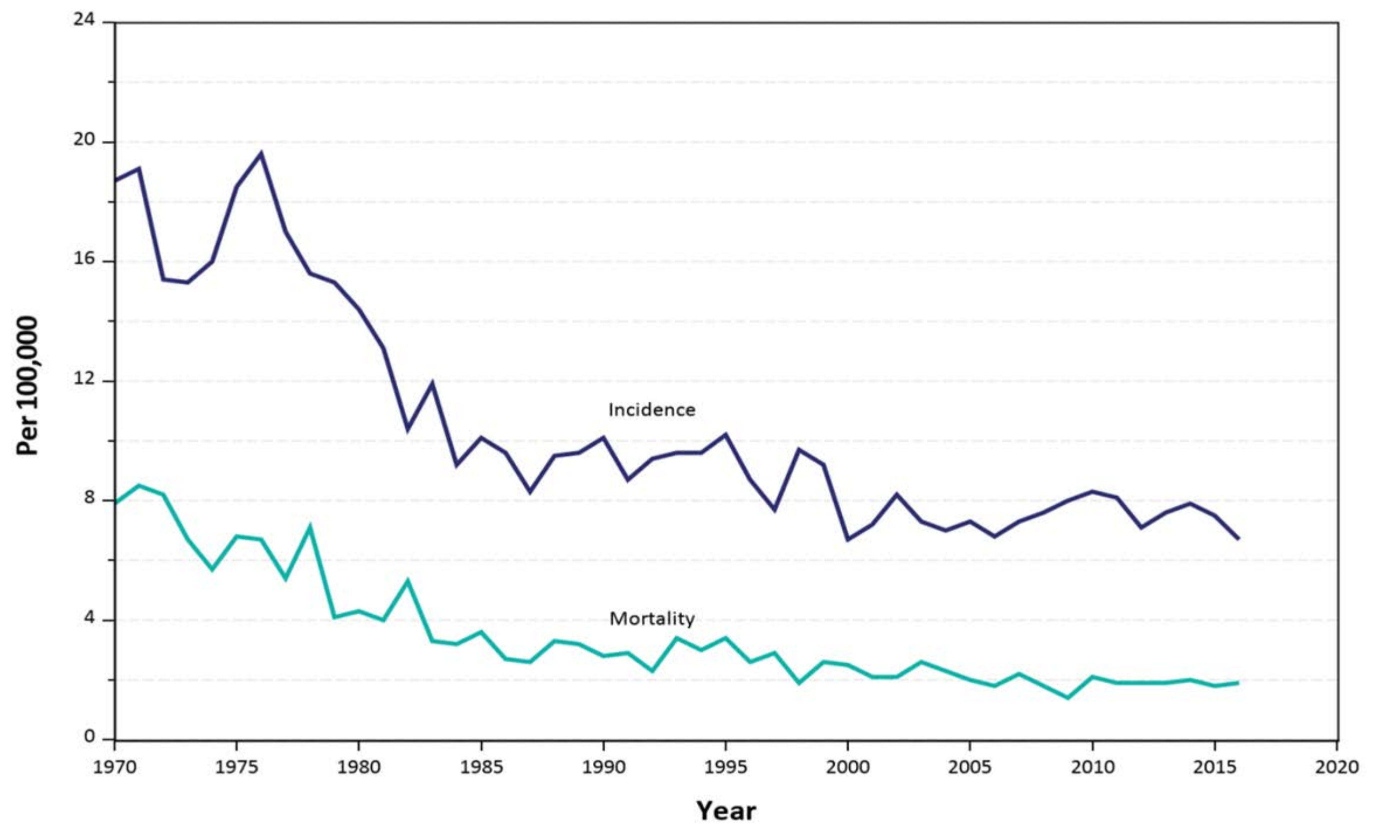

SCREENING CHALLENGES AND WHAT YOU CAN DO

Screening Effectiveness Depends on:

FACTORS OUTSIDE OF YOUR CONTROL:

– Laboratory performance

AND, FACTORS **WITHIN YOUR CONTROL:**

– Women's participation

– Sample quality

– Adequate management and treatment of abnormal results

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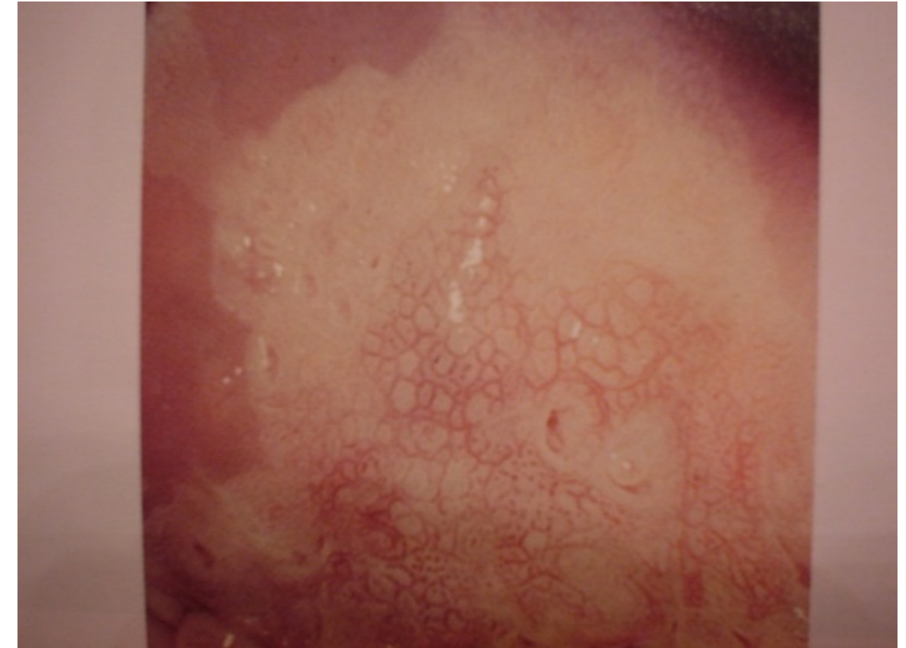
Screening Challenges in B.C.

- 10% of eligible women have NEVER had a Pap smear
- >20% of women have had inadequate screening
- >50% of women with cancer had inadequate screening
- Geographic, cultural, financial, etc. barriers to screening



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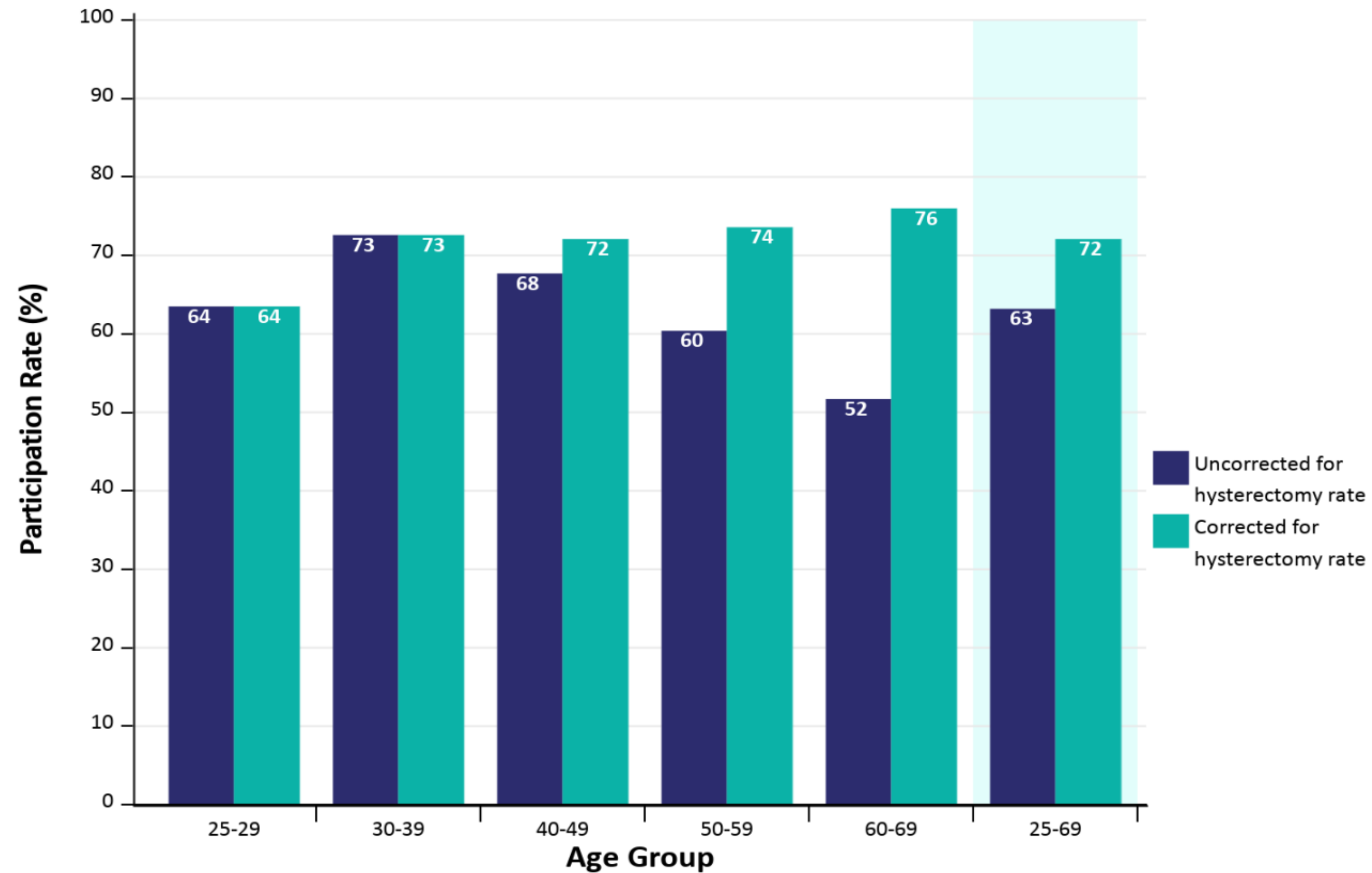
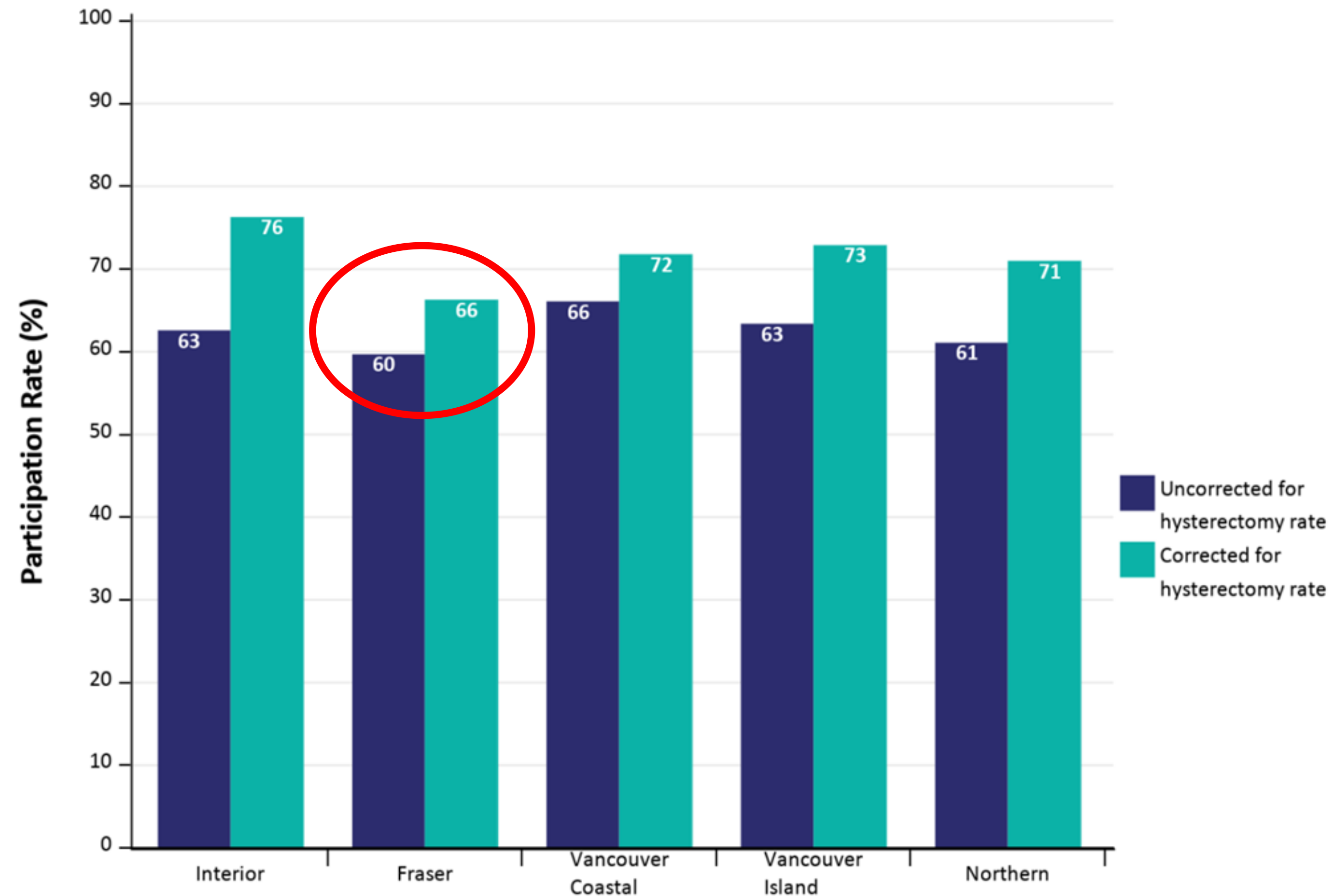
Participation Rates by Age Group, 2017



Notes:

1. Based on average of 2017 and 2018 female population estimates
2. Population data source: P.E.O.P.L.E. 2018 (Sept 2018), BC STATS, Service BC, BC Ministry of Citizen's Services
3. Hysterectomy adjustment calculated using 2012 Canadian Community Health Survey
4. BC Cancer Cervix Screening data extraction date: 11/19/2018
5. Age is computed based on patient's age at end of 2017

Participation Rates by Health Authority, 2017



Notes:

1. Based on weighted average of 2014, 2015 and 2016 female population estimates
2. Population data source: P.E.O.P.L.E. 2016 (Sept 2016), BC STATS, Service BC, BC Ministry of Citizen's Services
3. Hysterectomy adjustment calculated using 2012 Canadian Community Health Survey
4. HA data acquired from Research Data Access Services, BC Ministry of Health
5. BC Cancer Cervix Screening data extraction date: 8/14/2017
6. Age is computed based on patient's age in 2015

How can I fight cervical cancer?

- **Identify eligible women** for screening
- Obtain high **quality smears**
- Make **appropriate referrals** for abnormal results
- Encourage **smoking cessation**
- Encourage and provide **HPV vaccination**
- Refer patients for **investigation of symptoms,** regardless of screening results

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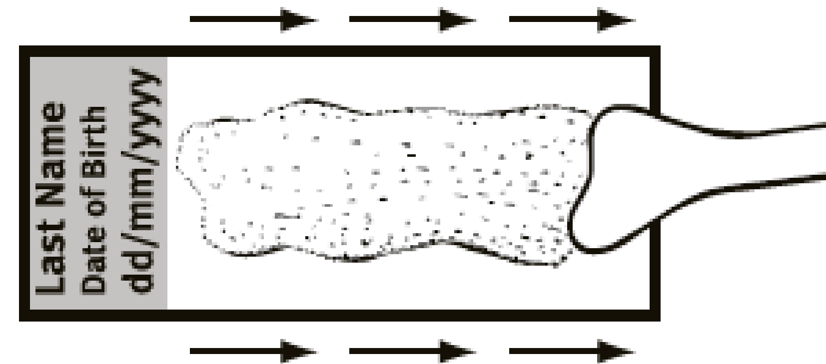
Technique

- SINGLE slide
- Cytobrush!
- LABEL the slide in PENCIL
  - NAME and DOB
  - 1,500 smears per day!!!
- Use cytospray IMMEDIATELY
  - 10 seconds makes a difference
  - By 1 minute – largely air dried



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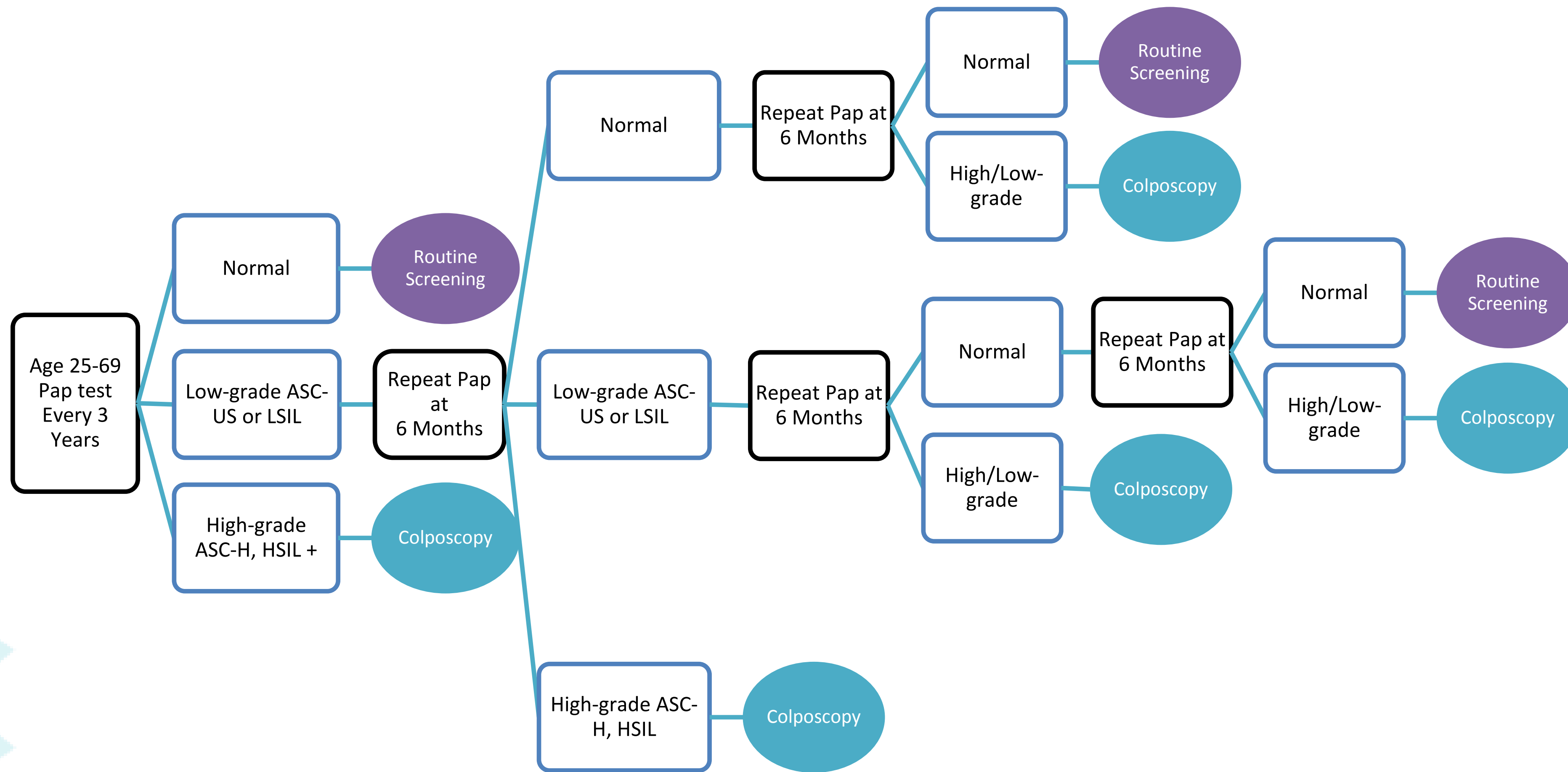
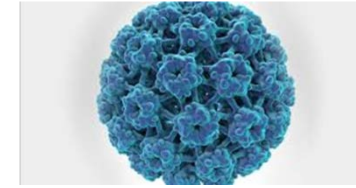
Management of Abnormal Results



The strongest statistical relationship ever identified in cancer epidemiology



Attributable Proportion

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

100
50
20
10
5
2
1.5

HPV and cervical cancer

Smoking and lung cancer

HBV and liver cancer

Alcohol and oral cancer

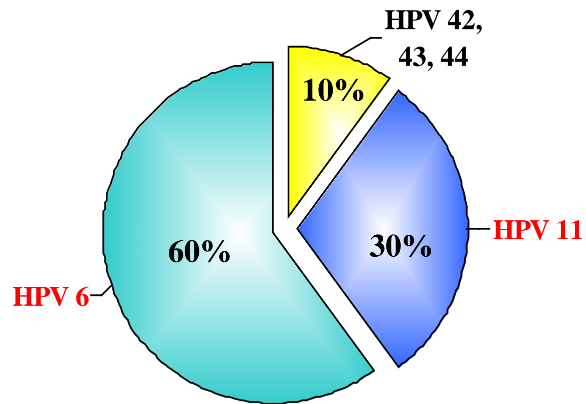
ETS and lung cancer

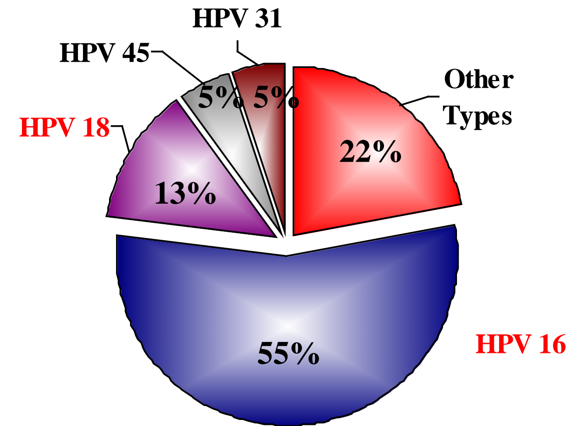
0%
20%
40%
60%
80%
100%

Prevalence of risk factor

EL Franco, *Vaccine* 2005; 23

Prevalence of HPV Types worldwide





Type 6 & 11 together cause:

- *25% of all CIN 1 lesions;*
- *90% of ano-genital warts;*
- *90% of Recurrent Respiratory Papillomatosis*

Type 16 & 18 together cause:

- *25% of all CIN 1 lesions;*
- *60% of all CIN 2/3 lesions;*
- *70% of CIN 3 lesions and cervical cancers;*

Source Munoz N, et al. N. Engl. J. of Medicine. 2003;348(6):518-527. Bosch FX, et al. J. Cancer Inst. 1995;87(11):796-802.

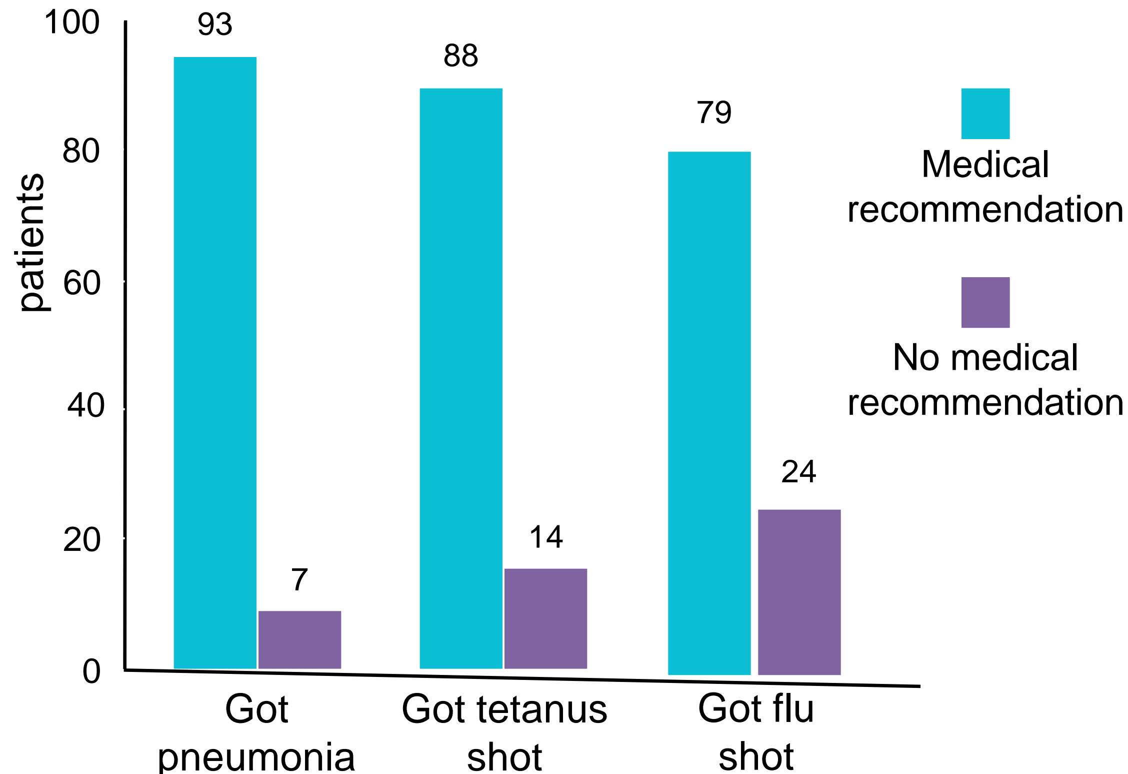
Healthcare Professional's Recommendation

Communication

Explaining the need for immunization

- Clearly conveying the risks[1]
- Strong physician/ provider recommendation[1]

Recommendation is critical[2]



- Reinforce key points about each vaccine
- Discuss vaccine safety
- Address the risks encountered by unvaccinated people

1. Burns IT, et al. 2005; 54:S58-S62.
2. PHAC 2006 Canadian Adult Immunization Coverage Survey.

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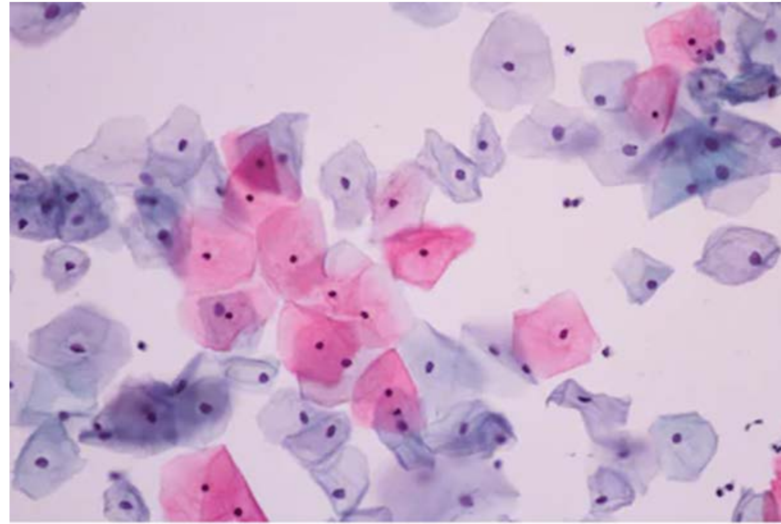
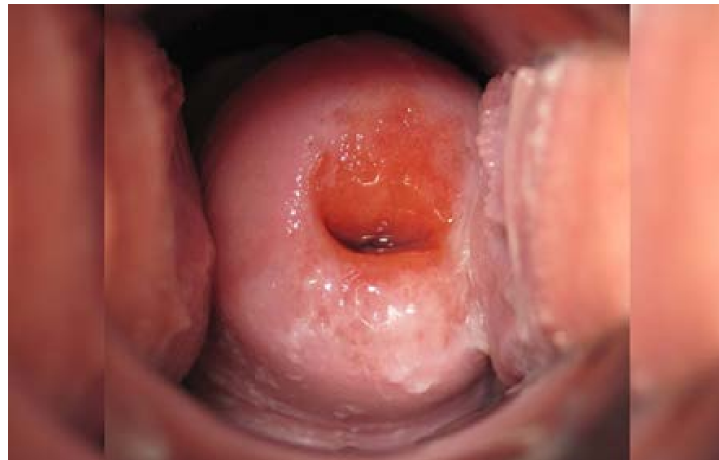


EXCITING DEVELOPMENTS COMING IN 2020

Current State: Referral to Colposcopy

- Pap smear taker receives Pap report from provincial lab
- Pap smear taker initiates referral to colposcopy for patients with abnormal smears
- Cervix Screening Program has no direct contact with patients; recall via primary care providers only



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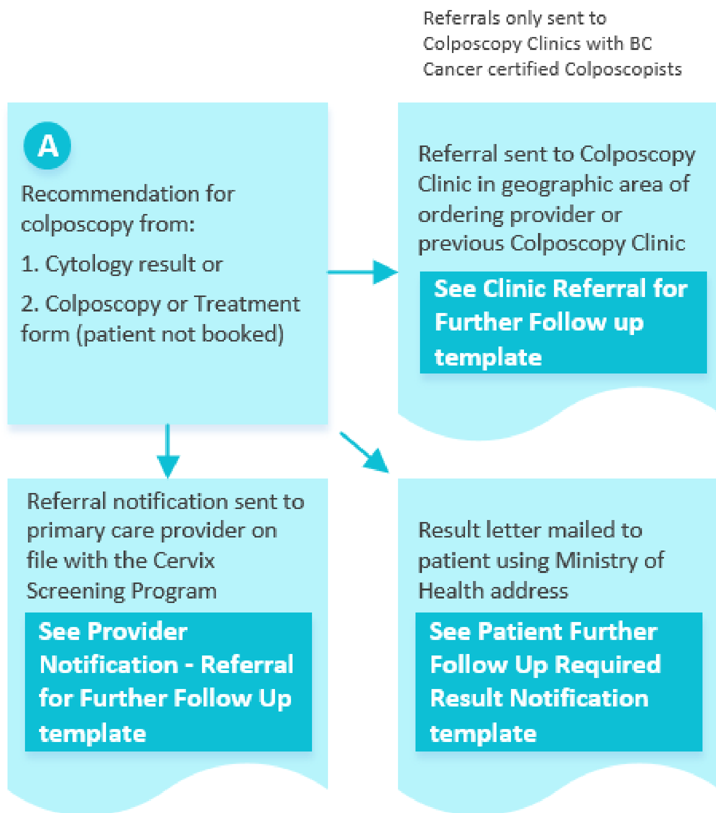
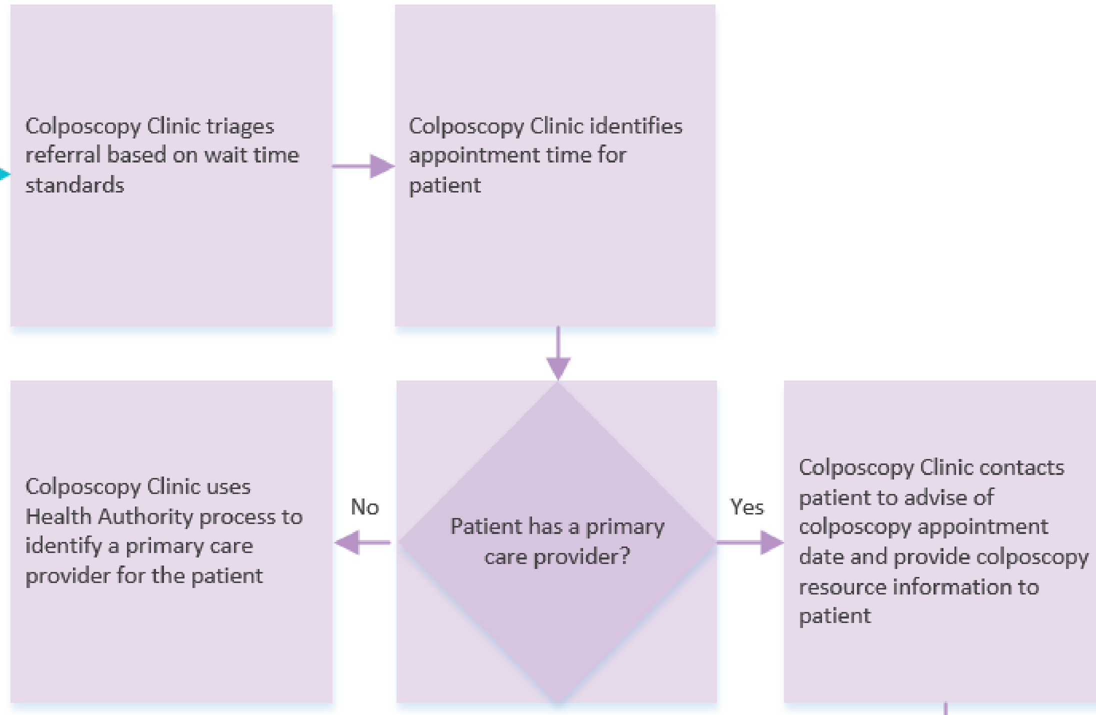
Facilitated Referral





Future State: Facilitated Referral

- Cervix Screening Program will initiate referral to colposcopy on behalf of the Pap smear taker
- Referral back to colposcopy clinics for repeat colposcopy/treatment if appointment not booked
- Direct communication with patients regarding abnormal results and recall

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Why make this change?

- Reduce loss to follow-up after abnormal Pap smears or colposcopy
  - We have no follow up data for **15%** of women with abnormal Paps, those at HIGHEST RISK!
- Reduce time to colposcopy by decreasing referral delays
- Engage patients directly regarding results and recall

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What have we done to get here?

- Replace the ancient Cervix Screening Database IT system – go live in next few months
- Engage SGP and colposcopists
- Working with Ministry of Health
  - Obtain patient demographics, contact info
- Pap smear results are available on my eHealth

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What does this mean for Primary Care Providers?

- You will receive a letter re:
  - NOTIFICATION – Referral for further follow-up

- Which will indicate:
  - Patient demographics
  - Pap smear result
  - Colposcopy clinic where the patient was referred

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LETTER to PATIENTS

[CLIENT_FIRST_NAME] [CLIENT_LAST_NAME]
[CLIENT_ADDRESS]
[CLIENT_CITY], [PROV] [CLIENT_POSTAL]

Results Notification – Follow-up Needed

You are receiving this letter because you were recently screened for cervical cancer.

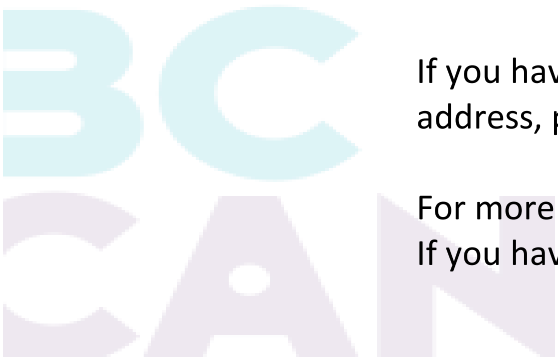
The result of your Pap test shows that further follow-up is needed.

This result is common. It is rare for a woman with an abnormal cervical cancer screening result to have cervical cancer. However, when abnormal cells are found, further testing is needed.

NEXT STEPS: The colposcopy clinic in your area will contact you directly to schedule follow-up. If you have questions regarding the next steps or if you do not hear from the clinic within two weeks, please contact the clinic at [COLPOSCOPY_REFERRAL_CENTRE_PHONE].

If you have changed your primary care provider since your cervical cancer screening, or if you have changed your address, please contact the program at 1-800-663-9203 so we can update your information.

For more information about the Cervix Screening program, please visit our website at www.screeningbc.ca/cervix.
If you have a *my ehealth* account you can also view your results online: www.myehealth.ca



ACTION Required by Primary Care Providers

- Via the form provided…
- Notify the colposcopy clinic of patient details:
  - Pregnant, translator needs, special needs (i.e., mobility), self-pay
  - Preferred patient contact method
- Notify the Cervix Screening Program if the patient will not be proceeding with colposcopy at the designated clinic and why (tick boxes)

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NOTIFICATION LETTER: Response Section

If any of the following pertains to your patient, complete the following information and fax to:
[COLPOSCOPY_CLINIC_NAME] at [COLPOSCOPY_CLINIC_FAX]

- ☐ This patient is pregnant, due date (yyyy/mm/dd): ______________________
- ☐ A translator is needed. Language: ____________________
- ☐ This patient has special needs (e.g. mobility issues): ________________________
- ☐ Self-pay patient

Patient prefers contact by:

☐ Phone: ________________ ☐ Text: ____________________ ☐ Email: _________________

For more information on the Cervix Screening Program and patient resource information, please visit
www.screeningbc.ca/cervix

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NOTIFICATION LETTER: Response Section

If your patient does not require this referral, please let the Cervix Screening Program know by faxing the following information to 604-297-9327.

Patient will not be proceeding to [COLPOSCOPY_CLINIC_NAME] due to:

- ☐ I have referred the patient to the following colposcopy clinic: ______________________________
- ☐ Patient has moved, or is moving out of BC – follow-up will be arranged elsewhere
- ☐ Patient moved out of province. No further recall will occur.
- ☐ Patient has declined follow-up. No further recall will occur.
- ☐ Patient was not able to be contacted for an appointment. No further recall will occur
- ☐ Patient is medically unfit for follow-up. No further recall will occur.
- ☐ Patient is deceased.
- ☐ Other: ____

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Other ACTION Required by Primary Care Providers

PATIENT UPDATE
NOTIFICATION FORM

DO NOT PLACE LABEL ABOVE LINE

AFFIX CLIENT LABEL HERE

- Update patient contact, transfer to another colposcopy clinic, patient not proceeding (& why?)

- Other LETTERS you may RECEIVE:
  - Arrange cervix screening
    - Patient is due for screening
  - Provide follow up information
    - Program has no record of follow up completed

To be continued…

- Expect this will go live in early 2020
- More information will be sent out to offices and put onto Pathways prior to the change

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Potential Future Directions

- HPV based screening
- Patient notification regarding:
  - Screening recall
  - Colposcopy treatment or follow-up
- Recruitment of patients who have not been screened

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Cervix Screening and Colposcopy Research

- HPV FOCAL Study – cytology vs. HPV testing
- Using Mobile Technology to Decrease Barriers to Colposcopy Engagement for Women Living in Northern BC
  - To address loss to FU after abnormal Paps
- Post LEEP outcomes stratified by HPV status
  - Since guideline change in 2015

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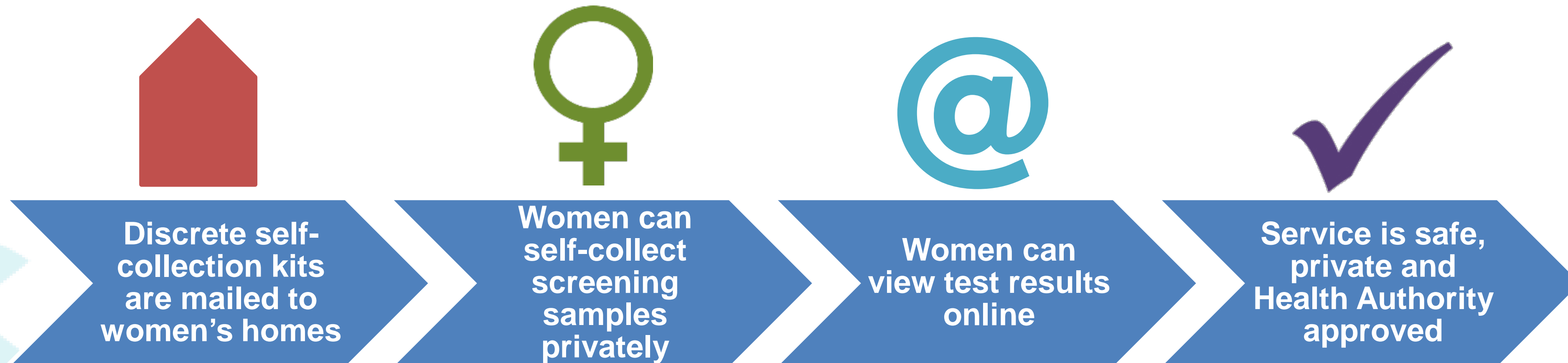
CERVIXCHECK
cervical cancer screening at home

- Under screened women (in over 3 years) invited to register online & receive screening kit in the mail
  - Uses self-collected samples for HPV testing
- Pilot implementation in private family practice clinics in Fraser & in rural communities in Northern BC
  - Partnership with Carrier Sekani Family Services & Métis Nation BC



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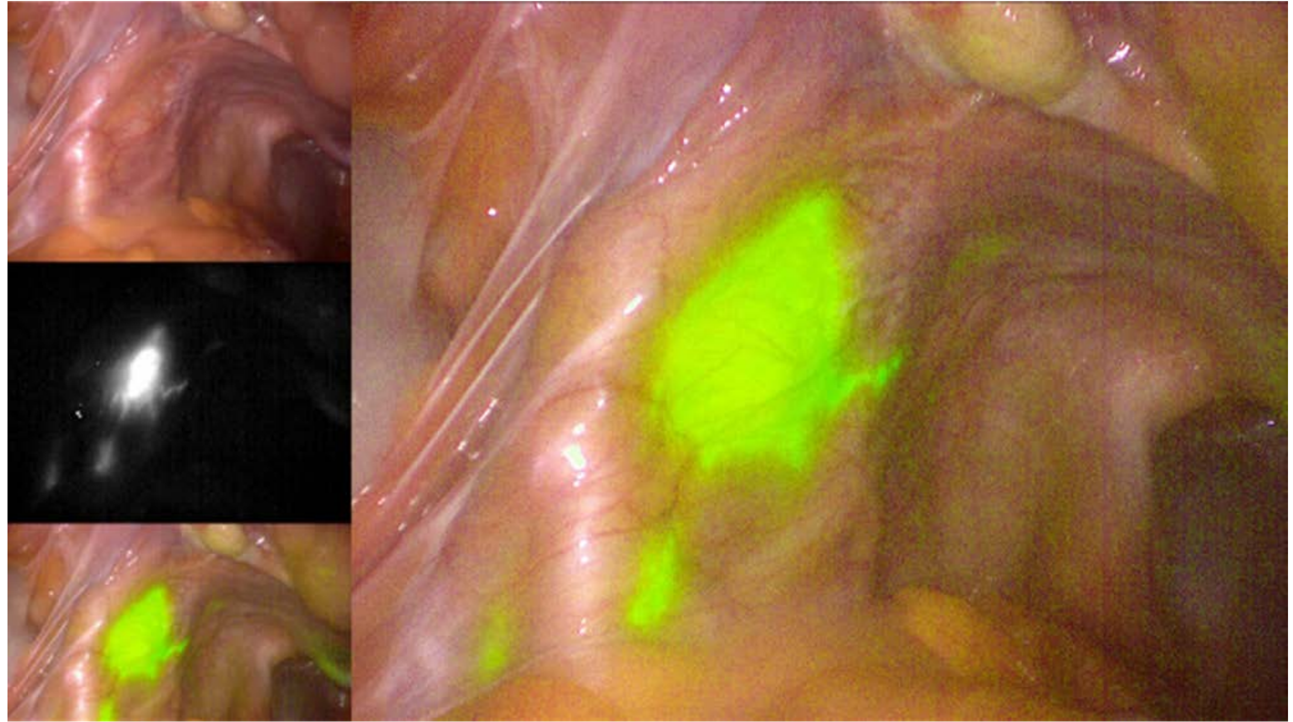

CERVICAL CANCER STAGING AND MANAGEMENT CHANGES

Sentinel Lymph Nodes

- Appropriate candidates:
  - Tumor diameter less than 2cm as very low false neg rate; (?<4cm)
  - No suspicious lymph nodes (pre-op imaging or intra-op)
  - Treat each hemipelvis separately
    - If SLN not identified, a full pelvic LND should be performed

- If pts do not meet above criteria → full pelvic LND

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FIGO staging of cancer of the cervix uteri (2018 – Bhatla et al, Int J Gyne Obs)

I	The carcinoma is strictly confined to the cervix (extension to uterine corpus should be disregarded)
IA	Invasive carcinoma that can be diagnosed only by microscopy with maximum depth of invasion <5mm
IA1	Measured stromal invasion <3mm in depth
IA2	Measured stromal invasion 3mm to <5mm in depth
IB	Invasive carcinoma with measured deepest invasion ≥ 5mm in depth, limited to cervix
IB1	Invasive carcinoma ≥ 5mm dept stromal invasion, and <2cm in greatest dimension
IB2	Invasive carcinoma ≥2cm and <4cm in greatest dimension
IB3	Invasive carcinoma ≥ 4cm in greatest dimension
II	The carcinoma invades beyond the uterus, but has not extended onto the lower third of the vagina or to the pelvic wall
IIA	Involvement limited to the upper 2/3 of the vagina without parametrial involvement
IIA1	Invasive carcinoma <4cm in greatest dimension
IIA2	Invasive carcinoma ≥ 4cm in greatest dimension
IIB	With parametrial involvement but not up to the pelvic wall
III	The carcinoma involves the lower third of the vagina and/or extends to the pelvic wall and/or causes hydronephrosis or non-functioning kidney and/or involves pelvic and/or para-aortic lymph nodes
IIIA	The carcinoma involves the lower 1/3 of the vagina, with no extension to the pelvic side wall
IIIB	Extension to the pelvic wall and/or hydronephrosis or non-functioning kidney (unless due to another cause)
IIIC	Involvement of pelvic and/or para-aortic lymph nodes, irrespective of tumour size and extent (r – imaging, p – pathology)
IIIC1	Pelvic lymph node metastasis only (r or p)
IIIC2	Para-aortic lymph node metastasis (r or p)
IV	The carcinoma has extended beyond the true pelvis or has involved (biopsy proven) the mucosa of the bladder or rectum.
IVA	Spread to adjacent pelvic organs
IVB	Spread to distant organs

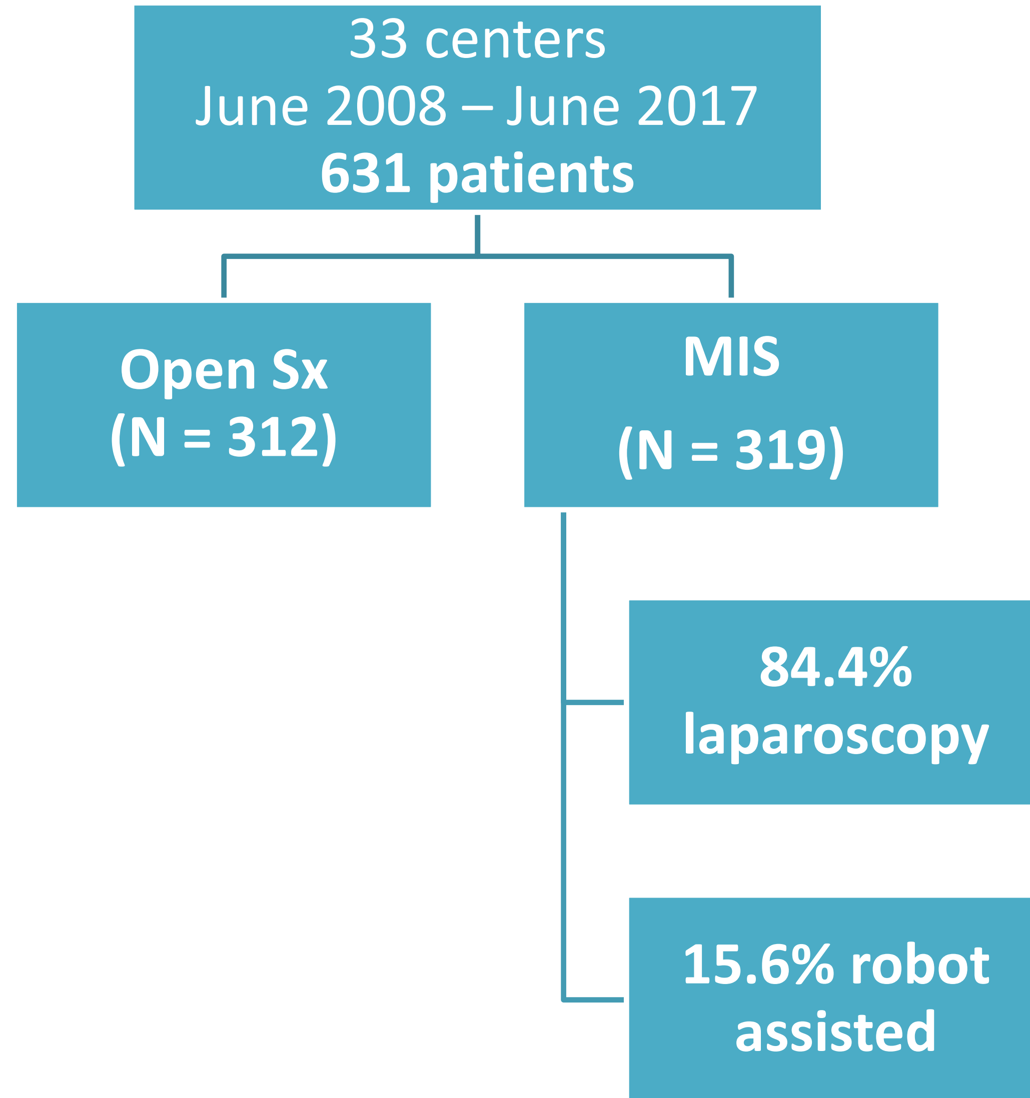
ORIGINAL ARTICLE

Minimally Invasive versus Abdominal Radical Hysterectomy for Cervical Cancer

Pedro T. Ramirez, M.D., Michael Frumovitz, M.D., Rene Pareja, M.D., Aldo Lopez, M.D., Marcelo Vieira, M.D., Reitan Ribeiro, M.D., Alessandro Buda, M.D., Xiaojian Yan, M.D., Yao Shuzhong, M.D., Naven Chetty, M.D., David Isla, M.D., Mariano Tamura, M.D., et al.

Ramirez et al. 2018 NEJM

Minimally Invasive vs Abdominal Radical Hysterectomy for Cervical Cancer



Minimally Invasive vs Abdominal Radical Hysterectomy for Cervical Cancer

Disease Free Survival at 4.5 years	
MIS	**Open**
86.0%	96.5%

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Minimally Invasive vs Abdominal Radical Hysterectomy for Cervical Cancer

Outcome	Open Surgery	MIS Surgery	Hazard Ratio
Disease recurrence or death from cervical CA (Adjusted)	7/282	27/295	4.39 (1.88–10.20)
Disease recurrence or death from any cause	8/312	32/319	3.88 (1.79–8.41)
Locoregional recurrence	4/312	18/319	4.26 (1.44–12.60)
Death from any cause	3/312	19/319	6.00 (1.77–20.30)
Death from cervical cancer	2/312	14/319	6.56 (1.48–29.00)

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Minimally Invasive vs Abdominal Radical Hysterectomy for Cervical Cancer

- Summary:
  - MIS radical hysterectomy was associated with lower rates of disease free survival and overall survival than open abdominal radical hysterectomy among women with early stage cervical cancer

Resources

- Patient brochures in multiple languages (English, Punjabi, Chinese)
  - Is Cervical Cancer Screening Right for You?
  - Abnormal Cervical Cancer Screening Result

Resources

- “What You Should Know” clinic poster

BC Cancer Agency
CARE + RESEARCH
An agency of the Provincial Health Services Authority

What You Should Know:
Cervical Cancer Screening

Women ages 25-69 should have a cervical cancer screening (Pap test) every three years.

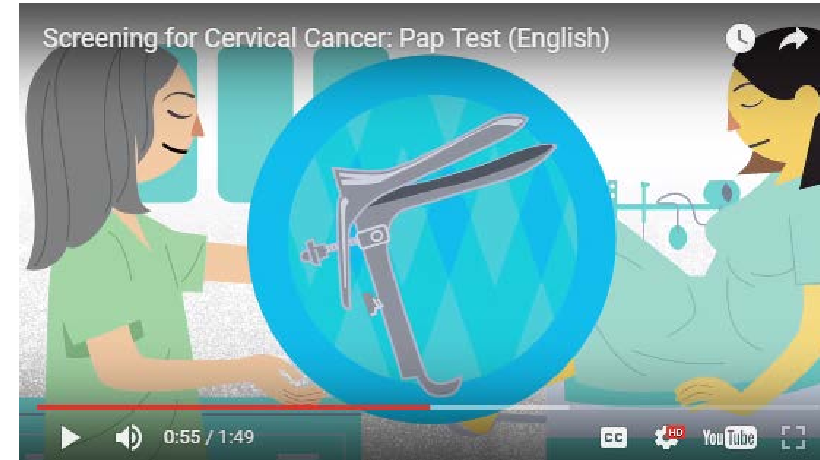
Screening can find abnormal cells in the cervix, which, if treated early, can stop the cancer from developing.

Screening every three years can reduce your risk of cervical cancer by 70 percent

If cervical cancer is caught at its earliest stage, the chance of survival is more than 85 percent

Talk to your doctor today about cervical cancer screening.

Learn More:
www.screeningbc.ca/cervix



- “Screening for Cervical Cancer: Pap Test” animated video
  - Available in multiple languages (English, Cantonese, Mandarin and Punjabi)

BC Cancer Screening

Search...

Breast | Cervix | Colon | Health Professionals | Contact

Menu

Cervix / Further Testing / Colposcopy

Colposcopy

If you have recently had an abnormal Pap test result, your health care provider may recommend a follow up colposcopy appointment.

Colposcopy is a procedure used to examine your cervix and vagina.

In this section

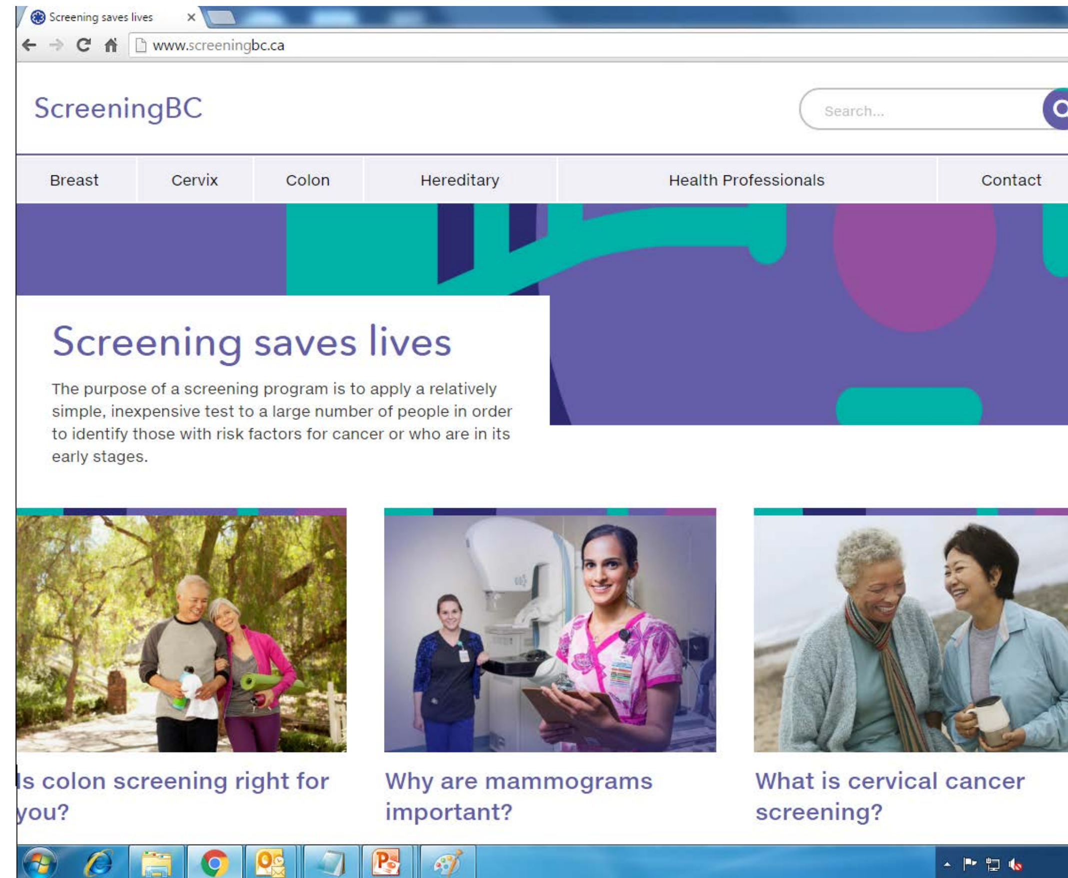
- Results
- Further Testing
- Your Next Cervical Screening

A cervical cancer screening (Pap test) can save your life. To book a test, call your

Information for patients to be integrated into Screening BC Cervix Screening section.

For more information…

Visit www.screeningbc.ca



Resources – Provider and Patient

- http://www.bccancer.bc.ca/screening/health-professionals/cervix
- http://www.bccancer.bc.ca/screening/health-professionals/cervix/colposcopy#Resources
- HPV FOCAL FAQ
  - http://www.bccancer.bc.ca/our-research/participate/cervical-screening
- https://smartsexresource.com/
- www.sexualityandu.ca
- www.hpvinfo.ca
- http://immunizebc.ca/diseases-vaccinations/hpv
- NACI Guidelines:
  - http://www.phac-aspc.gc.ca/naci-ccni/index-eng.php

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THANK YOU!!

Questions?

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