Cancer Care Ontario

Jan
2018

Expert Recommendation Report on Clinical Nurse Specialist and Nurse Practitioner Roles in the Delivery of Adult Cancer Services in Ontario

ONTARIO ONCOLOGY ADVANCED PRACTICE NURSING COMMUNITY OF PRACTICE
CANCER CARE ONTARIO

For information or questions about this report, please contact the Oncology Nursing Program at: nursing@cancercare.on.ca

Ontario
Cancer Care Ontario

Table of Contents

Summary of Expert Recommendations

The following recommendations reflect observational evidence of innovative emerging practices suggesting positive impacts on health outcomes and/or healthcare system performance, compiled by an expert panel of advanced practice nurses (APNs) who currently practice in oncology nurse practitioner (NP) or clinical nurse specialist (CNS) roles across Ontario.

RECOMMENDATION 1	NP- or CNS-led clinics can provide complex diagnostic work ups improving access to care and care coordination between teams and community, particularly for patients with diagnostic urgency such as suspicion of lymphoma or pancreatic cancer.
RECOMMENDATION 2	CNS' can identify, develop and support complex clinical roles, practice and procedures to support programs and teams around specialty practice.
RECOMMENDATION 3	CNS' can provide mental health services to patients with cancer, which may improve psychological and social well-being related to their mental health needs. This may be in the form of counselling, psychotherapy, support, education and referrals.
RECOMMENDATION 4	CNS' can provide complementary supportive care to the Adolescent and Young Adult (AYA) population. This includes unique needs of this group related to fertility counseling, sexual health and complex psychosocial needs.
RECOMMENDATION 5	NPs can provide alternate and complementary outpatient symptom management and supportive care, particularly for newly diagnosed patients undergoing surgery, chemotherapy, radiation therapy or complex combined therapy.
RECOMMENDATION 6	NPs can provide alternate and complementary inpatient symptom management and supportive care, particularly for newly diagnosed patients undergoing surgery, chemotherapy, radiation therapy or complex combined therapy.
RECOMMENDATION 7	NPs can provide alternate care during treatment and transitions phases, including prescribing systemic therapy once an initial plan has been determined.
RECOMMENDATION 8	NPs can provide alternate and complementary complex symptom management and palliative care. The role provides supportive care across the outpatient setting particularly for patients with advanced disease.
RECOMMENDATION 9	NPs can provide alternate care for hematological cancers during treatment, and solid tumor cancers following adjuvant treatment. Both models provide specialized, timely care to a complex or potentially high risk population.

About this Report

In Canada, the clinical nurse specialist (CNS) and nurse practitioner (NP) are two recognized advanced practice nurse (APN) roles. Both CNS' and NPs share common role domains, making it difficult to differentiate between the two roles.

In 2009, the Ontario Oncology APN Community of Practice (APN CoP) at Cancer Care Ontario developed a document, *Clarifying the Advanced Oncology Nurse Role in Ontario* (1), to better define the purpose and characteristics of the APN roles, describing the unique contributions of CNS and NP roles in cancer care.

In 2015, Cancer Care Ontario in collaboration with the Program in Evidence-Based Care (PEBC) at McMaster University, released a clinical guideline on the *Effective Use of Advanced Practice Nurses in the Delivery of Adult Cancer Services in Ontario* (2). The guideline provides 13 evidence-based recommendations on the role of APNs (i.e. CNS and NP) for optimizing patient[1], provider, and health system outcomes across the cancer journey.

The guideline highlights the gaps in published evidence in key areas where effective APN use is occurring across Ontario. However, there was a lack of evidence on APN roles in cancer prevention and end-of-life care, and insufficient evidence on the NP role in the treatment or palliative care phase.

This *Expert Recommendations Report* is an important step towards addressing the gaps in published evidence.

This report was developed by Cancer Care Ontario's Oncology Nursing Program in collaboration with members of the APN CoP, who acted as the expert body and provided experiential knowledge to supplement the gaps in published evidence.

Objectives

The objective of this *Expert Recommendation Report* is to present expert panel recommendations on the use of APNs in the delivery of cancer services in Ontario, providing unpublished emerging practice evidence to fill in the gaps in the published PEBC APN Guideline.

Our goal was not to create new knowledge, but make the best use of available scientific data and the collective expertise of APNs practicing in oncology. The document will provide a set of expert panel recommendations to build a research agenda to promote the collection and publication of Level 1 and 2 evidence (randomized and non-randomized controlled studies) in this domain.

This document can be used in conjunction with other documents, such as the complementary report on *Clarifying the roles of Clinical Nurse Specialists and Nurse Practitioners in Delivery of Cancer Care in Ontario* (3), as well as the *Participatory Evidenced Based Patient Focused Process for Advanced Practice Nursing Role Development-PEPPA* (4). Together, these documents will help address components of implementing APN roles across different care settings.

[1] The term "patients" include family members and/or caregivers.

Intended Users

This report provides guidance for use by:

- APNs, nurses, physicians and other inter-professionals involved in the delivery of cancer care
- Chief Nurse Executives
- Directors of Nursing and Inter-professional Practice
- Educators and researchers
- Healthcare administrators who plan the delivery of cancer services
- Healthcare policy makers
- Professional associations (e.g., Canadian Association of Nurses in Oncology, Registered Nurses Association of Ontario)

Preamble

NP and CNS role information was collected through the modified Delphi process, however this report presents recommendations that align with existing areas of evidence and provides emerging practice evidence to address the gaps in the published literature.

Recommendations are based on submitted role templates from NPs and CNS' working in Ontario Regional Cancer Programs during the timeframe of the project and may not reflect all current APN roles. All recommendations are within the context of the appropriate practice and licensing enforced by the College of Nurses of Ontario.

Background

In the current healthcare system, increasing demands for care innovations and technology has created opportunities for nurses to meet complex patient care needs and cancer system change through advanced knowledge, clinical expertise and leadership skills.

According to the Canadian Nurses Association, advanced nursing practice is described as an advanced level of clinical nursing practice that maximizes the use of graduate educational preparation, in-depth nursing knowledge and expertise in meeting the health needs of individuals, families, groups, communities and populations. It involves analyzing and synthesizing knowledge; understanding, interpreting and applying nursing theory and research; and developing and advancing nursing knowledge and the profession as a whole (5). APNs are often aligned with complex and specialized patient populations and their impact is at the client, organization and system level through the integration of an expanded range of competencies (6).

The integration of APN roles have contributed to better care for individuals, better health for populations and lower healthcare costs. It is essential to align APN roles with patient and population health needs for achieving healthcare improvements and efficiencies (7).

Types of Advanced Practice Nurses

In Canada, nurse practitioner (NP) and clinical nurse specialist (CNS) are two recognized types of APNs.

The term NP is a regulated title in Ontario and should be used by nurses who have successfully completed the legislated requirements and have obtained the extended class registration. The term CNS is not a legislated or protected title but should be reserved for those nurses who have expertise within a specialized area of practice and completed a Master's degree in nursing.

For full descriptions of NP and CNS, please refer to the complementary report, *Clarifying the roles of Clinical Nurse Specialists and Nurse Practitioners in Delivery of Cancer Care in Ontario* (3).

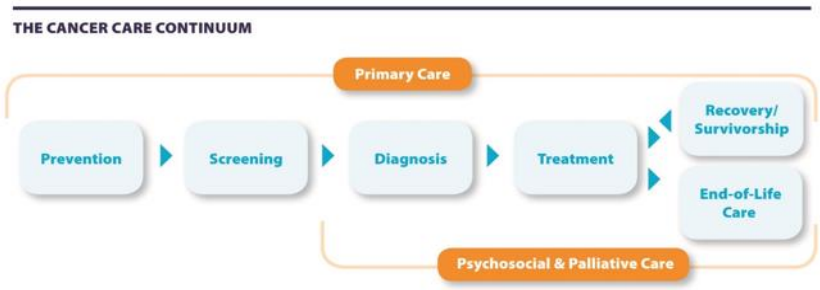
Alternate vs. Complementary APN Roles

NPs and CNS' can function as alternate or complementary care providers depending on the patient population, disease type, and setting. **Alternate** roles are introduced as a replacement or substitute for another provider, most often a physician; and **complementary** roles are introduced to augment the services of existing healthcare provider roles. Both roles aim to maintain or improve the quality of care for patients (8).

Continuum of Care

NPs and CNS' care for patients throughout the cancer care continuum, across patient populations and settings. Figure 1 shows the different stages of disease trajectory, from prevention, screening, diagnosis, through treatment, survivorship[2] and palliative and end-of-life care. NPs and CNS' also care for the unique patient needs associated with high risk (e.g. AYA)[3] and complex (e.g. patients with multiple co-morbid conditions and/or function limitations) cases. They work in a variety of practice settings including homecare, community agencies, ambulatory or inpatient care clinics, urgent care clinics[4], hospitals and Regional Cancer Centres.

FIGURE 1 **The Cancer Care Continuum**



Leadership in Research and Education

The role statements collected through the modified Delphi process consistently demonstrated extensive leadership components (see Gathering Evidence, pg. 8).

NPs and CNS' fulfill a leadership role and represent the cancer centre on behalf of patient care delivered by the centre by participation in research grants, holding a member or chair role on provincial committees and/or national groups (e.g. professional organizations, boards, guideline development working groups).

With NP and CNS leadership, nurses are empowered to lead or participate in research and contribute to the development of healthcare professional and patient education materials, thereby increasing knowledge and confidence when managing their patients. They can apply research skills to lead the process of identifying service delivery gaps and developing interventions based on best practice and research evidence to address problems.

As provincial and national level representatives, NPs and CNS' are able to facilitate change management within healthcare provider teams and translate knowledge of current evidence and best practices to nursing and interdisciplinary teams. Improved adherence to provincial and national nursing guidelines results in improved patient care and enhanced patient safety.

[2] The "survivorship" phase refers to the phase of the cancer continuum following diagnosis and treatment, prior to recurrence of subsequent cancers or death (9).
[3] The "AYA" population comprises of individuals aged 15 through 39 years at cancer diagnosis (10).

[4] "Urgent care clinics" meets the unique needs of cancer patients experiencing cancer or treatment related symptoms or side effects. The urgent care clinic reduces the need for patients to go to hospital emergency rooms when in need of specialized oncology care.

Gathering Evidence

With a paucity of Level 1 and 2 published evidence on APN roles in cancer care, Cancer Care Ontario's APN CoP acted as the expert body and participated in a modified Delphi method to gather observational evidence regarding innovative emerging practices suggesting positive impacts on health outcomes and/or healthcare system performance of NP and CNS roles across Regional Cancer Programs in Ontario.

The modified Delphi method is a structured method for soliciting expert opinion about complex programs or topics, through the use of a series of questionnaires and controlled feedback, followed by a consensus meeting. The technique is a widely used and accepted method for gathering data from respondents within their domain of expertise (11, 12).

A leadership group was formed to guide the modified Delphi process, which comprised of:

1) APN CoP co-chairs
2) Seven APN CoP members with equal representation of NPs/CNS' from centres across the province
3) Cancer Care Ontario Director of Person-Centred Care

They provided content expertise, methodology expertise, co-created the Delphi role template and survey, reviewed and summarized submissions, participated in a consensus meeting, and reviewed the final report.

All members of the CoP, which consists of 55 CNS' and NPs across the province, were invited to participate in the survey rounds, and 16 members (seven CNS' and nine NPs) participated in the consensus meeting. The purpose of the meeting was to review the role statements and results, and as a group come to consensus on role statements (collated and summarized from completed templates) to be used for the recommendations report.

The final report was sent to all members of the CoP (n=55) for review, as well as selected Regional Directors (n=5) who had expressed interest in providing their feedback.

For full descriptions of the methodology, please see Appendix 1.

Expert Recommendations

The following nine expert recommendations about the effective use of NP and CNS roles were formulated using the 30 accepted role statements from the modified Delphi technique (see Appendix 2 for APN Delphi Results and Role Statements). These recommendations cover multiple phases of the disease trajectory, meeting different patient needs and across practice settings. They align with existing areas of evidence and contribute to emerging practice evidence to address the gaps in published literature.

As evident from the recommendations below, the use of NP and CNS roles facilitate collaboration/continuity of care and communication amongst the multidisciplinary healthcare team, which can result in improved utilization of healthcare resources by reducing side effects and emergency room (ER) visits, decreasing wait times, reducing patient anxiety, promoting early discharge and fostering nursing leadership.

RECOMMENDATION 1

NP- or CNS-led clinics can provide complex diagnostic work ups improving access to care and care coordination between teams and community, particularly for patients with diagnostic urgency such as suspicion of lymphoma or pancreatic cancer.

Summary of Expert Evidence for Recommendation 1

- This recommendation covers multiple disease trajectories, from diagnosis to palliative care.
- This recommendation is supported by Role Statements #1 and 27.
- The NP or CNS is responsible for triaging new referrals, in depth assessment on presentation, ordering appropriate diagnostics and system navigation, and for support during initial stages of diagnosis and treatment to assist with transitions through complex patient pathways.
- The NP or CNS collaborates with physicians and across teams to ensure rapid diagnosis and improved patient experience.
- The NP or CNS leads the development of the specialized program or clinic for complex patient populations.
- The role has demonstrated patient satisfaction, enhances quality of life and provides a holistic approach to care with consideration of financial implications and management of co-morbidities.

RECOMMENDATION 2

CNS' can identify, develop and support complex clinical roles, practice and procedures to support programs and teams around specialty practice.

Summary of Expert Evidence for Recommendation 2

- This recommendation covers multiple disease trajectories, from diagnosis to palliative care.
- This recommendation is supported by Role Statements #9 and 28.
- The CNS develops and implements a hospital based Integrated Breast Cancer Program that encompasses screening, diagnosis, treatment and follow-up phases of care.
- The CNS performs assessments and interventions within scope to manage vascular access complication for patients of all cancer types.
- The role leads and empowers nursing teams through clinical expertise, education and implementation of evidence based practice standards and guidelines.
- The role develops and supports nurse navigators for clinic programs that provides navigation and timely access for patients to education, psychosocial support, resources, and symptom management for patients with higher and more complex treatment needs.

RECOMMENDATION 3

CNS' can provide mental health services to patients with cancer, which may improve psychological and social well-being related to their mental health needs. This may be in the form of counselling, psychotherapy, support, education and referrals.

Summary of Expert Evidence for Recommendation 3

- This recommendation covers multiple disease trajectories, from diagnosis to palliative care.
- This recommendation is supported by Role Statements #16 and 26.
- The CNS utilizes evidence based tools to assess oncology patients with cancer-related mental health needs and provides specialized care in consultation with a psychiatrist.
- The CNS provides counselling and psychotherapy to oncology patients with advanced disease, such as the CALM (Managing Cancer And Living Meaningfully) therapy for patients living with advanced cancer or who has a prognosis of 6 to 18 months.
- The CNS provides counselling, psychosocial support, and education to patients and staff as well as facilitates referrals to psychiatric services in the community when required.

RECOMMENDATION 4

CNS' can provide complementary supportive care to the Adolescent Young Adult (AYA) population. This includes unique needs of this group related to fertility counseling, sexual health and complex psychosocial needs.

Summary of Expert Evidence for Recommendation 4

- This recommendation covers multiple disease trajectories, from diagnosis to survivorship.
- This recommendation is supported by Role Statement #25.
- The role provides complementary care for AYA patients by offering specialized assessment and care on fertility, sexual health, school/work transitions, exercise, and nutrition.
- The CNS develops AYA screening tools and treatment pathways for relevant providers, while providing clinic consultations, education and leading program development/implementation.
- The CNS plays a crucial role in addressing the gaps in care of vulnerable patient populations to improve patient outcomes.

RECOMMENDATION 5

NPs can provide alternate and complementary outpatient symptom management and supportive care, particularly for newly diagnosed patients undergoing surgery, chemotherapy, radiation therapy or complex combined therapy.

Summary of Expert Evidence for Recommendation 5

- This recommendation covers multiple disease trajectories, from treatment to palliative care.
- This recommendation is supported by Role Statements #2, 3, 4, 5, 17, 19, 20 and 22.
- The NP expertly detects, assesses, treats and follows up physical and psychosocial early and late effects from complex treatments.
- The NP independently manages the symptoms of disease progression, complex symptom management, response to oncological emergencies and chemotherapy related hypersensitivity reactions.
- The NP leads and participates in research to improve patient outcomes.
- The NP identifies gaps in patient care and develops sexual health clinics for cancer patients.
- The NP provides complementary autonomous care within an inter-professional team for patients undergoing palliative radiation treatment at the Regional Cancer Centre.
- The role includes planned and triage telephone follow-up with patients.

RECOMMENDATION 6

NPs can provide alternate and complementary inpatient symptom management and supportive care, particularly for newly diagnosed patients undergoing surgery, chemotherapy, radiation therapy or complex combined therapy (e.g. neurological cancers, complex malignant hematological and gynecological cancers).

Summary of Expert Evidence for Recommendation 6

- This recommendation covers multiple disease trajectories from diagnosis to discharge.
- This recommendation is supported by Role Statements #3, 6, 18 and 29.
- The NP provides advanced health assessment and diagnosis, symptom management, patient education and support, manages complications of treatment and critical illness, consults with other services as appropriate, and performs discharge planning and discharging patients.
- The NP provides continuity, navigation and coordination of care, timely diagnosis and symptom management.
- The role provides alternate models of care within teams for hematology inpatients (e.g. stem cell transplant patients, acute leukemia, complex lymphoma and myeloma) and complex gynecological cancer in post-surgical and medical units.
- The NP provides preoperative and postoperative teaching to patients, families, nurses and other interdisciplinary team members.
- The role provides complementary care within an interdisciplinary team in the management of inpatients with high risk neurological cancers (e.g. brain tumors, spinal cord malignancies).

RECOMMENDATION 7

NPs can provide alternate care during treatment and transitions phases, including prescribing systemic therapy once an initial plan has been determined.

Summary of Expert Evidence for Recommendation 7

- This recommendation covers multiple disease trajectories, from treatment to palliative care.
- This recommendation is supported by Role Statements #7 and 21.
- The NP assesses patients prior to each cycle and autonomously prescribes chemotherapy/ biotherapy according to the treatment plan.
- The NP clinically provides care through assessment, referrals and case-management, including chemotherapy prescribing, diagnostics, ongoing management, self-management health teaching and overall system navigation.
- Availability of the NP to address toxicities in a timely fashion demonstrates decreased ER visits and hospitalizations.

RECOMMENDATION 8

NPs can provide alternate and complementary complex symptom management and palliative care. The role provides supportive care across the outpatient setting particularly for patients with advanced disease.

Summary of Expert Evidence for Recommendation 8

- This recommendation covers multiple disease trajectories, from prevention to palliative care.
- This recommendation is supported by Role Statements #12 and 23.
- The role delivers alternate and complementary care in outpatient clinics across modalities providing disease-related information, prognosis and advanced care planning, and autonomously follows patients for symptomatic care related to their advanced disease.
- The NP provides clinical consultation for ER staff to assist in assessment and independent management of patients with complications related to a cancer diagnosis or needing a palliative care approach.
- The NP can respond to complex symptoms and urgent needs through independently diagnosing, ordering, interpreting and communicating diagnostic tests, prescribing pharmaceuticals, performing procedures and providing consultative episodic care.
- The NP consults in person or by phone on patient care in hospital, clinics, or ER and has shown improved symptom management and reduction in ER visits.

RECOMMENDATION 9

NPs can provide alternate care for hematological cancers during treatment, and solid tumor cancers following adjuvant treatment. Both models provide specialized, timely care to a complex or potentially high risk population.

Summary of Expert Evidence for Recommendation 9

- This recommendation covers the treatment and survivorship phase.
- This recommendation is supported by Role Statement #8 and 11.
- The hematology NP provides supportive care through consolidation and transfusion monitoring and support, antibiotic evaluation and ordering, symptom management, assessment of febrile neutropenia in the ER and management of co-morbidities.
- The survivorship clinic promotes the use of best practice guidelines, collaboration with the inter-professional team/community providers, provides rapid access to diagnostic and oncologist consult for recurrence.
- The NP supports system change and best practice through development of patient care guidelines (e.g. iron chelation monitoring, steroid induced diabetes) and education tools for nurses and patients.
- The role ensures holistic care including post treatment monitoring, management of late effects of treatment, psychosocial support and counseling related to healthy lifestyle and risk reduction.
- The role includes regular clinic appointments, urgent drop in clinics and telephone practice with patients.

Expanding the Guideline Evidence

Some of the expert evidence collected through the Delphi process overlaps and builds on evidence in the published PEBC APN guideline (2) (see Appendix 3). In the section that follows, expert evidence is provided to build on relevant Guideline recommendations.

PEBC APN GUIDELINE RECOMMENDATION 5 CNS-led outpatient supportive care is an appropriate alternate model to the provision of such care by physicians, particularly for newly diagnosed patients undergoing surgery or radiation therapy.

In addition to the guideline recommendation, consensus evidence supports additional CNS roles in providing complementary care for patients treated with at least two modalities, and caring for patients in the survivorship phase.

Expert Evidence to build on PEBC Guideline Recommendation 5

- The CNS role provides complementary care for complex orthopedic oncology patients treated with at least two treatment modalities (surgery and/or radiation therapy), diagnosed with, or with a high suspicion of sarcoma and complex malignant hematology.
- At the time of diagnosis and during follow-up, the CNS role provides expert assessment and symptom management, telephone triage, liaison between oncology centre and the patient's general practitioner, psychosocial support and development of patient education tools.
- The CNS role provides early identification of patients who are potentially at risk for increased complications and decreased completion of planned treatments.
- The CNS role provides increased patient and family access to survivorship care, increased referrals to specialized clinics (e.g. lymphedema, fatigue), improved integration of the surgical and radiation program (e.g. development of patient pathways).
- Additional evidence is supported by Role Statements #10, 24 and 30.

PEBC APN GUIDELINE RECOMMENDATION 6 The addition of complementary CNS care to usual care may improve psychological and mental well-being and survival for patients with a new diagnosis of cancer who are post cancer surgery or receiving chemotherapy or radiation treatment.

In addition to the guideline recommendation, consensus evidence supports that complementary CNS care improves psychological and mental well-being and survival for patients in the survivorship phase.

Expert Evidence to build on PEBC Guideline Recommendation 6

- The CNS role provides supportive care, which includes symptom management, psychological support and education related to adjustments to the effects of treatment, changes in body image, coping & fear of recurrence.
- The CNS role functions to fill a gap in care for patients following treatment where they are seen less frequently at the cancer centre.
- Additional evidence is supported by Role Statement #10.

PEBC APN GUIDELINE RECOMMENDATION 9 The complementary addition of CNS care to cancer services may improve HRQL and mental and social well-being for patients with advanced cancer or cancer-related pain while providing similar or improved outcomes related to healthcare utilization.

In addition to the guideline recommendation, consensus evidence supports additional CNS care to cancer services across settings (e.g. community, acute care consult teams, hospice and palliative care) within inpatient and outpatient areas and shows evidence to support the role focused in end-of-life.

Expert Evidence to build on PEBC Guideline Recommendation 9

- The CNS role provides autonomous consultation and expert advice for oncology patients with advanced disease for pain and symptom management, emotional support for the patient and family, including advanced care planning and goals of care discussions, family meetings to support decision making, transitioning to home or other care centres (including Palliative Care Units) and end-of life care.
- The CNS role has been found to reduce the wait time for palliative assessment, decrease length of hospitalization, and increase quality of life for family and patients. Additionally, the role aids in decreasing length of acute care stay through improved symptom management and appropriate transitions with end-of-life care. The CNS role also improves patient outcomes by leading the development and education of end-of-life order sets.
- Additional evidence is supported by Role Statements #13, and 14 & 15.

Appendices

Appendix 1: APN Delphi: Methodology

Participants

A leadership group, comprised of 1) APN CoP co-chairs, 2) seven APN CoP members with equal representation of NP/CNS from centres across the province, and 3) Cancer Care Ontario Director of Person-Centred Care, was formed to guide the modified Delphi process. They provided content expertise, methodology expertise, co-created the Delphi role template and survey, reviewed and summarized submissions, participated in a consensus meeting, and reviewed the final report.

The APN CoP includes 55 CNS' and NPs across the province. All members of the CoP were invited to participate in the survey rounds, and select members participated in the consensus meeting.

Role Template for APN Use

Members of the APN CoP were asked to complete a template providing examples/scenarios they had performed as a NP or CNS in the delivery of care, within the diagnosis, treatment, survivorship, post-treatment follow-up or palliative care (which includes end-of-life care) continuum of care, and within the Regional Cancer Program settings (see Appendix 4).

Completed templates were reviewed and summarized by the leadership group. Each template was reviewed in pairs or groups of three people, extraneous material was removed and responses were collated and summarized into NP or CNS role statements (3-4 short sentences). All role statements were formatted to ensure consistent language.

Delphi Survey

A Delphi survey was created to generate consensus on the inclusion or exclusion of NP or CNS role statements. The Delphi survey method uses a series of sequential questionnaires, with ranking criteria, to seek expert opinion from a group or sector on the items presented in the survey. The Delphi process does not create new knowledge but rather collects expert opinion from the APN CoP. The two ranking criteria were defined by the leadership group and they are as follows:

1. **Impactful**: the expected health benefit of using an APN to deliver care improves patient outcomes[5] enough that the use of an APN in the provided scenario is worth doing, regardless of cost.
2. **Acceptability**: will key decision makers (i.e. Cancer Centre Regional Directors, Regional Vice Presidents) consider the example/scenario to be persuasive.

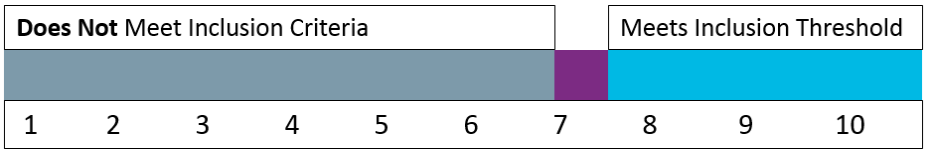
[5] For the Delphi process, the term "patient outcomes" refers to direct outcomes such as improved quality of life; physical, functional, psychosocial and mental health; morbidity; mortality; symptom management; patient and provider satisfaction; as well as indirect patient outcomes improved patient healthcare utilization; costs; and quality of care.

Participants were asked to provide a rating for the criteria on a scale of 1-9 for each of the criteria, with

1 to 4 = Highly Un-impactful or Highly Unacceptable
5 to 6 = Neutral or Uncertain
7 to 9 = Highly Impactful or Highly Acceptable

The average and median scores for each ranking criteria were calculated, and role statements were included or rejected using the following score range criteria (see Figure 2). Role statements with an average or median score between seven and eight were discussed at the Consensus Meeting.

FIGURE 2 **Range for Role Statement Inclusion**



Delphi Consensus Meeting

After the co-chairs, in partnership with CCO staff, reviewed and aggregated the survey ranking submissions to generate scores for each NP and CNS role statement, a full-day consensus meeting was held with APN CoP members who participated in the Delphi role template submission and ranking. The group reviewed the role statements and results, and together come to consensus on role statements to be used for the recommendations report.

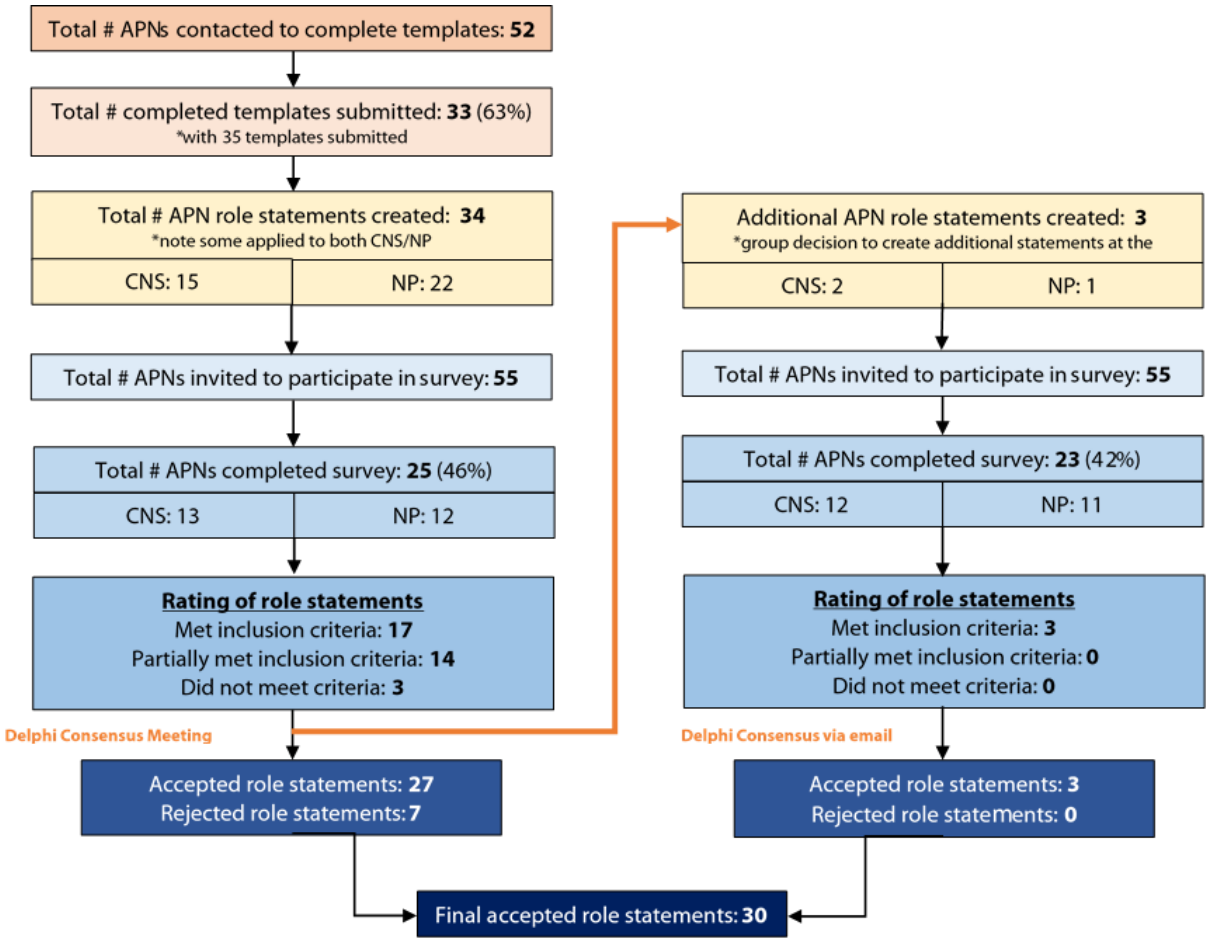
Appendix 2: APN Delphi: Results & Role Statements

Delphi Results

Of the 52 NPs and CNS' across Ontario who were contacted to complete the role template, 33 (63%) submitted a complete template for review. Based on the consensus among the leadership group, 34 role statements were created for ranking in the survey. A total of 12 NPs and 13 CNS' (46%) participated in the ranking of role statements (Delphi survey), which resulted in 17 role statements that received an aggregated ranking score that met the inclusion criteria, 14 with an aggregated score that partially met the inclusion criteria, and three not meeting the inclusion criteria.

At the full-day consensus meeting, participating members reviewed the 34 roles statements and rankings, and through an iterative discussion process, the group reached consensus on 27 accepted role statements. Seven role statements were excluded because there was not enough content to encompass a full role, and/or the language was already covered in other role statements. Three additional role statements were introduced at the meeting, and similarly those statements went through the full Delphi process for formal inclusion. The Delphi process resulted in a total of 30 NP and CNS role statements (see Figure 3).

FIGURE 3 **Results from the APN Delphi Process**



ACCEPTED ROLE STATEMENTS

Category	Role Statement	Recommendation
Diagnosis	1. The nurse practitioner initiated the development and implementation of a clinic for patients with suspicion of lymphoma. The NP performs disease specific assessments, ordering appropriate diagnostics and system navigation to expedite results enabling a formal diagnosis to patients. The NP collaborates with lymphoma physicians and across teams to ensure rapid diagnosis and improved patient experience. Outcomes can include reduction in wait-times to diagnosis, fewer biopsy attempts improving resource utilization of interventional radiology. Patients benefit through early identification of infectious complications, improved symptom management and continuous psychosocial support throughout the process. Earlier diagnoses results in timely treatment and allows patients to receive safe, effective, and consistent care while staying in their communities. The role may prevent admissions/ER visits and expedites the coordination of care. The role has demonstrated patient satisfaction, enhances quality of life and provides a holistic approach to care with consideration of financial implications and management of co-morbidities.	#1
Treatment	2. The nurse practitioner can provide alternate and complementary care for all complex patients receiving concurrent therapy (e.g. head and neck) in both the inpatient and outpatient setting during the treatment phase. The NP identifies and diagnoses complications and oncological emergencies (i.e. cord compression). The role facilitates collaboration/continuity of care, communication amongst the healthcare team (internal and external), avoidance of ER/admissions, decreased wait times, early discharge and nursing leadership.	#5
Treatment	3. The nurse practitioner can provide care to women with complex gynecological cancers in both ambulatory and inpatient settings (e.g. complex post-surgical and medical units) requiring chemotherapy within a collaborative care team. In this role, the NP independently manages the symptoms of disease progression, complex symptom management, response to oncological emergencies and chemotherapy related hypersensitivity reactions. Outcomes include reduction in disease related complications, consistency of care, and reduced length of stay for patients. The NP led the implementation of intraperitoneal chemotherapy in a sub-group of patients with ovarian cancer post optimal debulking surgery. The NP role identified gaps in care and developed a nurse practitioner/RN led sexual health clinic to address those gaps.	#5 & 6

Category	Role Statement	Recommendation
Treatment	4. A nurse practitioner role can provide complementary care with oncologists for vulnerable, high risk Head and Neck patients receiving concurrent treatment. The role provides supportive care that includes an integrated inter-professional approach to symptom management, addictions monitoring, coordination of home care services and supports such as leading and implementing centre wide smoking cessation programing and streamline inter-professional feeding tube management. Enhanced comprehensive care improves treatment completion rates and timely symptom management of patients. The role is able to use research/evidence to adjust and improve quality of care that impacts factors like hydration and creatinine levels which overall improves treatment completion, symptom management and patient satisfaction.	#5
Treatment	5. The nurse practitioner can autonomously provide out-patient care to cancer patients being treated with radiation. The role allows for early detection and treatment of physical and unmet psychosocial needs improving continuity of care and potentially decreasing ER visits and hospital admissions. The NP assesses, orders diagnostic testing, diagnoses the cause of the symptom and treats the cause of the symptom independently. This has been shown to benefit patient care through improved symptom management and treatment tolerance and allows the radiation staff to focus on treatment.	#5
Treatment	6. The nurse practitioner role can provide alternate/complementary models of care for hematology inpatients i.e. stem cell transplant patients, acute leukemia, complex lymphoma and myeloma. The NP provides advanced health assessment and diagnosis, symptom management, patient education and support, manages complications of treatment and critical illness, consult with other services as appropriate, discharge planning and discharging patients. Outcomes include patient and family satisfaction due to availability, trust and consistency of care. The NP can provide enhanced symptom management as they can quickly address new issues, while providing psychosocial support. This model of care centred on providing consistency to inpatients allows other team members, such as oncologists, to focus on outpatients for diagnosis and initiation of treatments.	#6
Treatment	7. Nurse practitioner can provide alternate care for patients receiving chemotherapy for all solid tumor cancers, curative and palliative intent. A nurse practitioner assesses patients prior to each cycle and order chemotherapy with dose adjustments if required. Interventions for symptom management including prescriptions, transfusions, referrals and self-management health teaching are provided. Direct access to the nurse practitioner for timely and cost effect response to treatment related side effects and toxicities can be provided while avoiding a visit to the ER. The NP role promotes consistency and continuity of care by reducing delays in treatments, providing holistic assessments and preventing side effects.	#7

Category	Role Statement	Recommendation
Treatment	8. The nurse practitioner role can lead outpatient clinics as an alternate model for post induction leukemia and lymphoma patients. Supportive care includes: consolidation and transfusion monitoring and support, antibiotic evaluation and ordering, symptom management and management of co-morbidities. The outcomes include timely access to care that reduces emergency room visits and admissions. The NP has developed guidelines for iron chelation monitoring, steroid induced diabetes, education tools for nursing and patients, and assessment of febrile neutropenia in the emergency department.	#9
Treatment	9. A clinical nurse specialist performs assessments and interventions within scope to manage vascular access complication for patients of all cancer types. The clinical nurse specialist role leads and empowers nursing teams through clinical expertise, education and implementation of evidence based practice standards and guidelines. Outcomes include reduced wait times, improved patient and practice outcomes, demonstrated cost savings, decreased length of stay, and coordinated care across continuums (cancer centres, community care, and tertiary care). The CNS role was responsible for the development and implementation of the program and provides seamless integration of care across various inter-professional team members.	#2
Survivorship	10. The clinical nurse specialist role can provide complementary care with the Radiation Oncologist for Head and Neck Survivorship Program. Supportive care includes symptom management, psychological support and education related to adjustments to the effects of treatment, changes in body image, coping & fear of reoccurrence. The CNS role functions to fill a gap in care for patients following treatment where they are seen less frequently at the cancer centre. In addition, the clinical nurse specialist role provides early identification of patients who were potentially at risk for increased complication and decreased completion of planned treatments. The CNS role provides increased patient and family access to survivorship care, increased referrals to specialized clinics (e.g. lymphedema, fatigue, etc.) improved integration of the surgical and radiation program (e.g. development of patient pathways).	PEBC APN Guideline #5 & 6
Post-Treatment Follow-up	11. The nurse practitioner can lead survivorship clinics for post-treatment surveillance, monitoring and follow-up of patients completing adjuvant treatment for breast or colorectal cancer. The role ensures holistic care including post treatment monitoring, management of late effects of treatment, psychosocial support and counseling related to healthy lifestyle and risk reduction. The NP provides this through regular clinic appointments, urgent drop in clinics and telephone practice. As an independent practitioner, the nurse practitioner orders appropriate tests to diagnose recurrence and refers the patient back to the responsible oncologist for consideration of treatment. The role supports patient access to care and best practice through collaboration with the interdisciplinary team and community care providers.	#9

Category	Role Statement	Recommendation
Palliative Care	12. A nurse practitioner role can lead clinics as an appropriate alternate to care for oncology patients with symptoms related to their treatment or receiving care with a palliative care approach, including urgent needs. The NP provides clinical consultation for ER staff to assist in assessment and independent management of patients with complications related to a cancer diagnosis or needing a palliative care approach.	#8
Palliative Care	13. A clinical nurse specialist can provide complementary and collaborative care with MDs, within a palliative care consultation service in acute care hospitals. A CNS provides autonomous consultation and expert advice for oncology patients with advanced disease around pain and symptom management, emotional support for the patient and family, including Advanced Care Planning/Goals of Care discussions, family meetings to support decision making, transitioning to home or other care centres (including Palliative Care Units) and end-of life care. The CNS role has been found to reduce the wait time for palliative assessment, decrease length of hospitalization, and increase quality of life for family and patients. Additionally, the role aids in decreasing length of patient stay through improved symptom management and end-of-life care. The CNS role leads the development and education of end-of-life order sets.	PEBC APN Guideline #9
Palliative Care	14. & 15. **[Two role statements combined]** The clinical nurse specialist role can provide complementary/multi-professional integrated role within the inpatient Palliative Care Consult Team. Care is provided for patients with a diagnosis of cancer seen across the cancer centre, those admitted to hospital with a terminal diagnosis, and patients presenting with complex issues or alternate care when a family physician is not available or able to provide primary care. Consultations include assessment and follow up care for complex pain and symptom management and quality of life / end-of-life care within the hospital, a palliative care unit, hospice or at home. Clinical role also includes advance care planning and system navigation. The role ensures ease of access by patients and families as well as consistency of care and practice within a team where other providers function within a rotational model. Role flexibility to see patients regardless of settings reduces the need for ER visits and decreases patient anxiety and gaps in care due to consistent clinician responsible for care. CNS leadership in palliative care results in quality improvement initiative to patient satisfaction and is a resource to staff in all care settings to improve palliative care knowledge.	PEBC APN Guideline #9

Category	Role Statement	Recommendation
Palliative Care	16. As part of the CNS role, the clinical nurse specialist can provide psychotherapy to oncology patients with advanced disease under the supervision of psychiatry such as providing CALM (Managing Cancer And Living Meaningfully) therapy in brief 3 to 6 session semi-structured individual psychotherapeutic interventions for patients living with advanced cancer or who has a prognosis of 6 to 18 months. The intervention supports dialogue and reflection while assisting patients to increase their capacity to manage distress. Four domains of focus include symptom management and communication with the healthcare team, changes in self and relations with close others, sense of meaning and purpose and the future and mortality. The impact reduces patient anxiety and depression and improves wellbeing and quality of life.	#3
Palliative Care	17. A nurse practitioner can provide complementary autonomous care within an inter-professional team for patients undergoing palliative radiation treatment at the Regional Cancer Centre. The NP provides disease-related information, prognosis and advanced care planning, and autonomously follows patients for symptomatic care related to their disease or radiation-related side effects. The NP consults in person or by phone on patient care in hospital, clinics, or emergency room. Patient outcomes include improved understanding of illness, symptom management and reduced visits to the emergency room. The role improves access to timely care, and facilitates communication between healthcare providers.	#5
Multiple Areas of Care	18. The nurse practitioner can provide alternate and complementary care for complex cancer inpatients at diagnosis and during treatment. NP provides continuity, navigation and coordination of care, timely diagnosis and symptom management. The NP is a knowledgeable resource for members of the inter-professional team. The organizational feedback on the role noted a reduction in morbidity, mortality, decreases hospital length of stay and improves patient and staff satisfaction. The nurse practitioner supports patients with timely detailed information and education when they are initially diagnosed.	#6
Multiple Areas of Care	19. The nurse practitioner can provide alternate and complementary care in the post treatment/survivorship phase for patients receiving combined-modality treatment. The NP expertly assesses, treats and follows up physical and psychosocial early and late effects from complex treatments. The role has been shown to reduce ER visits and admissions along with improved quality of life and patient satisfaction. These often result in cost saving to the healthcare system and preventing risk of complications.	#5

Category	Role Statement	Recommendation
Multiple Areas of Care	20. The nurse practitioner role can lead clinics that supports all oncology patients experiencing acute complications during and after their cancer treatment through a rapid assessment clinic. Patients are referred by medical or radiation oncologist for urgent assessment and management of symptoms. The nurse practitioner is an alternate model of care which manages the patient's medical issues independently. This role reduces emergency room visits and allows for less disruption in cancer care clinic flow.	#5
Multiple Areas of Care	21. The nurse practitioner can provide care for Non-Small Cell Lung Cancer at both early Stage and Stage III as an alternate provider during treatment and transitions of care. The NP clinically provides care for the population through assessment, case-management, including chemotherapy prescribing, diagnostics, ongoing management and overall system navigation. The impact of the NP role shows that the involvement of the NP increased the completion rate of treatments, decreased ER visits and resulted in no hospitalizations for pain or dehydration which allows for significant cost savings.	#7
Multiple Areas of Care	22. The nurse practitioner role can provide alternate care for Head and Neck patients on concurrent chemo/rads from treatment through transition to survivorship. This role had been developed to fill gaps in the medical oncology team following patients on treatment and evolved to include a nurse practitioner led clinic supporting Head and Neck patients across the continuum, due to symptom complexity. The role includes planned and triage telephone follow-up with patients. The NP also leads and participates in research to improve patient outcomes, for example in assessing reactive vs proactive feeding tubes. Outcomes include improvement in patient symptoms and also a reduction in treatment interruption and improved rates of treatment completion. By redesigning the model of care with a nurse practitioner led clinic it has positively impacted wait times. The NP role has been shown to reduce emergency room visits, hospital admission and reduced triage urgent phone calls.	#5
Multiple Areas of Care	23. The nurse practitioner role can provide a collaborative practice model of care that responds to referrals from the oncology team to address complex pain and symptom management, advance care planning and goals-of-care at any point in the patient trajectory. The nurse practitioner role is able to independently diagnose, order, and interpret diagnostic test, communicate diagnosis, prescribe pharmaceuticals, perform procedures and provide consultative episodic care. Timely access to care reduces ER visits. The NP role uses research and evidence to promote and develop organizational structures and processes in evidence based care. The role provides close follow-up, builds trust, prevents complications typically seen early in an out-patient setting, optimizes medication management in palliative clinics, develops patient/family centered goals that decreases anxiety and maximizes patient independence.	#8

Category	Role Statement	Recommendation
Multiple Areas of Care	24. The clinical nurse specialist role can provide complementary care for complex Orthopedic Oncology patients treated with at least two treatment modalities (surgery and/or radiation therapy) or diagnosed with, or have a highly suspicious diagnosis of Sarcoma. At the time of diagnosis and in follow the CNS provides expert assessment and symptom management, telephone triage, liaison between oncology centre and the patient's general practitioner, psychosocial support & development of patient education tools. The CNS leads quality assurance initiative aimed at implementing Evidenced Based Symptom Management Guidelines for patients with a Sarcoma diagnosis. This initiative resulted in increased symptom screening rates by clinicians and increased inpatient understanding and reporting of their symptoms. The CNS role provides improved triage, coordination of services and increased access to services prior to diagnosis and around surgical encounters which aims to decrease ER visits.	PEBC APN Guideline #5
Multiple Areas of Care	25. A clinical nurse specialist can provide complementary care for young adult patients throughout the diagnosis, treatment, and survivorship stages, offering specialized assessment and care on fertility, sexual health, school/work transitions, exercise, and nutrition. The CNS developed AYA (adolescent young adult) screening tools, treatment pathways for relevant providers, while providing clinic consultations, education and leading program development/ implementation. The CNS plays a crucial role in addressing the gaps in care of vulnerable patient populations to improve patient outcomes. Results of this specialized care include overall higher satisfaction level in the patient's quality of life during cancer treatment and around specified key issues important to young adult patients such as fertility, sexual health, and social support.	#4
Multiple Areas of Care	26. The clinical nurse specialist can provide complementary mental health services to cancer patients in the ambulatory setting. The clinical nurse specialist utilizes evidence based tools, in consultation with psychiatrist, to assess and care for oncology patients with cancer-related mental health needs. The CNS provides counselling, psychosocial support, education to patients and staff as well as facilitates referrals to psychiatric services in the community when required. The role may decrease ER visits for psychiatric issues, improve the patient experience and symptom management.	#3

Category	Role Statement	Recommendation
Multiple Areas of Care	27. A clinical nurse specialist can provide complementary care in a multi-disciplinary clinic for patients with known or probable pancreatic cancer. The role is responsible triaging new referrals, in depth assessment on presentation and for support during initial stages of diagnosis and treatment to assist with transitions through complex patient pathways. The CNS follows complex patients from consult, treatment, to end-of-life care and provides symptom management and psychosocial support across the disease trajectory. The CNS leads the development and implementation of the program with impact of reduction in time to diagnosis and treatment. The CNS role has also been shown to positively impact patient experience by providing ongoing communication/education between patient and healthcare team to reduce gaps in patient care.	#1
Multiple Areas of Care	28. The clinical nurse specialist role can develop and implement hospital based Integrated Breast Cancer Program that encompassed screening, diagnosis, treatment and follow-up phases of care. The role can provide patients with symptom management, disease and treatment education, psychosocial support, resources, timely access to care, and liaise them with other healthcare providers. The CNS leads the development of a diagnostic and treatment program and integrates evidence by critically analyzing quantitative and qualitative research studies to establish best practice and translate evidence into action. The CNS acts as a nurse navigator for clinic programs that provides navigation and timely access for patients to education, psychosocial support, resources, and symptom management for patients with higher and more complex treatment needs.	#2
Multiple Areas of Care	29. The nurse practitioner role can provide complementary care within an interdisciplinary team in the management of inpatients with high risk neurological cancers (brain tumors, spinal cord malignancies). Clinical aspect of nurse practitioner role consists of comprehensive care including assessment, diagnostics, management of comorbidities/complications, preparation for surgery, and discharge support. The NP provides preoperative and postoperative teaching to patients, families, nurses and other interdisciplinary team members. The NP role results in improved utilization of healthcare resources by reducing length-of-stay and improved quality care and reduction in visits through implementation of telephone follow-up care.	#6

Category	Role Statement	Recommendation
Multiple Areas of Care	30. A clinical nurse specialist can provide complementary care for complex malignant hematology inpatient's during the diagnosis and treatment phases. The CNS through advanced knowledge supports staff and learners for complex inpatient care and also provides outreach to community teams and MDs to support care at home or in smaller centres managing post treatment complications. In this role, the CNS implements best practices, leads and supports nurse-led initiatives, works within and outside of the organization for care improvement, and provides in-depth education specific to disease/treatment for complex malignant hematology patients and healthcare providers. The CNS facilitates continuity of care, symptom management, patient/family/care provider education, and patient experience. This role improves quality of care, potentially reduces emergency room visits and allows for follow-up closer to home in the community.	PEBC APN Guideline #5

Appendix 3: PEBC APN Guideline (Summary of Recommendations)

A Quality Initiative of the Program in Evidence-Based Care (PEBC), Cancer Care Ontario (CCO)

Effective Use of Advanced Practice Nurses in the Delivery of Adult Cancer Services in Ontario: Guideline Recommendations

D. Bryant-Lukosius, R. Cosby, D. Bakker, C. Earle, B. Fitzgerald, V. Burkoski and the Advanced Practice Nursing Guideline Development Group

Report Date: May 11, 2015

SUMMARY OF RECOMMENDATIONS

PREVENTION

- No recommendations can be made about the utilization of advanced practice nursing (APN) roles for cancer prevention.

SCREENING

- In primary care and community-based settings, nurse practitioners (NPs) working in alternate provider roles can be utilized to improve access to breast and cervical cancer screening.
- As alternate providers to physicians, NPs can provide safe and effective care in performing esophagoscopy, flexible sigmoidoscopy, and colonoscopy for cancer screening.

DIAGNOSIS

- For women with cervical dysplasia, NPs are an appropriate alternate provider to physicians in performing colposcopy-guided biopsies to diagnose cervical cancer.

TREATMENT

- Clinical nurse specialist (CNS)-led care is an appropriate alternate model to care provided by physicians, particularly for newly diagnosed patients undergoing surgery or radiation therapy.
- The addition of complementary CNS care may improve psychological and mental well-being and survival for patients with a new diagnosis of cancer who are post cancer surgery, or receiving chemotherapy or radiation treatment.

SURVIVORSHIP/POST-TREATMENT FOLLOW-UP CARE

- For patients with breast and colorectal cancer, CNS- or NP-delivered telephone follow-up may provide a safe and acceptable alternate model to outpatient clinic follow-up care provided mostly by physicians.
- The addition of a complementary and comprehensive assessment and intervention program provided by a NP may be effective for reducing menopausal symptoms in women following treatment for breast cancer.

PALLIATIVE CARE

- The complementary addition of CNS care to cancer services may improve health-related quality of life (HRQL) and mental and social well-being for patients with advanced cancer or cancer-related pain, while providing similar or improved outcomes related to healthcare utilization.

END-OF-LIFE CARE

- No evidence-based recommendations can be made about the utilization of APN roles for end-of-life care.

OTHER RECOMMENDATIONS

- For those involved in planning, implementing, and evaluating CNS and NP roles (e.g., healthcare administrators, researchers, and advanced practice nurses), careful selection of outcomes that are the target of specific CNS and NP interventions is required.
- No recommendations can be made about the effectiveness of CNS or NP roles for improving healthcare provider outcomes.
- No recommendations can be made about the cost effectiveness of CNS or NP roles in cancer control.

Appendix 4: Role Template for APN use

The following template was used to capture examples or scenarios of APNs' role in cancer care. If you would like to receive a copy of the completed templates, please contact Cancer Care Ontario's Oncology Nursing Program, at nursing@cancercare.on.ca.

Instructions:

Please fill out all sections of the template. Please provide one APN model of care per template. If your centre has multiple APN role models of care, please feel free to submit more than one completed template to be included in the Delphi survey.

If you have any supporting documents (such as evaluations, PowerPoint presentations, or program materials) that you would like to share, please attach them to your response.

Regional Cancer Program Site (i.e. RCC, Hospital, etc):

Name:

Position ☐ NP or ☐ CNS

Overall length of time as an APN:

Role / title:

Email /Phone Contact:

A. Template

Please provide **one** example of model of care per template.

1. **Area of Care**
   Please indicate the area of care your APN use example fits within:
   - ☐ Diagnosis,
   - ☐ Treatment,
   - ☐ Survivorship
   - ☐ Post-Treatment Follow Up
   - ☐ Palliative Care (includes End-of-Life Care)

2. **APN Model of Care**
   To provide context for your APN use example - please describe the APN model of care (e.g. nurse led clinics, complementary versus alternate provider care, integrated multi-professional, client population characteristics, organizational context, setting) that your use of APN example fits within. What led to the role being created and implemented (i.e. gap in care, high risk group, patient need, etc.)?

   - Complementary (e.g. augment the services of existing healthcare provider roles) or alternative provider (e.g. replacement or substitute for another provider, most often a physician):

   - Client population (e.g. high risk or disease site specific such as breast cancer patients):

   - Setting within Regional Cancer Program (e.g. hospital, Regional Cancer Centre, etc):

   - What led to role implementation (gap in practice, patient need, etc):

3. **APN Role**
   What is the specific role of the APN in this model? Is the scope of practice optimized? How does the role reflect the four domains of Clinical, Research, Leadership and Consultation / Collaboration? (Include innovations, influence and impact on moving practice forward) How does the role reflect the CNA APN competencies [Advanced Nursing Practice A National Framework, CNA 2008]?

   - Clinical:
   - Research (e.g. promotion of evidence based practice, quality improvement):
   - Leadership:
   - Consultation:
   - Education: (for patients and family members, nurses and other healthcare providers.
   - Provide an example of a typical complex healthcare scenario that illustrates your advanced practice capabilities:

4. **APN Impact**
   What was the impact, or outcomes achieved by utilizing an APN in this role for this model of care? e.g. Impact on patient quality of life, physical/functional/psychosocial/mental health, morbidity, mortality, symptom management, access to service, or patient experience? Impacts on other members of the team or organization such as improved productivity and improved healthcare utilization (e.g. cost, quality of care, reduction in ER visits/admissions/wait times)?

   - Impact to patients:
   - Impact to organization:
   - Impact to nursing profession:

5. **Evaluation of the Model**
   Was there any evaluation for this Model? If yes, please describe measure and results e.g. formal or informal evaluations (workload measurements, surveys, clinical or organizational metrics, patient experience surveys, etc). Attach any evaluation tools or metrics used.

   - Formal evaluation(s):

   - Informal evaluation(s):

Please feel free to complete more than one template for each APN role/model where appropriate

Thank you!

Appendix 5: Acknowledgment

On behalf of the co-chairs from the APN CoP, we would like to acknowledge the tremendous contribution of the CoP members, who provided their valuable time and content expertise in the development of this report. We are also grateful for the sage guidance from Cancer Care Ontario's Director of Person-Centred Care, Lesley Moody; and Provincial Head of Nursing, Lorraine Martelli.

We would also like to thank colleagues and administrators who support advanced practices nurses as they pioneer and develop new roles in our provincial cancer programs, as well as to acknowledge our patients who we are privileged to care for during their cancer journey.

APN Delphi Leadership Group

Allyson Nowell (co-chair)	CNS, Sunnybrook Health Sciences Centre, Board for CANO
Colleen Campbell (co-chair)	NP, Simcoe Muskoka Regional Cancer Program
Cathy Kiteley	CNS, Trillium Health Partners
Janet Giroux	NP, Kingston General Hospital
Lesley Moody	Director of Person-Centred Care, Cancer Care Ontario
Lorraine Martelli	NP, Hamilton Health Sciences Centre
Maurene McQuestion	CNS, Princess Margaret Cancer Centre
Maureen Quinn	NP, London Health Sciences Centre
Melissa Touw	CNS, Kingston General Hospital
Yvonne Rowe Samadhin	CNS, Trillium Health Partners

Project Team

Colleen Fox	MSc, Group Manager, Oncology Nursing, Cancer Care Ontario
Dora Yuen	MPH, Analyst, Oncology Nursing, Cancer Care Ontario
Karen Karagheusian	BSW, MPH, Senior Specialist, Oncology Nursing, Cancer Care Ontario
Priyanka Jain	MPH, Lead, Oncology Nursing, Cancer Care Ontario

Appendix 6: References

1. Cancer Care Ontario. Clarifying the Advanced Oncology Nurse Role in Ontario. Toronto, ON: Ontario Oncology Advanced Practice Nursing Community of Practice; 2009 [Available from: https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/3166

2. Bryant-Lukosius D, Cosby R., Bakker D, Earle C, Fitzgerald B, Burkoski V, et al. Effective use of advanced practice nurses in the delivery of adult cancer services in Ontario (Evidence-based series No. 16-4). Toronto, ON: Cancer Care Ontario; 2015 [Available from: https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/2166

3. Cancer Care Ontario. Clarifying the roles of Clinical Nurse Specialists and Nurse Practitioners in Delivery of Cancer Care in Ontario. Toronto, ON: Ontario Nursing Program; 2017.

4. Bryant-Lukosius, D. Advanced Practice Nursing Toolkit. Toronto, ON: Cancer Care Ontario; 2010 [Available from: https://www.cancercareontario.ca/en/guidelines-advice/treatment-modality/nursing-care/advanced-practice-nursing-toolkit

5. Canadian Nurses Association. Position Statement: Advanced Nursing Practice. Ottawa, ON: Author; 2007 [Available from https://www.cna-aiic.ca/~/media/cna/page-content/pdf-en/ps60_advanced_nursing_practice_2007_e.pdf?la=en

6. Hamric, AB, Hanson CM, Tracy MF, O'Grady ET, editors. Advanced practice nursing: An integrative approach. 5th ed. St. Louis, MO: Elsevier Saunders; 2013.

7. Bryant-Lukosius D, DiCenso A. A framework for the introduction and evaluation of advanced practice nursing roles. J Adv Nurs. 2004;48(5):530-540.

8. Donald F, DiCenso A, Bryant-Lukosius D, Carter N, Harbman P. A systematic review of the effectiveness and cost-effectiveness of nurse practitioners and clincal nurse specialists: Ontario Ministry of Health and Long-Term Care; Office of Nursing Policy, Health Canada, Canadian Foundation for Healthcare Improvement; 2014.

9. Institute of Medicine and National Research Council. From Cancer Patient to Cancer Survivor: Lost in Transition. Washington, DC: The National Academies Press; 2006 [Available from: https://doi.org/10.17226/11468

10. Progress Review Group, National Cancer Institute and LIVESTRONG Young Adult Alliance. Closing the Gap: Research and Care Imperatives for Adolescents and Young Adults with Cancer. Bethesda, MD: National Cancer Institute; 2006 [Available from: https://www.cancer.gov/types/aya/research/ayao-august-2006.pdf

11. Day J, Bobeva M. A generic toolkit for the successful management of Delphi studies. The Electronic Journal of Business Research Methods. 2005;3(2):103-116.

12. Hsu CC, Sandford BA. The Delphi technique: making sense of consensus. Pract Assess Res Eval. 2007;12(10).