

Education Update

By Dr. Sian Shuel,
Medical Education Lead, FPON

The Family Practice Oncology Network (FPON), BC Cancer Primary Care Program's educational arm, continues offering accredited, free-of-charge, oncology-based education to help meet educational needs and requirements, provide resources, and support the cancer care system. Here are some recent and upcoming highlights.

Partnering with UBC Continuing Professional Development, FPON's first educational offering of the year was a webcast for primary care entitled 'Precancerous Lesions of the Vulva – What you Need to Know.' This webcast, which included identifying lesions of the vulva that have a risk of malignant transformation and

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BEST PRACTICE CANCER CARE GEMS

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B.C.'s 10-year cancer action plan

By Dr. Kim Chi, Chief Medical Officer, and Heather Findlay, Chief Operating Officer, BC Cancer

B.C.'s 10-year cancer plan was officially announced in February at a special event with Premier David Eby, Minister of Health, Adrian Dix, leaders from BC Cancer, Provincial Health Services Authority and representatives from our clinical teams.

More than a BC Cancer plan, this is an action plan for the people of British Columbia that includes investments in people, technology and innovation across our province. It details short-term priorities to better prevent, detect, and treat cancers along with actionable steps to deliver improved care for people now while preparing for the growing needs of the future.

The announcement included an initial \$440-million investment over three years. This funding will be used to expand cancer-care teams and service hours, introduce revised pay structures to ensure B.C. is attractive and competitive for oncologists and cancer-care professionals, improve cancer screening programs, continuing to expand the Hereditary Cancer Program, and increase Indigenous patient support positions. Within this investment is a \$170 million grant to the BC Cancer Foundation to support cancer research, genomic testing, increase access to clinical trials and support



patients who must travel for care from rural communities.

We're building capacity across our organization to deliver on these immediate steps and longer-term change. Thanks to additions to BC Cancer's care funding in 2021-2022 and 2022-2023 totalling \$66M we've been able to recruit 400 new clinical and support roles across our centres. To date, we've filled 85% of these roles, adding more than 55 new physicians and 283 new nurses, allied health professionals and support staff.

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answers to common patient questions, is part of the recurring series of webcasts for primary care. So far, 2023 has also offered 'Psychosocial Perspective on Cancer-Related Fatigue - What is it, and what can we do about it?', 'Lung Cancer Screening and Suspected Lung Cancer in Primary Care' and 'Pancreatic Cancer'. This webcast series, which runs the third Thursday of most months from 8-9 am, includes didactic and interactive teaching with polling questions and Q and A. Accreditation application is underway for the upcoming 2023/2024 year with planned webcasts, chosen by our representative planning committee on 'Things you can do in clinic today to prevent ovarian cancer,' 'Management of Treatment-Related Side Effects of Androgen Deprivation Therapy,' 'Female Sexual Health & Cancer Survivorship' and more. Recordings of previous webcasts and registration links for upcoming webcasts can be found at fpon.ca

We kicked off this year's Cancer Awareness Month with our April 1 'Practical Cancer Care for Primary Point of Care Providers.' Topics selected by our primary care conference working group included 'Practical Hematology for Primary Care,' 'This Child May have Cancer: What to do and what not to do for a child with a suspected malignancy,' 'Managing Late Effects of Childhood Cancer,' and 'Lung Cancer – Current Management and

Understanding Prognosis in our Patients.' Find details on future conferences at fpon.ca. Alternatively, [sign up here](#) to be notified of our upcoming educational opportunities.

The BC Cancer Primary Care Lung Cancer learning session will be available starting April 16 as part of a series of interactive online learning sessions to help primary care providers better support their patients with cancer. (See the link in the Learning Session Update) Developed in partnership with the UBC Division of Continuing Professional Development, this accredited module will review lung cancer prevention and screening (including BC Cancer's Lung Screening Program details), diagnosis, treatment and survivorship care. Point-of-care resources will be embedded throughout the module. To access the new lung cancer learning session once available, go to the Continuing Medical Education tab at fpon.ca. The newly updated Breast Cancer and the Prostate Cancer and Colorectal Cancer sessions are also found there.

On a related note, small group learning sessions based on the online Breast Cancer learning module have occurred in the East Kootenays and West Kootenays. Each session saw family physicians, a local GPO, and a medical oncologist from the Regional Cancer Centre meet virtually to discuss the module, network and review issues relevant to the region. Feedback has been positive, and plans for additional networking sessions are well underway. Please reach out if you want to bring this

opportunity to your area.

Lastly, FPON's twice-yearly 'General Practitioner in Oncology (GPO) Education Program,' is an educational requirement involving a 2-week didactic and 6-week clinical rotation for family physicians newly hired as GPOs in BC and the Yukon (both within community cancer clinics and at BC Cancer Centres). In the spirit of inclusion and to align with the BCMQI Clinical Practitioner in Oncology Privileging Dictionary, after consultation with stakeholders, the name of the 2-week didactic portion attended by GPOs, BC Cancer nurse practitioners and palliative medicine residents was changed to Clinical Practitioner in Oncology (CPO) Education. Palliative Care Residents continue to have hands-on clinical teaching specific to their education. The 6-week clinical rotation specifically for GPs in Oncology remains unchanged, as does the 6-week BC Cancer NP clinical rotation requirement. As a result of ongoing evaluation and improvement implementation, the 2023 spring intake of the 2-week didactic CPO Education saw the addition of talks focused on Hodgkin Lymphoma and Hepatocellular Cancer.

As we aim to help meet the oncology learning needs of primary care practitioners, GPOs and NPs, we continuously seek feedback from our readers and participants. Please email sian.shuel@bccancer.bc.ca with any suggestions.

*B.C.'s 10-year cancer action plan
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These significant recruitment efforts support our ongoing work to implement a new model of care throughout our centres.

BC Cancer provides specialized cancer care services to communities across British Columbia, the territories of many distinct First Nations. We are grateful to all the First Nations who have cared for and nurtured this land for all time, including the *x̣ṃəθkwəỵəm* (Musqueam), *Ṣḳẉx̣ẉú7mesḥ Úxwumixw* (Squamish), and *səlilwətał* (Tsleil-Waututh) First Nations on whose unceded and ancestral territory our head office is located.

Team-based care puts the patient at the heart of a dedicated, multidisciplinary health care team, improving continuity of care, experience and outcomes. This collaborative model of care will also boost the experience and satisfaction of staff and physicians by enabling them to work to the full scope of their practice.

To date, 51 teams are active across our centres. These teams support tumour group based care and are tailored to each centre's staffing capacity and patient needs. Teams could include a patient care aide, clerk, licensed practical nurse, registered nurse, nurse practitioner, GPO and oncologist.

B.C.'s 10-year cancer action plan has been met with enthusiasm, support and many

questions. Now that we have the framework for the plan and the initial investment, our priority at this time is to build out our engagement plan with our regional health authority partners, First Nations Health Authority, primary care and others.

As we move forward with this work, we look forward to sharing more information on our priorities and next steps. In the meantime, we encourage you to review the full action plan www.bccancer.bc.ca/cancerplan.

Contact Dr. Kim Chi at kchi@bccancer.bc.ca and Heather Findlay at heather.findlay@bccancer.bc.ca.

Learn more about B.C.'s 10-year cancer action plan at www.bccancer.bc.ca/cancerplan

Precancerous lesions of the vulva: What you need to know

By Dr. Melanie Altas, Obstetrics & Gynaecology, University of British Columbia

Vulvar squamous cell cancer makes up 5% of gynecologic malignancies. High-grade vulvar intraepithelial neoplasias (VIN) are the precursor lesions to vulvar cancer. While the incidence of cancer remains stable, high grade VIN is increasing, particularly amongst younger women.¹ Diagnosing premalignant lesions can be a challenge for physicians as they often present with subtle signs and symptoms that can be easily overlooked or misdiagnosed. Early identification is important as treatment of VIN can prevent the progression to cancer.



Dr. Melanie Altas

papilloma virus (HPV) subtypes, such as HPV 6 and 11. They are not precancerous and therefore do not require treatment to prevent progression to malignancy. LSIL should be treated as condyloma.²

High grade lesions are divided into high grade squamous epithelial lesions (HSIL) and differentiated VIN (dVIN). These lesions develop via two distinct pathways. HSIL is HPV dependant and caused by high-risk subtypes, such as HPV 16 and 18. On the other hand, the etiology of dVIN is less well understood but is known to develop independent of HPV infection.²

Clinical Presentation

Approximately 40% of high grade lesions are asymptomatic.³ Lesions may be found during self-examination or during routine pelvic examinations. The most common symptom is vulvar pruritus, although patients may experience pain, dysuria and dyspareunia.

Diagnosing HSIL or dVIN during an examination can be challenging owing to their varied appearance. Lesions may exhibit different colours such as brown, white, red, or flesh coloured (Image 1). Additionally, lesions may present as flat, raised or an

erosion, smooth or with an irregular surface. A high index of suspicion is necessary, particularly those with risk factors (see Table 2).⁴

When to Biopsy

- Chronic ulcers or erosions
- Lesion with atypical features (irregular surface, differing pigmentation, asymmetrical)
- Skin conditions not improving with treatment (dermatoses such as lichen sclerosus, condyloma).
- First episode of “genital warts” over age forty.

Clinical Behavior

HSIL has been found to be linked to 20% of vulvar squamous cell cancers, whereas dVIN is associated with 80%. Therefore, most vulvar cancers are not caused by HPV. Patients diagnosed with high grade lesions will commonly inquire about the risk of malignancy. The cancer risk is contingent on the type of lesion identified.

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Classification & Etiology

Precancerous lesions of the vulva were first reported in 1922² and have since been described using evolving classification systems. Currently, the International Society for the Study of Vulvovaginal Disease (ISSVD) employs a system that differentiates lesions based on etiology and malignant potential (see Table 1).²

Low grade squamous intraepithelial lesions (LSIL) are associated with low-risk human



Image 1: a) Brown HSIL on perineum b) White HSIL in left lower labia majora Photos courtesy of BC Centre for Vulvar Health

Table 1: Classification of VIN

Year of Publication	1986 ISSVD	2004 ISSVD	2015 ISSVD
Terminology	VIN 1 (mild dysplasia)	Condyloma	LSIL
	VIN 2 (moderate dysplasia)	Usual type VIN	HSIL
	VIN 3 (severe dysplasia or carcinoma in situ)		
	Differentiated VIN	Differentiated VIN	Differentiated VIN

Table 2: Risk factors for the development of high-grade vulvar lesions⁴

HSIL	dVIN
HPV infection	Poorly controlled vulvar dermatoses (lichen sclerosus, lichen planus)
Smoking	
> 2 sexual partners	
Immunosuppression	

Precancerous lesions of the vulva
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HSIL has a lower malignant potential.^{1,3}

- 10% risk of progression to cancer
- 1.2% chance of regression, particularly in young women or pregnancy
- Longer time to progress to cancer (50-72 months)

DVIN is less common but has a higher malignant potential.^{1,5}

- Accounts for less than 10% of high-grade lesions
- 33% risk of progression to cancer
- Shorter time to progress to cancer (13-23 months)

Treatment

The goals of treatment involve preventing progression to malignancy and symptom relief while preserving vulvar anatomy and function.

Once the diagnosis of a high-grade lesion is made, a referral should be initiated to a gynecologist comfortable discussing treatment options. In British Columbia, referrals can be made to the BC Centre for Vulvar Health where patients have access to gynecologists, gynecologic oncologists as well as psychological support.

Given the risk of invasive disease, patients with dVIN should undergo surgical excision with wide margins.⁶

For patients with HSIL, various treatment options are available, including surgical excision, CO2 laser ablation and topical therapy.^{6,7} The choice of treatment option depends on patient and lesion specific factors as well as provider preference. Currently, there is no high-quality evidence to guide management decision making.⁷ There is also a lack of literature on quality-of-life outcomes.

CO2 laser ablation is commonly performed in a hospital ambulatory clinic setting using local anesthetic. This is preferred for multifocal disease, larger lesions as well as lesions near the clitoris and perianal area. Given that there is rising incidence of HSIL

in younger women, as well as a high risk of recurrence laser ablation is appealing as repeat surgical excision can lead to unsatisfactory cosmetic and functional results.⁶

Topical imiquimod 5% is applied by the patient in a thin layer two to three times per week for up to sixteen weeks. For both laser ablation and imiquimod, invasive disease must be ruled out. Current research suggests there is no difference in outcomes between surgical excision, laser ablation and topical imiquimod.⁸

Follow-Up

Following treatment, close clinical surveillance is warranted.⁶ The risk of recurrence is high, up to 25% with a quarter of those being late recurrences.⁹ At the BC Centre for Vulvar Health, we follow patients every six months for two years then annually for those who received surgical excision or laser ablation. For patients using topical imiquimod, closer follow-up is warranted both during and shortly after the sixteen-week treatment. Follow-up appointments include an examination of the entire lower genital tract, including vulva, perianal area, vagina and cervix. Risk factors modification can also be reviewed, including smoking cessation, HPV vaccination or optimizing control of chronic dermatoses.

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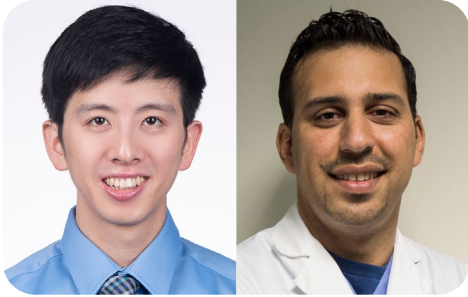
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BC Centre for Vulvar Health
referral information can be
found at bcvulvarhealth.ca

Treatment of liver malignancies: An overview of Yttrium-90 TransArterial RadioEmbolization (TARE)

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Jasper Yoo Dr. Behrang Homayoon

Overview of yttrium-90 transarterial radioembolization

Transarterial radioembolization (TARE) is a minimally invasive catheter-directed brachytherapy technique performed by interventional radiology to treat primary or metastatic liver malignancies. TARE involves the selective intraarterial delivery of microspheres loaded with the radioisotope yttrium-90 (90Y or Y-90) through the hepatic vasculature, directly targeted at tumours. In BC, under the GIYTT protocol, TARE is used to treat early to intermediate-stage hepatocellular carcinoma (HCC), and it is also used as cytoreductive therapy for hepatic metastatic neuroendocrine tumours (NETs).¹⁻³ More recently, in February, the GIBYTT protocol was activated. Under this protocol, the eligibility criteria for Y-90 radioembolization expanded to include patients with locally advanced cholangiocarcinoma or gallbladder carcinoma not amenable to surgical resection.⁴

Y-90 radioembolization is typically a two-stage procedure. The first session is a pre-treatment mapping procedure that involves detailed interrogation of hepatic and mesenteric arterial anatomy with angiography. This is followed by injection of technetium-99m MAA into the liver for both dosimetric considerations and to assess the potential for extrahepatic toxicity prior to Y-90 radioembolic administration. The second session is typically performed two weeks after the mapping procedure. It is undertaken if

the mapping procedure confirms that hepatic arterial anatomy is amenable to safe delivery of Y-90 radioembolics to the liver without non-target embolization or extrahepatic radiation toxicity. This procedure is shorter compared to the mapping procedure and involves targeted delivery of Y-90 radioembolic particles into the liver.

Applications of TARE

Early or intermediate-stage hepatocellular carcinoma

In the setting of hepatocellular carcinoma (HCC), Y-90 radioembolization is performed mainly in those who are not candidates for surgical resection at time of presentation. Treatment goals include downstaging to resection or transplant, bridging to transplant, or palliation. TARE is an important alternative catheter-based treatment strategy for patients with contraindications to transarterial chemoembolization (TACE), particularly those with portal venous thrombosis.⁵

More recently, there are emerging data supporting the use of Y-90 radiation segmentectomy and radiation lobectomy in well-selected patients with HCC. Y-90 radiation segmentectomy is a targeted form of TARE typically delivered to one or two hepatic segments. It allows high, ablative doses of radiation to be delivered to tumours while minimizing damage to liver parenchyma and has been shown to be equivalent to other curative-intent treatment strategies in well-selected patients.⁶⁻⁷ Ablative TARE has been shown to improve survival when compared to conventional TARE in select patients with HCC and portal vein thrombosis.⁸

Radiation lobectomy involves lobar delivery of Y-90 radioembolic microspheres that targets HCC localized to one hepatic lobe, but also results in ipsilateral hepatic lobar atrophy and contralateral lobar hypertrophy. Radiation lobectomy candidates often have well-preserved liver function and smaller tumour burden, and radiation lobectomy is often performed as a bridge to surgical resection. It can also be performed for larger tumours as an alternative to radiation segmentectomy.⁹

Neuroendocrine tumours (NETs)

Many patients with neuroendocrine tumour present with multifocal disease and are not surgical candidates.¹⁰ Under the GIYTT protocol, Y-90 radioembolization is used for metastatic NETs with liver-dominant disease and low-volume extrahepatic disease.⁴ In a retrospective population-based cohort study conducted in British Columbia, TARE was well tolerated in metastatic liver-dominant NETs, and 86% of patients achieved partial response or stable disease.¹¹ In unresectable metastatic NETs, TARE has a lower incidence of side effects and a higher disease control rate than TACE.¹⁰

Cholangiocarcinoma and gallbladder carcinoma

Under the BC Cancer GIBYTT protocol, TARE is now indicated for locally advanced cholangiocarcinoma or gallbladder carcinoma not amenable for surgical resection at time of presentation.⁴ In comparison to chemotherapy only, TARE has been shown to prolong survival in cholangiocarcinoma,¹² and TARE has also been used to downstage previously unresectable intrahepatic cholangiocarcinoma (ICC) to resectable ICC.¹³ In addition, radiation segmentectomy and radiation lobectomy techniques have been safely used in unresectable ICC.¹⁴

Conclusion

TARE is an important modality in the management of early to intermediate stage HCC, hepatic metastatic NETs, and locally advanced unresectable ICC and gallbladder carcinoma. Access to Y-90 radioembolization is available at various sites across British Columbia for patients who have undergone evaluation by an interventional radiologist after multidisciplinary discussion at a liver tumour conference.

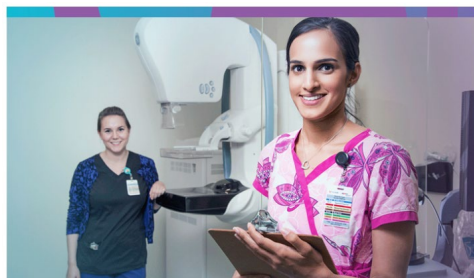
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BC Cancer Breast Screening update

As evidence evolves, BC Cancer Breast Screening has revised its policy for breast cancer risk stratification and is expanding



Breast Screening

Screening mammograms help find cancer when it is small, allowing more treatment options and a better chance of recovery. Free screening mammograms are available for eligible BC women ages 40 and older.

www.bccancer.bc.ca/screening

services to facilitate breast cancer surveillance for individuals at increased risk, specifically due to a prior tissue diagnosis of:

- Atypical Ductal Hyperplasia (ADH)
- Atypical Lobular Hyperplasia (ALH)
- Classical Lobular Carcinoma In Situ (LCIS)

BC Cancer Breast Screening now recommends surveillance with annual mammography through diagnostic imaging given the typically more complicated history of biopsy and possibly surgery. The new service will facilitate and formalize this surveillance through:

- Patient and Provider notifications
- Direct referrals to diagnostic imaging for annual mammography

For more details check out the BC Cancer website Health Care Provider fact sheet for the Higher Risk Surveillance program. The incorporation of this surveillance extension

as part of the BC Cancer Breast Screening Program facilitates annual mammography for those with a history of ADH/ALH/LCIS. The Screening Program retains the patient in the database and sends annual referrals to diagnostic services to schedule this follow-up mammogram similar to the screening program process for lower risk patients.

www.bccancer.bc.ca/screening/Documents/Breast-Higher-Risk.pdf

For those who prefer a visual depiction of the screening referral process, check out the Breast Screening Algorithm for risk categorization and consequent screening regimen within our Program:

www.bccancer.bc.ca/screening/Documents/Breast-Screening-Referral-Algorithm.pdf

This service has been endorsed by BC Family Doctors, and the provincial Medical Imaging Advisory Committee.

*Treatment of liver malignancies
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www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-manual/gastrointestinal/neuroendocrine-tumors

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Nutrition and cancer: what's the evidence?



Terry Lok

Check out the FPON website for the recording of the October 20, 2022 Webcast: "Nutrition and Cancer: What's the evidence?" presented by Terry Lok, RD of the BC Cancer Nutrition Services Department.

https://media.phsa.ca/home/iframe?url=BCCA/bccahealth%5cFPON_Oct_Webcast_20221108

For more information, check out the following sites that were recommended during this webcast:

World Cancer Research Fund:
<https://www.wcrf.org/diet-activity-and-cancer>

Cancer Risk Matrix:
<https://www.wcrf.org/diet-activity-and-cancer-risk-matrix>

Preventing Cancer

www.bccancer.bc.ca/prevent/nutrition-exercise

Sun Safety

Tobacco

Nutrition & Exercise

Air Quality

Limit Alcohol

HPV

About

Nutrition & Exercise

About one-third of most cancers can be prevented through a healthy diet, being physically active and maintaining a healthy weight.

Building healthy habits

No matter your age, eating a nutritious, balanced diet, being active and maintaining a healthy weight can help you stay strong, healthy and well.

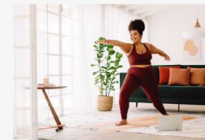
All three components have been linked to better overall health and a reduction of overall cancer risk by 30 to 40 per cent.

In this section, discover how healthy eating and active living work together to help achieve positive health outcomes.



Healthy Eating

Boost your intake of veggies, fruits, whole grain foods and plant-based proteins, and limit alcohol, red meats and processed meats.



Physical Activity

Add movement to your daily routine and keep it fun—dance, garden, play or walk!



Healthy Weight

Aim to maintain a healthy weight throughout your life.

Febrile neutropenia assessment and treatment update

The BC Cancer guidance document for febrile neutropenia assessment and treatment for adults with solid tumour

Febrile neutropenia assessment and treatment guidance updated December 2022

Febrile neutropenia occurs when a patient has a fever and a significant reduction in their white blood cells (neutropenia) that are needed to fight infections.

and lymphoma has been updated. This reference is available on the BC Cancer website in the Supportive Care section of the Cancer Management Manual, under Febrile Neutropenia.

Key updates:

- Consolidated assessment and treatment recommendations of febrile neutropenia
- Updated high risk treatment recommendations:
 - updated treatment alternatives for beta-lactam allergy
 - clarified indications for antimicrobial selection
 - updated duration of antimicrobial therapy
 - updated vancomycin trough target levels
- Updated low risk treatment recommendations:
 - consider omitting ciprofloxacin if no previous infection history with pseudomonas aeruginosa
 - updated treatment alternatives for beta-lactam allergy
 - updated treatment alternative for low risk patients who do not meet all outpatient criteria

www.bccancer.bc.ca/health-professionals/clinical-resources/cancer-management-manual/supportive-care/febrile-neutropenia

BC's 10-year Cancer Action Plan and some implications for Primary Care

By Dr. Catherine Clelland
Medical Director, Primary Care, BC Cancer

Disease prevention, screening, diagnosis and management, along with longitudinal follow-up, are core tenants of primary healthcare. Well-established evidence internationally of better patient outcomes and more cost-effective care when Primary Care is well integrated into and involved cross the healthcare care continuum. This has formed the basis for the BC Ministry of Health Primary Care Policy papers that underpin the shift to the "team-based" Patient Medical Home and development of Primary Care Networks. The cancer care system is no exception, and on February 24, 2023, the Minister of Health announced the release of "BC's 10-year Cancer Action Plan", outlining the 10-year goals to:

1. Reduce the incidence of cancer in BC;
2. Improve cancer survival, cure rates and quality of life; and
3. Ensure a strong system delivering modern, evidence-based province-wide cancer care

To achieve these goals, 3-year targets have been set within 4 areas of focus:

1. Prevent cancer and find cancer earlier;
2. Ensure timely access to cancer treatments;
3. Optimize care through collaboration and partnership; and
4. Revitalize our cancer care system through essential enablers.

Within the details of these areas of focus and targets are several priorities that have strong linkage to community primary care. In particular, the actions indicated under prevention and early detection that include enhancement of prevention strategies with emphasis on at risk populations focused on:



Dr. Cathy Clelland

a. Implementation of health promotion activities with a specific focus on lung cancer moving B.C. towards a lower smoking rate, in alignment with the Government of Canada's Tobacco Strategy.

b. Increasing the uptake of HPV vaccine achieving the National Advisory Committee on Immunization (NACI) target of 90% HPV vaccination coverage (two or more doses) of adolescents by 17 years of age, moving to the elimination of cervical cancer in B.C.

Smoking cessation has long been part of primary care practice and while BC has the lowest commercial tobacco smoking rates in Canada, more can be done to reduce the risk of cancer, cardiovascular and other smoking related conditions. While it is still the leading cause of lung cancer, nearly 30% of patients diagnosed with lung cancer today are non-smokers. The risks of vaping, particularly of nicotine containing products are only starting to become known, and more data is needed to see the impact on cancer risk. A new approach that includes input from youth and others in the target population to design effective strategies to increase awareness and ultimately reduce risk from the use of

commercial tobacco products and other related lifestyle behaviour.

HPV, or the human papillomavirus, is the most common sexually transmitted infection in the world today and can affect any man or woman who is sexually active. Using condoms may reduce the chances of getting HPV, but it is highly contagious, and condoms do not provide full protection. Infection can occur with skin-to-skin or oral contact with the genital area, and without having intercourse. While cervical cancer is the most common HPV related cancer, the reality is the risk is much broader. Mouth and throat cancer, anal cancer, vaginal and vulvar cancer and penile cancer are also on the list. More recently, there is some early data indicating HPV related airways cancer, particularly in health care providers providing care for HPV related cancer services such as colposcopy.

Human papillomavirus vaccines are immunizations that prevent infection by certain types of human papillomavirus. Available HPV vaccines protect against either two, four, or nine types of HPV. All HPV vaccines protect against at least HPV types 16 and 18, which cause the greatest risk of cervical cancer. Details of HPV immunization recommendations and coverage in BC can be found on the Immunize BC website <https://immunizebc.ca/hpv> In BC, children up to the age of 18 are eligible for funded vaccination. Those who get the vaccine in grade 6 need 2 doses at least 6 months apart, while those who start the HPV vaccine series on or after their 15th birthday need 3 doses over 6 months. Immunize BC has developed a patient/parent handout to help dispel some of the misinformation that has been circulating and that can be downloaded from their website.

According to Immunize BC, in addition to all children up to the age of 18, the HPV9 vaccine is also recommended and free for:

- HIV-positive people up to 26 years of age
- Transgender people up to 26 years of age
- Cisgender* males up to 26 years of age who:
 - have sex with other men
 - are not yet sexually active but are questioning their sexual orientation
 - are street-involved



FPON Communications & Journal of Family Practice Oncology have gone Digital

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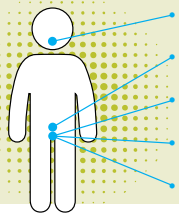
continued on page 11

Protect your child from cancer with the HPV vaccine.

Four things you need to know about the HPV vaccine:

1. The HPV vaccine is cancer prevention.

The vaccine protects against HPV infections that can cause:



- Mouth and throat cancer
- Cervical cancer
- Anal cancer
- Vaginal and vulvar cancer
- Penile cancer



It also protects against infections that cause genital warts.

2. Age matters. Don't wait to vaccinate.

It is recommended that children get the HPV vaccine in grade 6. Here's why:

- ✓ The vaccine works best when given at a young age because preteens produce more antibodies after HPV vaccination than older teens.
- ✓ For the vaccine to work best, people need to be vaccinated before they are sexually active and exposed to HPV.

When you vaccinate your child on time, you give them the best protection from HPV cancers later in life.

3. The HPV vaccine is safe.

200,000,000
HPV Vaccine Doses Safely Given

Over 15 years of vaccine safety monitoring has shown that the HPV vaccine is safe. More than 200 million doses of the vaccine have been safely given worldwide.

4. HPV vaccination works!



Studies in Canada and other countries with HPV vaccine programs have shown a big decrease in HPV infections, cervical pre-cancers, and genital warts since the HPV vaccine has been used.

What is HPV?

- HPV stands for human papillomavirus.
- It is the most common sexually transmitted infection.
- About 3 out of 4 unvaccinated sexually active people will get HPV at some point in their lives.
- There are many different types of HPV. Most HPV infections are harmless and go away on their own. But some infections can lead to cancer or genital warts.



For translations and more information, scan the QR code or visit immunizebc.ca/hpv



ImmunizeBC



Provincial Health Services Authority

07/22

Managing psychiatric medications in patients with cancer

By Dr. Alan Bates, MD, PhD, FRCPC
Provincial Lead for Psychiatry and Acting
Program Medical Director for Supportive
Care at BC Cancer

Given the overall prevalence of anxiety and depression, it's not surprising that mental health comorbidities are common in people with cancer.

Substance use disorders are a good example of mental health syndromes that can increase risk of cancer.

The increased prevalence of depression in head and neck cancer, compared to most other forms of cancer, is likely partially explained by premorbid depression associated with risk-elevating substance use. Cancer treatments can also precipitate psychiatric symptoms.

Steroid-induced mood disturbances, for example, are a common challenge. Compared to the general population, the rate of diagnosis of psychiatric syndromes begins to increase 10 months before cancer diagnosis, peaks sharply around time of diagnosis, and then remains elevated for up to 10 years.¹ Therefore, primary care providers are frequently managing psychiatric medications in the context of cancer.

The best-known cancer- and mental health-related medication interaction is likely the risk of reducing the effectiveness of tamoxifen through strong cytochrome p450 2D6 (CYP2D6)-inhibiting antidepressants such as paroxetine, fluoxetine or bupropion. To mitigate that risk, venlafaxine and mirtazapine are antidepressants of choice

due to their minimal 2D6 inhibition. An added bonus, that often makes these medications more attractive to patients reluctant to take a psychiatric medication, is that both venlafaxine and mirtazapine can help with tamoxifen-induced hot flashes at night. Escitalopram and citalopram are



Dr. Alan Bates

also relatively low risk. If a patient is unable to achieve adequate results from weak 2D6-inhibitors, it might be reasonable for them to choose, in the context of education about this issue, to continue a strong inhibitor as some evidence suggests the clinical significance of this interaction is overblown.² However, there are studies that report clinically significant effects.³

In addition to being helpful for hot flashes, mirtazapine has other secondary effects that tend to be beneficial in this population. Promotion of sleep (at lower doses), increased appetite, and reduction of nausea all tend to be welcome side effects. Similarly, olanzapine is often used by oncologists for treatment-resistant nausea, even in the absence of any psychiatric symptoms.

In a setting where methadone, which can have a large effect on QT interval, is commonly used for pain control, it's worth being more vigilant about the risk of psychiatric medications prolonging QT. Among SSRIs, escitalopram and citalopram are the only two that show a convincing dose-response effect on QT.⁴ With a few possible exceptions, antipsychotics also have risk for contributing to QT prolongation.

Another setting where prescribing an SSRI may seem foolhardy is in the context of neuroendocrine tumor with risk of carcinoid syndrome, but recent reviews suggest they are relatively safe.⁵⁻⁶

In patients where gabapentin or pregabalin are not working adequately for neuropathic pain, it's worth remembering that SNRIs like duloxetine and tricyclic antidepressants like nortriptyline also have evidence for helping with neuropathic pain.

Small doses of as needed lorazepam can help certain patients get through some investigations and procedures. In addition to its effects on anxiety, lorazepam can also help with anticipatory nausea. In addition to all the other well-known risks of benzodiazepines, the risk of respiratory depression is present to a much greater degree in patients taking opioids.

Stimulants from both the methylphenidate and dextroamphetamine families can sometimes be helpful for brain fog or mental fatigue. However, reduction in appetite caused by stimulants is often unwanted in this setting. There is also anecdotal concern about seizure risk being increased by stimulants in patients with brain tumors, but the limited evidence available does not support that risk.⁷ Bupropion is another alternative for patients with depression characterized by lack of motivation and mental energy, but it is known to increase risk of seizure, particularly in the context of malnutrition and electrolyte abnormalities. Antipsychotics as a class also lower seizure threshold.

Steroids such as prednisone and dexamethasone given as part of chemotherapy regimens can cause or exacerbate a wide variety of psychiatric symptoms. Patients with a history of bipolar disorder are particularly at risk for destabilization. Olanzapine can be used to address steroid-induced irritability, hypomania, mania, or psychosis and can be given prophylactically in patients with a high level of risk. Olanzapine or other antipsychotics (depending on the patient and scenario) can also be helpful in minimizing immunotherapy-induced psychotic symptoms and might allow a patient to continue a regimen that might otherwise have to be discontinued.

Patients with severe and persistent mental illness such as schizophrenia or bipolar

Key Points

1. Antidepressants that are strong cytochrome p450 2D6 (CYP2D6) inhibitors (e.g. paroxetine, fluoxetine or bupropion) may decrease the effectiveness of some cancer medications such as Tamoxifen.
2. Be vigilant about the risk of psychiatric medications prolonging QT, particularly if a patient is on methadone for pain management as it can also contribute to this.
3. Steroids (e.g. prednisone and dexamethasone) given as part of chemotherapy regimens can cause or exacerbate a wide variety of psychiatric symptoms.
4. Patients with severe and persistent mental illness may need dose reductions of longstanding medications in the context of acute medical illness and/or acute medical settings.

continued on page 11

Expansion of FPON-UBC CPD self-directed online courses: Lung Cancer available April 14, 2023

With the increasing prevalence of lung cancer, the BC Cancer Primary Care Learning Sessions: Lung Cancer eLearning course offers valuable resources and knowledge to support health professionals in their work. This online course is designed to provide primary care providers with up-to-date information on the diagnosis, treatment and management of lung cancer in primary care settings.

Explore the BC Cancer Primary Care Learning Sessions: Lung Cancer today using the following link:

<https://ubccpd.ca/learn/learning-activities/course?eventtemplate=477-bc-cancer-primary-care-learning-sessions-lung-cancer>

Links to all modules in the BC Cancer Primary Care Learning Sessions are also available on our website FPON.ca

www.bccancer.bc.ca/health-professionals/networks/family-practice-oncology-network/continuing-medical-education#Primary--Care--Learning--Sessions



Managing psychiatric medications continued from page 10

disorder may need dose reductions of longstanding medications in the context of acute medical illness and/or acute medical settings. A classic example of the latter is the need to consider reducing olanzapine or clozapine in environments where patients can't smoke as smoking induces CYP1A2 and speeds up metabolism of those medications.

This short article cannot account for all the individual differences between patients, settings, and scenarios, and the content should be used along with other resources and does not replace clinical judgment. Using interaction-checking software and being aware of kidney and liver dysfunction that may affect metabolism and serum protein and medication levels are always prudent practices. Relatively rare syndromes such as serotonin syndrome also become less rare with so many possible variables contributing. When in doubt, consult with a physician or pharmacist colleague. The RACE line www.raceconnect.ca can also be an excellent resource. When done judiciously, active management of psychiatric medications in people with cancer can improve quality of life, reduce side effects, and (through improving tolerance of and ability to attend treatments) lengthen survival.

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BC's Cancer Action Plan and some implications for Primary Care continued from page 8

- Cisgender males in youth custody services centres or in the care of the Ministry of Children and Family Development (MCFD)
- Two-Spirit, transgender, and non-binary people up to 26 years of age

Immunize BC also notes that the HPV9 vaccine is recommended, but not provided free (unless noted above), for:

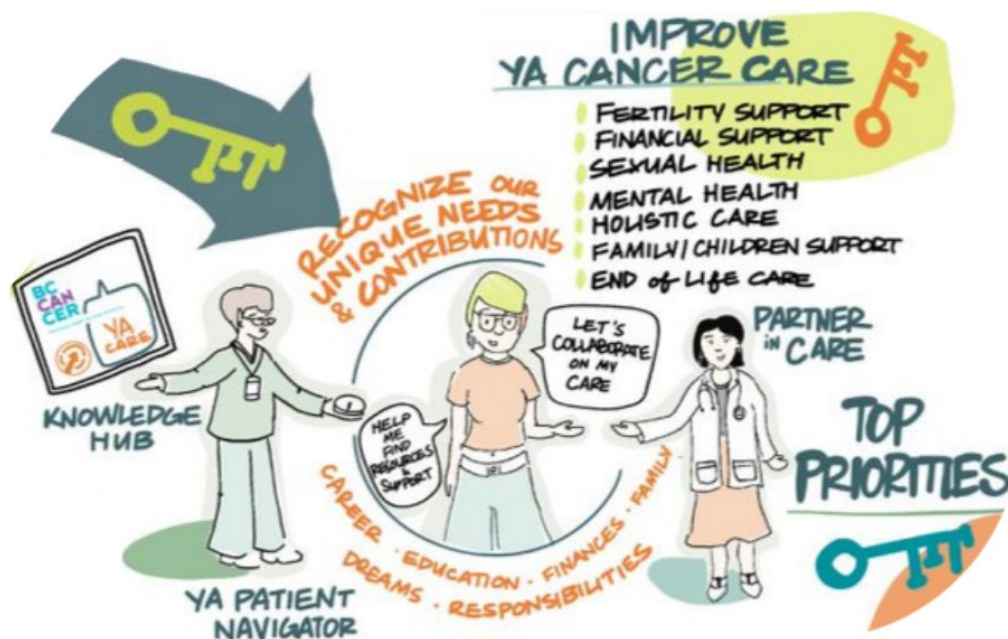
- Females 19 to 45 years of age
- Males 19–26 years of age (unless noted above)
- Males 27 years of age and older who have sex with men

In our quest for improving care that is based on equity, diversity and inclusion,

primary care and our partners will need to take a much broader approach to ensure awareness that HPV related cancers are not just about cervical cancer prevention. We need to shift the dialogue to counter the misinformation that creates stigma around HPV, advocate for broader coverage of immunization and improves prevention of all HPV related cancers in addition to other HPV related conditions. This is action that primary care, through the Patient Medical Homes and Primary Care Networks, in partnership with Public Health and BC Cancer can collaborate with other partners both at the local, regional and provincial levels.

We are planning on including pieces on all HPV related cancers in the Fall 2023 Journal, so stay tuned for more information.

Opportunities for clinician input to inform programming for adolescents and young adults with cancer in BC



Why It Matters

- An AYA is diagnosed with cancer every 65 minutes in Canada – more than 20 AYAs every day.
- Cancer in AYAs is unique from older adults and pediatric populations with distinct medical and psychosocial needs.
- AYA specific cancer care in Canada is limited. In the UK and Australia young adult specific cancer care is standard practice.
- Only 0.4% of cancer research funding in Canada is dedicated to AYAs.

anew

Reshaping young adult cancer care, together.

Do you care for adolescent and young adult (AYAs) patients (aged 15-39) with cancer? Do you have perspectives and ideas on how their diverse needs could be better met? Read on...

In November at the BC Cancer Summit, the Anew Research Collaborative and BC Cancer hosted a session focused on cancer care needs and programming for AYAs. Attended by nearly 70 AYAs and clinicians, the session reinforced a gap in AYA specific cancer care. Building from the Summit, we are now reaching out to clinicians who care for AYAs to understand their experiences, needs and priorities to improve cancer care for AYAs.

"I want to be able to better support young adults with cancer. I believe we can."

~Clinician attending the BC Cancer Summit session focused on AYA care

Over the next few months, Dr. Jon Avery, will be interviewing clinicians across BC who care for AYAs with cancer and who wish to share their insights about AYA specific cancer care. "This is an opportunity to reflect on the unique needs of AYAs and identify tangible steps and priorities to improve cancer care for AYAs in BC," noted Dr. Cheryl Heykoop, Anew Research Lead, Program Head of Royal Roads University MA Leadership Program (Health), and patient with lived experience of cancer as an AYA.

Simultaneously, Anew is working on a research project, funded by CIHR, focused on understanding and addressing the cancer care realities of racialized AYAs. In late spring/early summer, we will be hosting

further conversations with clinicians and care providers to reflect on the learnings from racialized AYAs and identify tangible ways to improve cancer care for racialized AYAs in BC.

To learn more about any of the above or to take part in the interviews and/or conversations, kindly send an expression of interest to hello@anewresearch.ca

FAMILY PHYSICIANS & GENERAL PRACTITIONERS

Is funding a barrier to you pursuing extra training in CANCER CARE?

The Canadian Association of General Practitioners in Oncology (CAGPO) offers training scholarships of up to one month in duration for FPs/GPs interested in cancer care. Please email info@cagpo.ca for information about the scholarship program and application form.

Drs. Lori Ann Hayward & Pamela Craigie

Applications must be received by June 15, 2023.

Please join us for our annual 2023 CAGPO conference.

Details at www.cagpo-annual-conference.ca



THE CANADIAN ASSOCIATION
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EN ONCOLOGIE

Virtual primary care learning session timely as Nelson's community Oncology clinic transitions to general practitioner in Oncology (GPO) care model

By Dr. Sian Shuel, medical education lead, primary care program with Dr. Mike Vance, GPO Nelson, BC

The community of Nelson, in BC's Interior, recently transitioned to a GPO model from cancer care provided by Dr. Phillip Malpass, an internist/geriatrician who received the Patient Care Championship BC Cancer Excellence Award in 2019 for his work.

With change often comes opportunity, and earlier this year, BC Cancer Primary Care Program's Virtual Learning session provided a platform for community physicians to connect with one of their new community GPOs, Dr. Mike Vance, and an oncologist from their regional BC Cancer Centre in Kelowna on community-specific questions.

Dr. Vance is familiar with the area, having completed high school in Nelson. Upon finishing his medical education, he returned to Nelson to practice family and emergency medicine, followed by hospitalist and addictions medicine work. After completing his clinical rotations in the spring of 2022, he added GPO to his clinical duties. As a GPO, Dr. Vance assesses patients for appropriateness of the next round of chemotherapy after receiving a Community Oncology Network Referral (CONRef) from the medical oncologist at the regional centre and provides surveillance and follow-up care.

The community oncology clinic in Nelson is situated inside the Kootenay Lake Hospital. It helps provide cancer care for patients in a large geographical area from Kootenay Lake, 1.5 hours east, to Nakusp, 2 hours northwest. With Nelson being 4 hours east of Kelowna, the community oncology clinic helps ensure patients can receive care closer to home. The cancer care team in Nelson is currently supported by three part-time GPOs, a dedicated dietician, a social worker, an indigenous patient navigator, three



chemotherapy nurses, a charge nurse and a clinic clerk.

During the one-year transition period from internist to GPO care, GPOs from Trail went above and beyond. Commuting to Nelson, they covered the outpatient clinic, ensuring patients could continue accessing care in Nelson while the three new GPO trainees completed their education, including rotations at BC Cancer in Kelowna.

During his clinical rotations, Dr. Vance heard about the small group virtual BC Cancer Primary Care Learning Session opportunity from a medical oncologist who helped facilitate a workshop in the east Kootenays. They agreed it would create an excellent opportunity to support the local transition to the community's GPO model of cancer care.

The virtual Learning Session in Nelson was based on the online breast cancer module. After completing the accredited online

module, learners came together with local experts, including their local GPO (Dr. Vance), a medical oncologist from Kelowna and a family physician champion from Nelson, to briefly review key learnings from the module. This certified 1.5-hour workshop was developed to create an opportunity to build connections and discuss clinical and community-specific questions.

Feedback from the Learning Session in Nelson was positive, reporting that the workshop provided an

opportunity for an improved understanding of the diagnostic, referral and treatment process under the new GPO model. The module also facilitated an increased awareness of resources that patients in Nelson could access through their linkage with BC Cancer in Kelowna. The resultant understanding of, and confidence in, the system's process was vital for arming primary care practitioners to provide reassurance for their patients with a cancer diagnosis. The Learning Session also created an opportunity to give feedback to the Regional Cancer Centre on their ongoing work toward equitable access to care and patient resources.

If you're interested in bringing this opportunity to your community, please get in touch with Dr. Sian Shuel at sian.shuel@bccancer.bc.ca

FOR MORE INFORMATION

To learn more about the Family Practice Oncology Network or become involved, please email FPON@bccancer.bc.ca or visit www.fpon.ca

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