As part of cancer care, Oncology Nutrition has provided nutritional care to British Columbians with cancer since 1980. Currently, this care is provided to patients at each of the six BC Cancer Agency centres. We are connected by our shared vision: to provide a better quality of life for people living with cancer. We have devoted the past two years to transforming the way we do our work to enhance our practice. We are passionate about providing evidence-based nutritional care to cancer patients and their families. We have focused on building capacity with our community partners, facilitating practice based research, demonstrating leadership in patient education resources and fostering the engagement of patients, families, staff and partners. In addition, we are committed to the training of the next generation of oncology dietitians through our involvement in the Provincial Health Services Authority’s dietetic internship program.

Provincial Goals:

1. To further develop programs to improve patients’ nutritional status along the cancer care trajectory.

2. To continue to conduct research in three key practice areas for Oncology Nutrition; head and neck cancer, survivorship that focuses on breast, prostate and colorectal cancers, and nutrition screening in relation to patient outcomes.

3. To continue to build capacity through training and mentorship

4. To build on our status as national leaders in Oncology Nutrition through knowledge generation, translation and exchange.

Ryna Levy-Milne, PhD, RD
Provincial Director, Clinical Operations & Practice Leader, Nutrition
BC Cancer Agency
Oncology Nutrition over the Years:

1980-1990
- First dietitian hired at BC Cancer Agency (VCC)
- Vancouver Island Centre (VIC) opened
- First Oncology Nutrition conference in BC

1991-2000
- First Nutrition and Cancer Prevention Report Released
- Fraser Valley Centre (FVC) opened
- Patient Generated Subjective Global Assessment implemented for screening
- Initiation of a patient prioritization model
- Provincial Lunch and Learn series launched
- First Oncology Nutrition Education day at Annual Cancer Conference

2001-2010
- Sindi Ahluwalia Hawkins Centre for the Southern Interior (SAHCSI) opened
- Research and Clinical Practitioner Dietitian role created and filled
- Provincial Director, Nutrition, hired
- Oncology Dietitian hired at HealthLink BC
- Successful Team Planning Grant from Michael Smith Foundation
- Second global report on nutrition and cancer prevention released
- Abbotsford Centre (AC) opened

2011-2014
- Coordinated first PHSAs dietetic internship
- First Nutrition Symposium at Annual Cancer Conference
- Head and Neck Nutrition Database (OaSIS) initiated
- Centre for the North (CN) opened
- Revised Nutrition Screening Tool (NST) initiated
- First BC Cancer Agency Speech Language Pathologist hired for CN
April 2013 - March 2014 Oncology Nutrition by the Numbers

- **3795**: New outpatients directly benefiting from our care (21% with head/neck & esophageal cancers)
- **11608**: New patients completed the Nutrition Screening Tool at first patient visit; 31% scored 2-5 warranting dietitian consultation
- **32**: Weeks spent training dietetic interns
- **12.75**: FTEs Clinical Staff
- **207**: Dietitian days spent on tube feeding teaching, planning intravenous nutrition & monitoring; 177 enteral/parenteral orders; 1517 reassessments
- **4507**: Reassessments (70% with head/neck & esophageal cancers)
- **38%**: Head/neck patients receiving chemoradiation treatment
- **2876**: Hours of triaging (20% of time conferring with other health professionals)

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Vancouver Centre (VC)

‘An experienced team of nutrition professionals demonstrating a passion for learning and improving patient care’.

Who is the Oncology Nutrition Team at VC?

We are a group of four dietitians (2.3 FTE outpatient, and 0.9 FTE inpatient) who work in the largest cancer centre. Together we have over 80 years of clinical experience working in oncology. We have 0.75 FTE administrative support who also provides provincial leadership. Our three outpatient dietitians divide their patient workload by tumour site and in this way each has become the nutrition expert for their patient population. On the hospital unit we frequently see patients who require nutritional support (i.e., parenteral nutrition and enteral feeding). Our inpatient dietitian has been instrumental in working with the hospital unit’s interdisciplinary team to create decision aids and manuals to guide nutrition support for patients, families and staff. As well, we have been co-coordinators and preceptors for the PHSA dietetic internship program since 2011, that has helped build capacity in Oncology Nutrition.

Who are our Patients?

Vancouver Coastal Health Authority (VCH) accounts for the most significant part of our catchment area. Residents of VCH catchment area have a high level of education (37% of residents have a university degree compared to a provincial average of 24%) and are culturally diverse (45% of residents are of a visible minority compared to the provincial average of 25%). Chinese origin is the most prevalent accounting for 25% of the population.
Recent Achievements:

Education:
Over the past 30 years we have been leaders in organizing education in Oncology Nutrition for dietitians, other health care professionals and patients. The educational events started locally, and have grown to reach a provincial, national and international audience. Most recently we planned a nutrition education day for University of British Columbia’s (UBC) dietetic interns, and a separate nutrition education day for patients.

- UBC Dietetic Internship Nutrition Oncology Symposium videoconference – a total of 65 interns and dietitians attended.
- Nutrition Education Day – more than 100 patients and caregivers registered.
- Nutrition Education Fair – 135 multidisciplinary staff were educated on the role of the Oncology Dietitian.
- Presentations at BC Cancer Agency Education Forums (Gynecological, Lung, Pancreatic) and Support groups (Lung, Lymphoma).
- Satnam Sekhon, Clinical Coordinator, obtained a UBC Clinical Instructor appointment.

Clinical Practice:

- Leadership in Head and Neck Cancer (HN) database implementation
- Collaborated with a multidisciplinary team to develop parenteral nutrition decision guidelines for use on the hospital unit.
- Developed enteral feeding decision making guidelines for patients.
- Revised nutrition intervention framework (NIF) to assist in triaging patients.
- Piloted new nutrition screening tool (NST).
- Demonstrated leadership in development, revision and translation of printed patient education materials.
- Ongoing leadership in updating nutrition section of BC Cancer Agency website.
Research:


- Preceptors for yearly PHSA dietetic intern research project. Recent projects:

“Oncology nutrition support has been essential to the multidisciplinary management of patients with cancers affecting the aerodigestive tract. I am convinced that patient outcomes are better because of their services.”

Dr. Fred Hsu, Radiation Oncologist
Vancouver Island Centre (VIC)

“We are uniquely positioned to be natural agents of change...”

Who is the Oncology Nutrition Team at VIC?

We were the second location in British Columbia to open a cancer centre. The first dietitian was hired here in 1986 when the clinic was still located within the Royal Jubilee Hospital. Cheri Cosby, Clinical Coordinator, started at the centre in 1993 and was the only dietitian until 1996, when Andréa Fimrite was hired. By the time our current centre opened in 2001 our FTE allotment had gradually expanded to 2 FTE. Our secretary, Cynthia Williamson, (approximately 0.5 FTE) supports Oncology Nutrition. In December 2012 we moved into a newly renovated space named the ‘Alex and Jo Campbell Patient and Family Support Centre.’ It houses Oncology Nutrition, Patient and Family Counselling, an expanded patient library and education space for the exclusive use of patient education activities.

Who are our Patients?

Our catchment area covers all of Vancouver Island and includes many First Nations reserves. Twenty three percent of residents live in rural areas compared to the provincial average of 15%. The area has a low percent of residents with a visible minority compared to the provincial average while having a slightly higher than average number of residents identifying as First Nations.
Achievements over the years:

- Initiatives which have been evaluated provincially and used by other centres, include a routine referral system for head and neck and gastrointestinal cancer patients, electronic referrals and scheduling of patient appointments, group counselling for breast, gynecological, colorectal and prostate cancer patients, use of telehealth technology for group sessions, secretarial participation in patient booking, streamlining of documentation using computer autotext, the use of volunteers to assist with care and research and the lunch and learn education series.

- Participated in a research project known as Cancer Transitions which provided education for cancer survivors. Due to the overwhelming success of the program we have continued to offer this program.

- Helped develop and continue to be involved with a colorectal cancer multidisciplinary research team comprised of clinicians, researchers from the University of Victoria, and provincial leaders. This team has been awarded a number of research grants and published in peer-reviewed journals.

Recent achievements:

- Research preceptor for dietetic interns from Island Health Authority; Exploring the relationship between increased risk of malnutrition, serum albumin and carcinoembryonic antigen in colorectal cancer patients; Colorectal cancer survivors’ experiences regarding nutrition information needs post-ostomy surgery.


- Completed a qualitative study, Examining survivorship care needs of head and neck cancer patients. Cosby, C., Fimrite, A., Sidhu, S., & Wong, H.

- Initiated multidisciplinary colorectal group education sessions as a pilot project for colorectal cancer patients undergoing dual modality treatments. In 2012, the sessions were expanded and were opened to all colorectal cancer patients.

- Participated in a new research team, Prostate Cancer Survivorship Committee and assisted in the preparation of a grant proposal, Living Well: Multi-modality approach for prostate cancer survivorship through navigation, technology, and lifestyle interventions.
Fraser Valley Centre (FVC)

A close knit team of three dedicated dietitians who also work with an excellent interdisciplinary team including radiation and medical oncologists, nurses, speech language pathologists and the oncology dietitian at our host hospital.

Who is the Oncology Nutrition Team at FVC?

We are a team of three dietitians with a total of 2 FTE. Our centre has a high number of feeding tube insertions, making us experts in providing home tube feed teaching and support for outpatients. We are leaders in the development of provincial Refeeding Syndrome Guidelines for outpatient care. To more accurately assess the nutrition status and requirements of our patients we have implemented the use of indirect calorimeters and are investigating the use of hand dynameters in our practice. To improve continuity of care we maintain close ties with practitioners at Surrey Memorial Hospital (SMH) including weekly rounds with the dietitian on the oncology ward. We also work closely with the speech language pathologists (SLP) at SMH including monthly rounds, joint patient appointments and frequent communication as needed regarding mutual patients. We have fostered community relationships by acting as a resource for community dietitians and working with the dietitians at HealthLink BC.

Who are our patients?

Fraser Health Authority is the largest growing health authority in the province. It represents approximately 35% of BC’s population and is served by the Fraser Valley Centre (Fraser North and Fraser South) and the Abbotsford Centre (Fraser East). FVC’s catchment area has a high visible minority with primarily individuals of South Asian and Chinese descent.
Recent achievements:

- Collaborated with nursing, radiation oncology, medical oncology and pharmacists to develop provincial policy procedures and guidelines for enteral feeding and refeeding syndrome in order to improve patient safety.

- Conducted research that explored the identification of energy requirements and factors impeding optimal intake in tube fed head and neck cancer patients and that examined the attitudes and practices of dietitians working with head and neck cancer patients in Canada. This was part of our work on refeeding syndrome and funded by the Ride to Conquer Cancer fund.

- Advocated to secure comfort funds from the BC Cancer Foundation to provide patients with required nutrition products and tube feeding supplies when they have limited or no financial means available.

- Assisted in leading enteral feeding workshops for dietitians in the community.

- Participated in the tri mentoring program through UBC which matches a dietitian with a junior and senior university student.

- Hosts one dietetic intern per year for an elective placement.

- Educated and oriented new clinical staff on the role of the dietitian in cancer care.

- Implement LEAN principles into practice by completing the BC Patient Safety and Quality Council course. We plan to implement calorimeter usage and hand grip dynamometer readings into practice to improve patient assessment.

- Developed a system to track nutrition outcomes such as percent weight loss in head and neck cancer patients undergoing dual modality treatment. This will be implemented in spring 2015.

“I’ve always appreciated the welcome reception to contact any agency dietitian. The agency dietitians have been exceptional mentors for me as the HealthLink BC Oncology Nutrition Service has grown. Their in-depth knowledge in oncology nutrition and openness to collaborations, including joint development and constructive review of patient resources, has greatly supported a consistent message for oncology nutrition clients provincially.”

Andrea Holmes, Oncology Dietitian at HealthLink BC
Sindi Ahluwalia Hawkins Centre for the Southern Interior (SAHCSI)

‘Diverse group of Oncology Dietitians who serve one of BC’s largest geographical areas. Passion for patient care, education and improving clinical expertise.’

Who is the Oncology Nutrition Team at SAHCSI?

We are a team of three permanent and one casual dietitian with a total of 2.4 FTE. We have a strong partnership with community oncology network (CON) and community home health dietitians providing continuity of care throughout our large geographical area. We have a unique relationship with our host hospital Kelowna General Hospital (KGH) where we provide 0.4 FTE inpatient services to patients receiving active treatment and who may be on parenteral nutrition or tube feeds. We engage and educate staff through nutrition month activities and regular in-services to specific groups.

“Working at BC Cancer Agency in Oncology is rewarding on so many levels, both professionally and personally. To serve patients across this diverse geographical region is a privilege and an experience that goes unmatched.”

SAHCSI Dietitian

Who are our patients?

Interior Health Authority represents 26% of the province’s landmass but it only services 17% of the population. It has a higher rural population and a higher percent of elderly residents compared to the provincial average. Only 4% of residents are of a visual minority compared to the provincial average of 25%. Industry consists mainly of health care, teachers, and technical trades (including skilled transportation and equipment operators).
Recent achievements:

Clinical:

- Provided intensive teaching and support for patients on nutrition support
- Helped in the development, implementation and evaluation of the NST and the HN database.
- Extensively reviewed and revised the guidelines for inpatient care provided to KGH cancer patients.
- Participated in a four week trial period for case conferences for high risk patients. A multi-disciplinary team met once per week to discuss complex care patients to develop a care plan for these patients.
- Developed National Oncology Nutrition Clinical Practice Guidelines for screening cancer outpatients.

Education:

- Assisted in the creation and update of patient education materials including Tube Feed Guidelines, Refeeding Syndrome Guidelines and other symptom management resources.
- Active member of the provincial working group surveying the Patient Education Landscape at BC Cancer Agency to examine what we currently do to provide patient education, the teaching environment and perceived barriers to teaching that may exist.
- Presented at the annual Southern Interior Cancer Conference to educate regional CON partners on the nutrition care of high risk head and neck cancer patients. We also presented the NST and HN database results to date.
- Coordinated and presented at a centre wide Town Hall to update staff on the HN database.
- Preceptors to two Interior Health dietetic interns each year.
- Provided continual education sessions with other disciplines to improve cancer care. We reviewed how patients are screened using the NST and clarified criteria for nutrition referrals.
- Participated in Health and Wellness initiatives for staff such as first aide, stretch aide, Wellness Committee, and health promotion initiative (HPI) fund activities. We also hosted a staff nutrition fair featuring creative and healthy meal choices.

Research

- Reviewed in partnership with HealthLink BC, Dietitian Services, the Palliative Pilot study data with a goal to improve services provided to the palliative population. We studied patients who are receiving 10 or less palliative radiation treatments might be better served by HealthLink BC and found that referral to HealthLink BC for this patient population is feasible and the wait time may be shorter.
- In the future, we will be conducting a pilot study involving patient rescreening with the NST.
Abbotsford Centre (ACC)

“Our Abbotsford dietitians are invaluable members of the care team, seeing patients at risk on a regular basis and consulting with the treating medical and radiation oncologists to provide the best overall care for the patient.”

Dorothy L Uhlman, MD, Practice Leader, Medical Oncology

Who is the Oncology Nutrition Team at AC?

We are a team of 1.6 FTE dietitians, who specialize in Head and Neck, Esophageal and Gastro-intestinal cancer management. Our focus is on enteral nutrition and collaborative dysphagia and symptom management throughout the patient’s trajectory. With the implementation of nutrition screening and interdisciplinary collaboration, we provide timely medical nutrition therapy through the acute phases of treatment to post treatment recovery and rehabilitation.

Our practice includes knowledge translation by being involved in clinical and quality improvement research and in capacity building since we provide evidence-based education to dietetic students, interns and our Fraser Health Authority community partners.

Who are our patients?

Abbotsford Centre serves the Eastern Fraser Valley, one of the fastest growing regions in the country. This state of the art centre opened in August 2008 and is integrated within the new Abbotsford Regional Hospital and Cancer Centre site, the first public-private partnership hospital built in BC.

Our patients reside in the eastern part of the Fraser Health Authority (FHA) region. Seventy-five percent of Hope residents and more than 35% of the residents in Mission, Abbotsford and Chilliwack communities are in the lowest quintile of socio-economic circumstances. Food insecurity has emerged as a key public health issue in this region and is a potential barrier to maintaining optimal nutrition status for patients receiving cancer treatment.
Recent achievements:

- Secured $5000 food security comfort funds from the BC Cancer Foundation to assist patients with limited income to maintain optimal nutritional status while on treatment.

- Coordinated interdisciplinary swallowing rehabilitation program for Head and Neck cancer patients, including joint assessments with the Speech and Language Pathologist, and interdisciplinary quarterly rounds.

- Co-investigator for a research study: ‘Prophylactic vs. therapeutic intravenous (IV) fluid hydration in patients with Head and Neck squamous cell carcinoma (HNSCC) cancer treated with cisplatin-based chemoradiation.’

- Annual guest lecturer for the University of British Columbia’s fourth year Clinical Nutrition course.

- Biannual guest lecturer for the Oncology Family Practice Network General Practitioner in Oncology (GPO) training curriculum.

- Collaborated with BC Cancer Agency communication’s department on the following campaigns: Light Drinking and Cancer Risk, Cancer Myth Busting video and World Cancer Day 2014.

“As the Abbotsford Centre Speech and Language Pathologist (SLP), I strongly value the informative and collaborative working relationship we share. Together, we are able to provide patient centered diagnostics, assessments, treatment plans, and swallowing rehabilitation.”

Devon Iversen, MA, Registered Speech and Language Pathologist

“I’m very grateful for the knowledge and enthusiasm with which our registered dietitians look after our patients in Radiation Oncology. It’s so helpful to have Dietitians who specialize in cancer care. I’ve learned a lot from both Melanie and Michelle and enjoy working with them both.”

Eric Gable, MD, GP
Centre for the North (CN)

‘A vibrant team of oncology dietitians working creatively to meet the unique needs of Northern and rural patients’

Who is the Oncology Nutrition Team at CN?

We are two dietitians (1.5 FTE) working at BC’s smallest and newest cancer centre. Working collaboratively with our community partner dietitians at the University Hospital of Northern BC and the nine community oncology clinics, we provide evidence-based nutrition care to cancer patients in Northern BC. The CN dietitians are leaders in using technology to improve communication and education with patients and staff. The CN dietitians are also clinical and research preceptors to UBC dietetic interns.

Who are our patients?

The CN’s catchment area represents 66% of BC’s landmass yet includes a population of less than 300,000 people, many of whom live in rural settings. Compared to the provincial average, residents of Northern BC have lower socioeconomic status and education levels. The region also has a higher prevalence of overweight and obese individuals when compared to the rest of the province. Much of Northern BC’s economy is driven by resource-based industries (mining, oil and gas, and forestry). Northern BC is home to the highest proportion of First Nations residents in the province at 16%. 
Recent Achievements:
Since opening its doors for patient care in November 2012, the CN Oncology Nutrition Program has worked hard to meet the needs of the people we work with.

Education
- Regular participation in educating patients and staff from CN and Northern Health.
- Provide continuing education to other health professionals on cancer and nutrition-related topics such as enteral nutrition, osteoporosis, TeamSites, and eating and advanced cancer.

Clinical Practice
- Leaders in promoting collaboration and evidenced-based nutrition care to our patients.
- Facilitates weekly multidisciplinary rounds for Head and Neck cancer patients.
- Provides safe, evidenced-based care for cancer patients with swallowing problems by working with the CN Speech Language Pathologist.

Research
- Leaders in practice-based research to improve care for Northern BC cancer patients.
- Successful recipients of CN Radiation Therapy Catalyst Grant Competition for project “Swallowing Dysfunction among Head and Neck Cancer Patients Treated at the BC Cancer Agency Centre for the North: Prevalence and Risk Factors” (Investigators: Olson, R, Van der Meer, L., Finger, G., & Levy-Milne, R.)
- Collaborated with University of Northern BC students to facilitate an evaluation of the Provincial Oncology Nutrition Lunch and Learn Series.
- Preceptor for the yearly UBC dietetic intern research project; Nutrition Care Process Terminology in Northern Health: Dietitian Use, Knowledge, Attitudes, and Learning Needs, Nutrition-Related Characteristics of Women with Breast Cancer Admitted to the BC Cancer Agency Centre for the North.
Highlighting Oncology Nutrition’s Research & Clinical Practitioner:

Cheri Van Patten, RD, MSc

Translating research into practice is one of Cheri’s top priorities in her research and clinical practice role. This includes development of programs or services and educational resources for cancer survivors aimed at improving quality of life and lower risk of co-morbidities and cancer progression. In particular, in her role Cheri has focused on promoting healthy lifestyle strategies for those diagnosed or living with cancer. From her experience the opportunity to focus on wellness and health during a time of illness, can be empowering and life-changing for patients and their families.

Cheri started her post secondary education in the Physical Education program before switching to a degree in Nutrition. This unique background provided her with the knowledge base to examine the effects of both nutrition and physical activity when studying diet, energy balance and body composition in cancer survivors. Her interest in cancer was first piqued during her dietetic internship during an elective rotation at the BC Cancer Agency in 1991. These experiences over 20 years ago led her to pursue a Master of Science degree studying factors associated with energy balance in women with breast cancer undergoing adjuvant chemotherapy – to try to determine the causes of unwanted weight gain. She also worked as a casual clinical dietitian at the Vancouver Centre before accepting a position as the Clinical Co-ordinator in Nutrition in 1996. After almost a decade as the Regional Practice Leader for the Vancouver Centre and then the Lower Mainland, in 2006, she transitioned to a new position as a Clinical and Research Practitioner. In this combined practice role she is involved in various research activities ranging from clinical counselling, resource development, literature reviews designing and implementing clinical interventions, manuscript writing and review and participation on grant review panels. Cheri is also part of a number of collaborative, multidisciplinary research and clinical teams in BC and across Canada.
Current research highlights in 2013-2014 include:

- Co-principle investigator for the *Nutrition and Exercise during adjuvant Treatment (NEXT)* study launched in 2013 evaluating the impact of a physician-referred exercise and healthy eating intervention as supportive standard care in breast cancer survivors.

- Co-investigator for *Increasing Healthy Outcomes for Prostate Cancer Survivors: an innovative cooking class intervention feasibility study*. The study is opening in early 2015 and is targeted at men with prostate cancer (receiving androgen deprivation and their partners).

- Co-investigator for *Understanding the Unique Challenges of Being a Young Woman with Breast Cancer: a Focus Group for Developing an Exercise Intervention Programs*. The objective of this grant is to gain knowledge about the challenges young women with breast cancer face and identify preferences for exercise, diet and weight management programming. This study will open in early 2015.

Recent projects and achievements include:

- Collaboration with a team of oncology dietitians across Canada to create *Nourish Magazine: Canada’s Nutrition Companion for Oncology Patients and Caregivers*, dedicated to providing evidence-based information to cancer survivors and their families (www.nourishonline.ca).

- Co-supervisor of a directed studies project of a 36 year retrospective review of diet and cancer in Canadian newspapers.

- Diet and cancer prevention spokesperson for the Canadian Breast Cancer Foundation’s (CBCF) annual Ask and Expert series (including CTV interview, print media, online chat group and expert panel event) as part of Breast Cancer Awareness Month, October 2013.

- Webinar presenter for Prostate Cancer Canada’s (PCC) Expert Angle educational series, January 2014 (this archived webinar can be viewed at http://www.youtube.com/watch?v=ITZbqmKJkto)


We are thankful for the continuing support and collaboration that we receive from within BC Cancer Agency, and from our diverse network of partners provincially and nationally, allowing for multiple opportunities.