BMJ Open

Implementation strategies to address barriers to evidence-informed symptom management among outpatient oncology nurses: a scoping review protocol

Kylie Teggart ,[1] Denise Bryant-Lukosius ,[1,2] Sarah E Neil-Sztramko ,[3] Rebecca Ganann [1]

To cite: Teggart K, Bryant-Lukosius D, Neil-Sztramko SE, *et al*. Implementation strategies to address barriers to evidence-informed symptom management among outpatient oncology nurses: a scoping review protocol. *BMJ Open* 2022;**12**:e057661. doi:10.1136/bmjopen-2021-057661

► Prepublication history for this paper is available online. To view these files, please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2021-057661).

Received 23 September 2021
Accepted 08 April 2022

[1]School of Nursing, McMaster University, Hamilton, Ontario, Canada
[2]Department of Oncology, McMaster University, Hamilton, Ontario, Canada
[3]Department of Health Research Methods, Evidence and Impact, McMaster University, Hamilton, Ontario, Canada

Correspondence to
Kylie Teggart;
teggarke@mcmaster.ca

ABSTRACT

Introduction Despite the availability of clinical practice guidelines for cancer symptom management, cancer care providers do not consistently use them in practice. Oncology nurses in outpatient settings are well positioned to use established guidelines to inform symptom assessment and management; however, issues concerning inconsistent implementation persist. This scoping review aims to (1) identify reported barriers and facilitators influencing symptom management guideline adoption, implementation and sustainability among specialised and advanced oncology nurses in cancer-specific outpatient settings and (2) identify and describe the components of strategies that have been used to enhance the implementation of symptom management guidelines.

Methods and analysis This scoping review will follow Joanna Briggs Institute methodology. Electronic databases CINAHL, Embase, Emcare and MEDLINE(R) and grey literature sources will be searched for studies published in English from January 2000 to March 2022. Primary studies and grey literature reports of any design that include specialised or advanced oncology nurses practicing in cancer-specific outpatient settings will be eligible. Sources describing factors influencing the adoption, implementation and sustainability of cancer symptom management guidelines and/or strategies to enhance guideline implementation will be included. Two reviewers will independently screen for eligibility and extract data. Data extraction of factors influencing implementation will be guided by the Consolidated Framework for Implementation Research (CFIR), and the seven dimensions of implementation strategies (ie, actors, actions, targets, temporality, dose, justifications and outcomes) will be used to extract implementation strategy components. Factors influencing implementation will be analysed descriptively, synthesised according to CFIR constructs and linked to the Expert Recommendations for Implementating Change strategies. Results will be presented through tabular/diagrammatic formats and narrative summary.

Ethics and dissemination Ethics approval is not required for this scoping review. Planned knowledge translation activities include a national conference presentation, peer-reviewed publication, academic social media channels and dissemination within local oncology nursing and patient networks.

Strengths and limitations of this study

- This review will follow current methodological and reporting guidelines for scoping reviews, ensuring rigour and transparency in the review process and findings.
- A comprehensive search strategy, including grey literature sources and broad eligibility criteria for types of studies, will illuminate important contextual insights regarding factors influencing symptom management guideline implementation.
- This review will not report on the quality of included studies or effectiveness of implementation strategies, but rather identify and map the components of strategies that have been used to inform future intervention design and research priorities.
- Patients and the public were not involved in the design of this scoping review protocol.

INTRODUCTION

Cancer incidence rates are steadily increasing worldwide, in part due to rapidly ageing populations, population growth and lifestyle/environmental risk factors.[1] Cancer symptom burden, which is a result of both the disease and its intensive treatments, can be severe and distressing.[2–4] Across the cancer continuum, patients may experience multiple, concurrent symptoms, including pain, fatigue, nausea, vomiting, anxiety, depression and more.[2 5 6] Left unmanaged, these symptoms can negatively impact patient quality of life[6 7] and functional ability,[8] and contribute to potentially avoidable emergency department visits and hospitalizations.[9–11]

In response to this significant burden, efforts by cancer care institutions, professional associations and researchers worldwide have resulted in multiple repositories collating evidence-based cancer symptom management guidelines (SMG) to inform high-quality patient care.[12–19] Although health professionals have the best of intentions to provide evidence-informed care, their overall uptake of research evidence into clinical practice and policy decision-making is inconsistent and often delayed for many years.[20] Despite increasing awareness and availability of SMG over the last decade, interdisciplinary cancer care providers do not consistently use these guidelines in practice, citing barriers such as lack of knowledge, time, buy-in, resources and enforcement.[21 22] Recent empirical evidence suggests SMG adherence remains low; for example, it is estimated that oncologists provide recommended antiemetic prescriptions to only 15% of European patients,[23] and only 33% of outpatient oncology nurses in one Canadian setting were found to document symptom management according to established guidelines.[24] Subsequently, cancer-related symptoms are often unmanaged.[25–27]

Global efforts to meet rising demands for cancer care have resulted in a shift in cancer service delivery from traditional inpatient models to novel outpatient approaches.[28 29] Cancer-specific outpatient settings range from day hospitals, where intensive therapies and supportive care services are delivered, to outpatient clinics, which provide consultation and follow-up support.[28] Given their unique role as the regular point of contact for patients and families living with cancer, specialised and advanced oncology nurses in outpatient settings are well positioned to provide evidence-informed symptom assessment and management in line with SMG. Specialised oncology nurses are defined as nurses with knowledge and experience in cancer care, and whose primary focus is the care of patients and families throughout the cancer continuum.[30] Advanced oncology nurses include those with a master's degree, advanced clinical reasoning and practice knowledge, and enhanced leadership abilities in order to practice in an expanded role.[30 31] Thus, specialised and advanced oncology nurses in cancer-specific outpatient settings are relevant targets for SMG implementation.

Implementation science is the study of methods to promote the uptake of evidence-based research findings, with the goal of improving the quality of health services.[32] Implementation strategies have been defined as the methods used to enhance the adoption (initial uptake), implementation (routine use) and sustainability (continued use) of research findings.[33 34] The Expert Recommendations for Implementing Change (ERIC) project provides a taxonomy of 73 implementation strategies, such as audit and provide feedback, conduct educational meetings, identify and prepare champions and remind clinicians.[35] These strategies may be used discretely or in combination.[35] An understanding of which strategies have been used previously to support guideline implementation among specialised and advanced oncology nurses would be beneficial for oncology nursing leaders seeking to support the implementation of SMG into routine practice.

Cumulative evidence has identified several contextual influences on guideline implementation and evidence-informed nursing practice, in general.[36–39] However, the majority of synthesised studies have been conducted in acute care, hospital-based settings.[37–39] Given the unique workflow and patient population, the transferability of these findings into specialised oncology nursing practice in an outpatient context is unclear. Although several single studies and grey literature sources regarding SMG implementation within outpatient oncology nursing settings have been located,[21 40 41] no research syntheses have been identified that describe implementation strategies for evidence-informed symptom management among outpatient oncology nurses. Given that factors such as practice setting and guideline characteristics are known to substantially influence implementation success,[42] identifying contextually relevant interventions that target known barriers to SMG implementation among specialised and advanced oncology nurses is key.[39 43] A comprehensive synthesis of factors influencing SMG implementation and strategies that have been tested to address these barriers and/or facilitators is, therefore, necessary to inform the development of implementation strategies that can be locally tailored to support high-quality nursing and outpatient cancer care.

This scoping review aims to (1) identify reported barriers and facilitators influencing SMG adoption, implementation and sustainability among specialised and advanced oncology nurses in cancer-specific outpatient settings and (2) identify and describe the components of strategies that have been used to enhance the implementation of SMG. A scoping review approach will provide robust descriptions of strategy components and exploration of factors influencing SMG implementation among oncology nurses in cancer-specific outpatient settings.

METHODS

The proposed scoping review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews.[44] The JBI approach reflects the most current methodological guidance on the conduct of scoping reviews and includes the following steps: defining research objectives; developing inclusion criteria; preparing a detailed protocol; searching, selecting, extracting and analysing evidence; presenting results; and summarising the evidence.[44] This protocol paper will outline the eligibility criteria and planned approach to searching, selecting, extracting and synthesising evidence for the proposed scoping review.

Eligibility criteria

Participants

Due to the highly specialised area of practice in which cancer SMG are implemented, eligible studies will be

limited to those in which the implementation strategies target specialised and/or advanced practice oncology nurses, as defined above. Nursing designations for specialised and advanced oncology nurses will include registered nurses, licensed practical nurses, registered practical nurses or advanced practice nurses (APNs). APNs will be considered an umbrella term that includes clinical nurse specialists and nurse practitioners (NPs), and those working in generically titled advanced practice nursing roles.[31 45] Studies involving other oncology care providers will be considered if specialised or advanced oncology nurses are included within the population and findings for nurses are reported separately. Studies involving nursing students or unregulated care providers alone will be excluded. Given that SMG and implementation strategies are likely to differ between adult and paediatric patients, this review will consider studies involving adult oncology populations only.

Concept

Eligible studies must report one or both of the following concepts: (1) implementation strategies and strategy components that have been used to enhance the adoption, implementation and/or sustainability of cancer SMG and/or (2) factors influencing the implementation of cancer SMG, understood broadly as the influences on specialised and advanced oncology nurses' behaviour[32] related to the adoption, implementation and sustainability of SMG. These complex factors may act as enablers or barriers to implementation.[46]

Studies involving the implementation of SMG for the management of cancer-related symptoms for any type of cancer will be included, such as anxiety, depression, constipation, diarrhoea, dyspnoea, fatigue, fever, hand–foot syndrome, loss of appetite, nausea, vomiting, oral mucositis, pain, sexual and sleep disturbances, urinary symptoms, neuropathy, skin reactions, lymphoedema and more.[12–14] For the purpose of this review, the definition of SMG will include both explicit clinical practice guidelines providing patient care recommendations based on a systematic evidence synthesis and assessment of benefits/harms,[47] and evidence-based care protocols, bundles, pathways and/or checklists focused on symptom management. These terms, which are often used interchangeably in the literature,[48] describe local approaches to evidence-informed care delivery through the translation of general guideline recommendations into a specific care plan or set of procedures followed by healthcare providers.[49 50] Articles that focus exclusively on the implementation of standardised symptom screening tools and/or patient-reported outcome measures without a clear component of SMG implementation will be excluded.

Context

Only studies conducted within the context of cancer-specific outpatient settings will be eligible for inclusion. Eligible settings will include outpatient cancer, symptom management and/or apheresis clinics; chemotherapy suites; community-based chemotherapy infusion centres; ambulatory cancer services delivered within or outside of hospitals; medical day care/transfusion units; day hospitals; and cancer-specific urgent care settings, where care for adult patients with any form of cancer is provided. Studies will be excluded if they take place within institutionalised settings (eg, inpatient hospital units, emergency departments and long-term care) or non-cancer-specific outpatient settings (eg, public health, primary care and home/community care). No geographic restrictions will be applied.

Types of sources

Published and unpublished primary studies, quality improvement projects or reports from the grey literature of any design will be eligible for inclusion, including quantitative, qualitative and mixed methods studies. Reviews, conference abstracts and editorials/position papers alone will be excluded as they are unlikely to include sufficient detail regarding the components of implementation strategies.

Search strategy

The search strategy will aim to locate both published and unpublished primary studies and grey literature sources. The electronic databases CINAHL (EBSCO), Embase (Ovid), Emcare (Ovid) and MEDLINE(R) (Ovid) will be searched to March 2022. An initial limited search of CINAHL was performed and 1094 references were returned, thus supporting the feasibility of the search strategy. Index terms of relevant articles were used to refine the full search strategy for the CINAHL database (table 1), which was then adapted to each of the remaining databases. A health sciences research librarian provided guidance on the development of the search strategy. Targeted searches of journals of particular relevance to the topic, including *Implementation Science*, *Journal of Pain and Symptom Management*, *Canadian Oncology Nursing Journal*, *Clinical Journal of Oncology Nursing*, *Cancer Nursing*, *Oncology Nursing Forum* and *European Journal of Oncology Nursing* will be performed. The reference lists of included articles and systematic, scoping or literature reviews identified during the search will also be screened for eligible studies. Based on the number of articles identified in the initial search and preliminary study screening, it is anticipated that between 30 articles and 40 articles will be included in the full scoping review.

Due to resource limitations, only articles published in English will be considered for inclusion. Given that efforts to promote comprehensive cancer symptom management through the establishment of evidence-based guidelines have primarily occurred within the last 15 years,[25] limits will also be placed on the year of publication. Only articles published from the year 2000 to present will be included, as relevant studies are unlikely to exist before this time.

The OpenGrey and ProQuest Dissertations and Theses Global databases will be used to locate grey literature

Table 1 CINAHL (EBSCO) search strategy

Search	Query
#1	(MH 'Oncologic Nursing+') OR TX ((nurs* OR RN OR RPN OR LPN) N5 (oncolog* OR cancer)) OR TX ((nurs* OR APN OR CNS OR NP) N5 (oncolog* OR cancer))
#2	(MH 'Diffusion of Innovation') OR (MH 'Implementation Science') OR (MH 'Professional Compliance') OR TX ('implementation strateg*') OR TX ('knowledge translation') OR TX (adopt* OR uptake OR implement* OR utiliz* OR integrat* OR sustain*) OR TX (barrier* OR facilitat*)
#3	(MH 'Practice Guidelines') OR (MH 'Guideline Adherence') OR (MH 'Nursing Practice, Evidence-Based+') OR (MH Nursing Protocols+) OR TX (guideline*) OR TX (evidence-informed practice OR evidence-informed nursing) OR TX ((evidence based OR evidence informed) N2 (protocol* OR bundle* OR pathway* OR checklist* OR guideline*))
#4	#1 AND #2 AND #3
Limits: publication date from 2000 to present; English language	

APN, advanced practice nurse; CNS, clinical nurse specialist; LPN, licensed practical nurse; NP, nurse practitioner; RN, registered nurse; RPN, registered practical nurse.

sources, including theses, dissertations, reports and quality improvement articles. Websites of relevant nursing organisations and publications, including the Canadian Association of Nurses in Oncology (CANO), Oncology Nursing Society (ONS) and International Society of Nurses in Cancer Care, will be searched. Conference proceedings for the CANO Annual Conference, ONS Congress and International Conference on Cancer Nursing will be screened. Given resource limitations, this targeted screening will be limited to conference proceedings from the last 5 years. Authors of potentially relevant conference abstracts will be contacted in an attempt to locate full published or unpublished reports, as available.

Study selection

All citations identified in the search will be imported into Covidence (Veritas Health Innovation, Melbourne, Australia) and duplicates will be removed. Two independent reviewers will perform all levels of screening, with any conflicts resolved through discussion or with the input of a third reviewer. Following a pilot test, titles and abstracts of imported citations will be screened against eligibility criteria. Potentially relevant papers will then be retrieved in full and assessed in detail according to established inclusion criteria. Reasons for exclusion of full-text papers will be recorded and reported in the scoping review. The results of the search will be reported in full and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews flow diagram.[51]

Data extraction

Data will be extracted in duplicate by two independent reviewers using a standardised data extraction form (table 2). Any disagreements will be resolved through discussion or with input from a third reviewer. The data extraction tool will be piloted by the review team and revised as necessary during the process of data extraction, and any modifications will be reported in the scoping review. General characteristics of included studies will be collected, including study design, objective(s) and the country in which the study was conducted. Within population, the type of oncology nursing role(s) will be identified (eg, RN and NP) in an effort to determine whether implementation strategies and factors influencing implementation differ between specialised and advanced oncology nurses. Where reported, nurses' educational backgrounds, oncology-specific training and years of experience will also be extracted as these factors have previously been associated with nurses' use of SMG.[21] Within context, a description of the outpatient oncology practice setting (eg, day hospital or clinic), type of setting (eg, academic, rural or urban), patient population served (eg, cancer type), services provided (eg, systemic therapy and pain and symptom management) and size of outpatient setting (eg, number of patients seen and staff size) will be extracted. A description of the evidence being implemented will also be collected, including the source(s) of the guideline, bundle, protocol, pathway and/or checklist being used and the target cancer symptom(s).

A variety of determinant frameworks exist to identify facilitators and barriers to implementation of an evidence-informed intervention or practice.[46] The Consolidated Framework for Implementation Research (CFIR) by Damschroder and colleagues is a comprehensive determinants framework that supports exploration of complex factors influencing implementation. CFIR contains 39 constructs within five domains: intervention characteristics (eg, complexity and adaptability), outer setting (eg, patient needs), inner setting (eg, culture and resources), characteristics of individuals (eg, knowledge and beliefs) and implementation process (eg, planning and engaging).[42] These domains will be used to guide data extraction of reported facilitators and barriers to SMG adoption, implementation and sustainability among outpatient oncology nurses.

Proctor and colleagues[34] propose seven components of implementation strategies, namely, actors, actions, targets, temporality, dose, justifications and outcomes, that should be specified within an implementation research study or practice initiative. These categories will,

Table 2 Data extraction instrument

Part A: study characteristics		
Study design or type of grey literature		
Purpose/objectives		
Country		
Part B: population		
Type of oncology nursing role(s) (eg, RN and NP)		
Educational background, oncology-specific training and years of experience		
Sample size		
Part C: context		
Cancer-specific outpatient setting		
Type and size of setting		
Patient population served and services provided		
Part D: description of evidence for implementation		
Type and source of evidence for implementation (eg, guideline or pathway)		
Cancer type		
Symptom(s) targeted		
Part E: factors influencing implementation		
CFIR domain	**Facilitators**	**Barriers**
Intervention characteristics		
Inner setting		
Outer setting		
Characteristics of individuals		
Implementation process		
Part F: implementation strategies and outcomes		
Name of implementation strategy or combination of strategies used		
Actor(s): who delivered the strategy?		
Action(s): steps and processes used		
Target(s): to whom and what were the actions directed toward?		
Temporality: phase or timing of the intervention		
Dose: frequency and intensity		
Justification: implementation model, theory or framework		
Types of outcomes reported (ie, implementation, service and client)		
Measurement tools and methods of data analysis		
Additional notes:		

CFIR, Consolidated Framework for Implementation Research; NP, nurse practitioner; RN, registered nurse.

therefore, be used to extract implementation strategy components. An open description of the types of implementation strategies will be extracted, as reported by the study authors. The actor refers to the individual(s) responsible for delivering the strategy, while actions are the steps or processes of implementation. Targets describe who and/or what the actions are directed toward (eg, known evidence gap or barrier to implementation). Temporality relates to intervention timing, while dose considers intervention frequency and intensity. Justification refers to the theoretical rationale and/or research evidence supporting an implementation initiative. In line with a scoping review approach,[44] outcome data will not be collected. However, the types of implementation outcomes (eg, acceptability, feasibility and cost), service outcomes (eg, effectiveness and patient centredness) and client outcomes (eg, symptomatology)[33] reported will be extracted alongside the measurement tools and methods of data analysis used within each of the included studies. Authors will be contacted to request missing or additional data, where required.

Data analysis and presentation

A descriptive approach to data analysis will be taken, with results presented using diagrams, tables and narrative summary. A table of included studies will be provided to display study characteristics, as described above. Barriers and facilitators to SMG adoption, implementation and sustainability will be analysed and described according to the CFIR domains and constructs, as applicable.[42] Factors influencing SMG implementation will be summarised and presented in a conceptual model consistent with the CFIR structure. The ERIC taxonomy[35] will be used to categorise implementation strategies based on the descriptions extracted, and frequency counts will be presented to illustrate which implementation strategies or combinations of strategies have been used to enhance the adoption, implementation and sustainability of cancer SMG. Implementation strategies used in more than one source will be mapped according to their corresponding study designs, settings and outcome measurements to inform future research in this area, including whether there is sufficient evidence to conduct a systematic review of intervention effectiveness.

Implementation strategies will also be mapped to the barriers and/or facilitators addressed in the included studies. Implementation barriers (as categorised using the CFIR) will then be linked to ERIC implementation strategies following the approach described by Waltz and colleagues,[52] which provides top suggestions for strategies that may be used to overcome each CFIR-identified barrier. These expert recommendations will be compared and contrasted with implementation strategies used to date to inform future implementation planning. This approach is expected to guide the selection of implementation strategies that might be used to overcome reported barriers and leverage potential facilitators to SMG adoption, implementation and sustainability among specialised and advanced oncology nurses in cancer-specific outpatient settings.

Patient and public involvement

While patients and the public were not directly involved in the design of this scoping review protocol, patient engagement is a critical feature of provincial and national initiatives to establish improvement priorities for cancer care. Enhancing person-centred care and quality of life through evidence-based symptom management is a top priority in the current Ontario Cancer Plan[53] and Canadian Strategy for Cancer Control.[54] As oncology nurses within a regional cancer centre, two authors provide a contextually relevant perspective regarding local strategic priorities to optimise symptom assessment and management through implementation of evidence-informed

tools and new models of care. The authors plan to engage patients, caregivers, oncology nurses and organisational leaders within this setting to interpret the findings of this scoping review and co-design a contextually relevant intervention to support SMG implementation in outpatient oncology nursing practice.

Ethics and dissemination

Human participants will not be involved in the proposed scoping review of published and grey literature sources; therefore, research ethics board approval is not required. Planned knowledge translation activities include a presentation at a national conference to a professional oncology nursing audience, a peer-reviewed journal publication and academic social media platforms. Dissemination of scoping review findings within local oncology nursing and patient networks will also take place to gain input on recommendations for practice, policy and research.

Strengths and limitations

This review will follow current methodological and reporting guidelines for scoping reviews, ensuring rigour and transparency in the review process and findings. It is conceivable that published implementation initiatives might represent more extensive approaches to SMG implementation and, therefore, may not capture barriers and strategies used across all cancer-specific outpatient settings; however, the inclusion of grey literature sources and broad eligibility criteria will be used to mitigate this potential weakness. Although patients and the public were not directly involved in the design of this scoping review protocol, these important stakeholders will be engaged in the interpretation and dissemination of the review findings.

CONCLUSION

Distressing cancer-related symptoms continue to pose a significant burden for patients living with cancer. Despite the availability of several evidence-based SMG, cancer care providers do not consistently use these guidelines to inform best practices in symptom management. This scoping review will provide a theoretically informed synthesis of factors influencing SMG adoption, implementation and sustainability among specialised and advanced oncology nurses in cancer-specific outpatient settings and identify strategies that have been used to enhance the implementation of SMG. Synthesising a range of implementation strategies that have been used across diverse cancer-specific outpatient settings will provide valuable future direction for oncology nursing leaders as they design local implementation strategies to support the adoption, implementation and sustainability of existing SMG. The systematic mapping of identified barriers to implementation strategies and their components is expected to identify potential knowledge gaps, inform the development of contextually relevant strategies to foster implementation success and identify future implementation research priorities in oncology nursing. This is necessary to support the uptake of evidence-informed oncology nursing practices, which will ultimately improve patient health outcomes and quality of life.

Twitter Kylie Teggart @KylieTeggart, Sarah E Neil-Sztramko @sarah_ns_phd and Rebecca Ganann @RebeccaGanann

Acknowledgements The authors gratefully acknowledge the contributions of Jack Young, MLIS, Digital Projects Librarian, McMaster University Health Sciences Library, to the development and refinement of the search strategy.

Contributors KT and RG conceptualised the review. KT drafted the protocol manuscript. DB-L, SEN-S and RG contributed substantially to the design and revision of the protocol and have approved the final version. KT is the guarantor for this work.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement Patients and/or the public were involved in the design, or conduct, or reporting, or dissemination plans of this research. Refer to the Methods section for further details.

Patient consent for publication Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement Data sharing not applicable as no datasets generated and/or analysed for this study.

ORCID iDs
Kylie Teggart http://orcid.org/0000-0001-5527-8593
Denise Bryant-Lukosius http://orcid.org/0000-0002-8269-7977
Sarah E Neil-Sztramko http://orcid.org/0000-0002-9600-3403
Rebecca Ganann http://orcid.org/0000-0002-7566-8932

REFERENCES

1 Bray F, Ferlay J, Soerjomataram I, *et al*. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin* 2018;68:394–424.
2 Batra A, Yang L, Boyne DJ, *et al*. Symptom burden in patients with common cancers near end-of-life and its associations with clinical characteristics: a real-world study. *Support Care Cancer* 2021;29:3299–309.
3 Bubis LD, Davis L, Mahar A, *et al*. Symptom burden in the first year after cancer diagnosis: an analysis of patient-reported outcomes. *J Clin Oncol* 2018;36:1103–11.
4 Vogt J, Beyer F, Sistermanns J, *et al*. Symptom burden and palliative care needs of patients with incurable cancer at diagnosis and during the disease course. *Oncologist* 2021;26:e1058–65.
5 Cleeland CS, Zhao F, Chang VT, *et al*. The symptom burden of cancer: evidence for a core set of cancer-related and treatment-related symptoms from the eastern cooperative Oncology Group symptom outcomes and practice patterns study. *Cancer* 2013;119:4333–40.
6 Deshields TL, Potter P, Olsen S, *et al*. The persistence of symptom burden: symptom experience and quality of life of cancer patients across one year. *Support Care Cancer* 2014;22:1089–96.
7 Rodriguez C, Ji M, Wang H-L, *et al*. Cancer pain and quality of life. *J Hosp Palliat Nurs* 2019;21:116–23.
8 Lage DE, El-Jawahri A, Fuh C-X, *et al*. Functional impairment, symptom burden, and clinical outcomes among hospitalized patients with advanced cancer. *J Natl Compr Canc Netw* 2020;18:747–54.
9 Gallaway MS, Idaikkadar N, Tai E, *et al*. Emergency department visits among people with cancer: frequency, symptoms, and characteristics. *J Am Coll Emerg Physicians Open* 2021;2:e12438.

10 Vandyk AD, Harrison MB, Macartney G, *et al*. Emergency department visits for symptoms experienced by oncology patients: a systematic review. *Support Care Cancer* 2012;20:1589–99.
11 Barbera L, Sutradhar R, Seow H, *et al*. Impact of standardized Edmonton symptom assessment system use on emergency department visits and hospitalization: results of a population-based retrospective matched cohort analysis. *JCO Oncol Pract* 2020;16:e958–65.
12 Oncology Nursing Society. Explore resources: symptom interventions and guides 2021. Available: https://www.ons.org/explore-resources?source=1506&display=results&sort_by=created&items_per_page=50 [Accessed cited 2021 May].
13 Cancer Care Ontario. Guidelines and advice: Managing symptoms, side-effects & well-being 2021. Available: https://www.cancercareontario.ca/en/symptom-management [Accessed Aug 2021].
14 Stacey D. *For the Pan-Canadian oncology symptom triage and remote support (COSTaRS) team*. Remote symptom practice guides for adults on cancer treatments Ottawa, Canada, University of Ottawa School of Nursing and the Ottawa Hospital Research Institute, 2020. https://ktcanada.ohri.ca/costars/COSTaRS_Practice_Guides_ENGLISH_Jan2020.pdf
15 BC Cancer. Symptom management: nursing produces guidelines for managing the symptoms of cancer 2021. Available: http://www.bccancer.bc.ca/health-professionals/clinical-resources/nursing/symptom-management [Accessed Aug 2021].
16 National Comprehensive Cancer Network. NCCN guidelines 2021. Available: https://www.nccn.org/guidelines/category_3 [Accessed cited 2021 Aug].
17 Cancer Council Australia. Cancer pain management in adults 2021. Available: https://wiki.cancer.org.au/australia/Guidelines:Cancer_pain_management [Accessed cited 2021 Aug].
18 European Society for Medical Oncology. ESMO Clinical Practice Guidelines: Supportive and Palliative Care 2021 [cited 2021 Aug]. Available: https://www.esmo.org/guidelines/supportive-and-palliative-care
19 Multinational Association of Supportive Care in Cancer. MASCC guidelines 2021. Available: https://www.mascc.org/mascc-guidelines [Accessed cited 2021 Aug].
20 Morris ZS, Wooding S, Grant J. The answer is 17 years, what is the question: understanding time lags in translational research. *J R Soc Med* 2011;104:510–20.
21 Bryant-Lukosius D. Healthcare providers' perspectives on symptom management guideline use in Ontario [Webinar]. *Canadian Centre of Excellence in Oncology APN* 2015.
22 Bryant-Lukosius D, Carter N, Martelli-Reid L. Knowledge translation strategies to improve the uptake of symptom management guidelines in Ontario regional cancer centres [Webinar]. *Canadian Centre of Excellence in Oncology APN* 2015.
23 Aapro M, Scotté F, Escobar Y, *et al*. Practice patterns for prevention of chemotherapy-induced nausea and vomiting and antiemetic guideline adherence based on real-world prescribing data. *Oncologist* 2021;26:e1073–82.
24 Stacey D, Ludwig C, Jolicoeur L, *et al*. Quality of telephone-based cancer symptom management by nurses: a quality improvement project. *Support Care Cancer* 2021;29:841–9.
25 Moat KA, Bryant-Lukosius D. Improving pain and symptom management in cancer care in Ontario [Evidence brief]: McMaster Health Forum, 2015
26 Canadian Partnership Against Cancer. Living with cancer: a report on the patient experience, 2018. Available: https://s22457.pcdn.co/wp-content/uploads/2019/01/Living-with-cancer-report-patient-experience-EN.pdf [Accessed cited 2021 Aug].
27 Clark-Snow R, Affronti ML, Rittenberg CN. Chemotherapy-Induced nausea and vomiting (CINV) and adherence to antiemetic guidelines: results of a survey of oncology nurses. *Support Care Cancer* 2018;26:557–64.
28 Cancer Care Ontario. Complex malignant hematology models of care, 2017. Available: https://www.cancercareontario.ca/en/guidelines-advice/types-of-cancer/43051 [Accessed Aug 2021].
29 Bertucci F, Le Corroller-Soriano A-G, Monneur-Miramon A, *et al*. Outpatient Cancer Care Delivery in the Context of E-Oncology: A French Perspective on “Cancer outside the Hospital Walls”. *Cancers* 2019;11:219.
30 Canadian Association of Nurses in Oncology. CANO/ACIO nursing knowledge and practice framework for cancer care, 2019. Available: https://www.cano-acio.ca/page/practiceframework [Accessed cited 2021 Aug].
31 International Council of Nurses. Guidelines on advanced practice nursing, 2020. Available: https://www.icn.ch/system/files/documents/2020-04/ICN_APN%20Report_EN_WEB.pdf [Accessed cited 2021 Aug].
32 Eccles MP, Mittman BS. Welcome to implementation science. *Implementation Sci* 2006;1.
33 Proctor E, Silmere H, Raghavan R, *et al*. Outcomes for implementation research: conceptual distinctions, measurement challenges, and research agenda. *Adm Policy Ment Health* 2011;38:65–76.
34 Proctor EK, Powell BJ, McMillen JC. Implementation strategies: recommendations for specifying and reporting. *Implement Sci* 2013;8:139.
35 Powell BJ, Waltz TJ, Chinman MJ, *et al*. A refined compilation of implementation strategies: results from the expert recommendations for implementing change (ERIC) project. *Implement Sci* 2015;10:21.
36 Ploeg J, Davies B, Edwards N, *et al*. Factors influencing best-practice guideline implementation: lessons learned from administrators, nursing staff, and project leaders. *Worldviews Evid Based Nurs* 2007;4:210–9.
37 Spoon D, Rietbergen T, Huis A, *et al*. Implementation strategies used to implement nursing guidelines in daily practice: a systematic review. *Int J Nurs Stud* 2020;111:103748.
38 Thompson DS, Estabrooks CA, Scott-Findlay S, *et al*. Interventions aimed at increasing research use in nursing: a systematic review. *Implement Sci* 2007;2:15.
39 Yost J, Ganann R, Thompson D, *et al*. The effectiveness of knowledge translation interventions for promoting evidence-informed decision-making among nurses in tertiary care: a systematic review and meta-analysis. *Implement Sci* 2015;10:98.
40 Stacey D, Carley M, Ballantyne B, *et al*. Perceived factors influencing nurses' use of evidence-informed protocols for remote cancer treatment-related symptom management: a mixed methods study. *Eur J Oncol Nurs* 2015;19:268–77.
41 Kelly C, Kynoch K, Ramis M. Implementing evidence-based supportive care for patients with skin toxicity associated with epidermal growth factor inhibitors in an ambulatory care setting. *The Australian Journal of Cancer Nursing* 2020;21.
42 Damschroder LJ, Aron DC, Keith RE, *et al*. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci* 2009;4:50.
43 Harrison MB, Graham ID. *Knowledge translation in nursing and healthcare: a roadmap to evidence-informed practice*. Hoboken, NJ: Wiley Blackwell, 2021.
44 Peters MDJ, Godfrey C, McInerney P. Chapter 11: Scoping Reviews. In: *Aromataris E, Munn Z JBI manual for evidence synthesis*, 2020.
45 Canadian Nurses Association. Advanced practice nursing: a pan-Canadian framework, 2019. Available: https://www.cna-aiic.ca/en/nursing/advanced-nursing-practice [Accessed cited 2021 Aug].
46 Nilsen P. Making sense of implementation theories, models and frameworks. *Implement Sci* 2015;10:53.
47 Institute of Medicine. *Clinical practice guidelines we can trust*. Washington (DC: National Academies Press, 2011.
48 Betit P. Guidelines, pathways, bundles, and protocols: clinical recipes for success. *Respir Care* 2015;60:469–70.
49 Resar R, Griffin FA, Haraden C, *et al*. Using care bundles to improve health care quality: Institute for healthcare improvement, 2012. Available: http://www.ihi.org/resources/Pages/IHIWhitePapers/UsingCareBundles.aspx [Accessed cited 2021 May 6].
50 Rotter T, Kinsman L, James E, *et al*. Clinical pathways: effects on professional practice, patient outcomes, length of stay and hospital costs. *Cochrane Database Syst Rev* 2010;3:CD006632.
51 Tricco AC, Lillie E, Zarin W, *et al*. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Ann Intern Med* 2018;169:467–73.
52 Waltz TJ, Powell BJ, Fernández ME, *et al*. Choosing implementation strategies to address contextual barriers: diversity in recommendations and future directions. *Implement Sci* 2019;14:42.
53 Cancer Care Ontario. Ontario cancer plan 5 2019. Available: https://www.cancercareontario.ca/en/cancerplan [Accessed Aug 2021].
54 Canadian Partnership Against Cancer. Canadian strategy for cancer control 2019-2029, 2019. Available: https://s22457.pcdn.co/wp-content/uploads/2019/06/Canadian-Strategy-Cancer-Control-2019-2029-EN.pdf