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Adherence to clinical practice guidelines (CPGs) for the treatment of cancers in Australia and the factors associated with adherence: a systematic review protocol

Mia Bierbaum ,[1] Frances Rapport ,[1] Gaston Arnolda ,[1] Yvonne Tran,[1,2] Bróna Nic Giolla Easpaig ,[1] Kristiana Ludlow ,[1,3] Jeffrey Braithwaite [1]

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[1]Australian Institute of Health Innovation, Macquarie University, Sydney, New South Wales, Australia
[2]Macquarie University Hearing, Sydney, New South Wales, Australia
[3]The University of Queensland, School of Psychology, Saint Lucia, Queensland, Australia

Correspondence to
Mia Bierbaum;
mia.bierbaum@hdr.mq.edu.au

ABSTRACT

Introduction Clinical practice guidelines (CPGs) synthesise the latest evidence to support clinical and patient decision-making. CPG adherent care is associated with improved patient survival outcomes; however, adherence rates are low across some cancer streams in Australia. Greater understanding of specific barriers to cancer treatment CPG adherence is warranted to inform future implementation strategies.

This paper presents the protocol for a systematic review that aims to determine cancer treatment CPG adherence rates in Australia across a variety of common cancers, and to identify any factors associated with adherence to those CPGs, as well as any associations between CPG adherence and patient outcomes.

Methods and analysis Five databases will be searched, Ovid Medline, PsychInfo, Embase, Scopus and Web of Science, for eligible studies evaluating adherence rates to cancer treatment CPGs in Australia. A team of reviewers will screen the abstracts in pairs according to predetermined inclusion criteria and then review the full text of eligible studies. All included studies will be assessed for quality and risk of bias. Data will be extracted using a predefined data extraction template. The frequency or rate of adherence to CPGs, factors associated with adherence to those CPGs and any reported patient outcome rates (eg, relative risk ratios or 5-year survival rates) associated with adherence to CPGs will be described. If applicable, a pooled estimate of the rate of adherence will be calculated by conducting a random-effects meta-analysis. The systematic review will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.

Ethics and dissemination Ethics approval will not be required, as this review will present anonymised data from other published studies. Results from this study will form part of a doctoral dissertation (MB), will be published in a journal, presented at conferences, and other academic presentations.

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Strengths and limitations of this study

- This systematic review protocol describes a planned review that will use an internationally recognised methodology for the collection, extraction and synthesis of data, enabling transparent presentation of methods and results to enable replication.
- The reporting of the systematic review will adhere to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.
- Abstracts and full texts will be reviewed by pairs of reviewers, with the lead reviewer reviewing all abstracts and full texts and inter-rater reliability scores will be calculated for both screening stages.
- The main limitation of the review will be the exclusion of studies published in languages other than English, and the exclusion of non-empirical research, including conference abstracts, editorials, opinion pieces and research which has not been peer reviewed.
- This study will also be limited to cancer treatment-specific clinical practice guidelines (CPGs), excluding CPGs that relate to other elements of the cancer care journey such as pain management and psychosocial care.

INTRODUCTION

Clinical practice guidelines (CPGs) synthesise the latest evidence to support clinical and patient decision-making,[1] and are designed to reduce clinical variation, through standardisation of clinical practice in line with best evidence, to ultimately enhance clinical outcomes.[2 3] There is growing evidence that CPG adherent cancer care is linked to improved patient survival rates.[4–8] Despite this, adherence to cancer treatment CPGs in Australia is often reported to be low across a variety of cancer streams.[4 6 9–14] Variation from CPG recommendations in some instances can be reasonably justified to account for individual patient characteristics and preferences.[5 15] However, little is known about the factors that influence these decisions.[16] Low uptake and adherence to cancer treatment CPGs may also reflect poor quality CPGs, or poor implementation of CPGs. Greater

understanding of specific barriers to adherence to cancer treatment CPGs is warranted, to inform future implementation strategies.

There are a multitude of internal (attitudinal) and external (organisational and structural) barriers to cancer treatment CPG adherence. These include clinician concern that CPGs are biased or oversimplified,[15 17] a lack of clinician awareness of, or agreement with, CPG recommendations,[15 17] inertia[15 17] and concerns about the side effects of CPG recommended treatment.[15] Similarly, patient concerns about side effects or discomfort related to therapy, and treatment access, have also been identified as barriers to CPG adherence.[18] Collaboration within multidisciplinary teams during treatment decision-making has been found to influence adherence to CPG recommendations,[19–21] as has patient access to services,[4] the location of the treating hospital (rural, remote or metropolitan),[22] as well as the patient receiving care at a different facility from the initial treatment centre.[23] Additionally, out-of-date CPGs that do not represent the latest evidence,[15] and a lack of resources or time to implement CPG recommendations[15 24] have been found to influence CPG adherence. Patient and clinician characteristics associated with CPG adherence include older patient age,[4 11 14 22 23 25–28] race,[29 30] gender,[16] comorbid conditions,[14 16 25] patient private health insurance[14 23] and socioeconomic status,[29 31] as well as clinician specialty[22] and tumour-specific caseload.[6 32]

It is unknown whether these factors are associated with cancer treatment CPG adherence in Australia, and if there are similar patterns across cancer streams. Successful implementation of CPGs needs to be context-specific.[2 33] Therefore, the identification of factors specific to the Australian cancer treatment context is warranted in order to enable future CPG development, implementation and dissemination to be tailored according to identified facilitators and barriers of adherence within the country.

Objectives

The primary objective of the systematic review will be to:

- Determine the estimated rates of adherence to cancer treatment CPG recommendations in Australia.

The secondary objectives of the review will be to:

- Identify factors associated with adherence or non-adherence to cancer treatment CPGs in Australia, estimating the association between those factors and adherence.
- Identify if there are associations between cancer treatment CPG adherence and patient outcomes in Australia (where possible).

METHODS AND ANALYSIS

This systematic review will be conducted in accordance with the Preferred Reporting for Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement,[34] and the protocol has been developed according to the PRISMA-P (protocol) checklist (online supplemental file 1).[35] The systematic review database search began in March 2021, and it is anticipated that the review will be completed by March 2022. The PROSPERO registration will be updated if significant amendments are made to the protocol.

Search strategy

Five databases will be searched for eligible title/abstracts, including Ovid Medline, PsychInfo, Embase, Scopus and Web of Science (please see online supplemental file 2) for the detailed example of the search strategy applied in Embase). The abstracts identified will be collated in EndNote, with duplicates removed. The abstracts will then be reviewed for eligibility according to pre-established inclusion and exclusion criteria. Eligible studies will report the rate of adherence in Australia to cancer treatment CPGs. Examples of eligible study types include randomised studies, quasi-experimental designs and observational studies (eg, cohort studies, case–control studies) and mixed-methods studies that report quantitative data separately.

It is envisaged that some studies will include experimental interventions designed to influence adherence to CPG recommendations. Baseline data from experimental studies will be considered for meta-analysis along with data from observational studies; comparison of preintervention and postintervention data within experimental studies may provide information about barriers and facilitators.

Inclusion criteria

Studies must include empirical research, investigating the rate of receipt of cancer treatment CPG adherent care in Australia (including primary treatment, and neoadjuvant and adjuvant treatments), and factors associated with adherence to those CPGs. The review will include empirical research articles published in English, restricted to patient care within Australia. No date restrictions will be applied.

Additional full text inclusion criteria

The full text of each study must reference the relevant CPGs, and clearly describe how CPG adherence was measured.

Exclusion criteria

Conference abstracts, editorials and opinion pieces as well as purely qualitative research will be excluded. Studies that do not include patient care within Australia and studies focusing on diseases other than cancer will also be excluded. Studies that report data from both Australia and other countries will be excluded if the Australian data are not reported separately. This review will exclude studies referring to adherence to cancer prevention CPGs (eg, screening CPGs) and CPGs for cancer treatment-associated side effects (eg, pain management CPGs, antiemetic prophylaxis CPGs and psychosocial care-focused CPGs, etc.).

Additional full-text exclusion criteria

The full text of studies will be excluded if they do not identify the rate of receipt of CPG adherent care, and/or factors associated with adherence to those CPGs or fail to clearly indicate the CPG/s to which they refer.

Screening

1. A team of reviewers, experienced in conducting systematic reviews, will conduct the title abstract screen in pairs. To enhance consistency of inclusion and exclusion of abstracts, a 10% sample of title abstracts will be reviewed by the whole team and discussed. The remaining abstracts will be divided among the reviewers, with the lead author reviewing every abstract in conjunction with another reviewer. Each reviewer will be blinded to the lead author's decisions; disagreements will be resolved by reviewer pairs reaching a consensus. Inter-rater reliability will be assessed between the lead author and each of the additional reviewers. Title abstracts that meet inclusion criteria and do not clearly breach exclusion criteria will be selected for full-text review.
2. The full texts of the studies selected during the title abstract screen will be reviewed by the team in pairs. As in the abstract screening step, to enhance consistency of assessment of full texts, a 10% sample of full texts will be independently reviewed by the team of reviewers blinded to other reviewer decisions. The remaining full texts will be divided among the team of reviewers, with the lead author reviewing every full text in conjunction with another reviewer. Disagreements will be resolved by reviewer pairs reaching a consensus. Inter-rater reliability between the lead author and each reviewer will be calculated for the full-text screening stage. All inter-rater reliability scores will be reported in the systematic review manuscript. Articles that meet the inclusion criteria and do not breach the exclusion criteria will be included in the review. The reason for exclusion of each reviewed article will be recorded on a data extraction template in Microsoft Excel. The reference lists of included papers will also be reviewed for potentially relevant articles not identified by database searches.

Data extraction

1. For all included articles, a data extraction template will be used to extract data. This template will be piloted by two reviewers on five full texts. Disagreements will be resolved through team consensus, and the tool will be revised if necessary. The template will extract the citation; location of study; study design; sample size; data source; age range, gender and race (if applicable) of participants; cancer stream(s); cancer stage(s); description of CPG(s) being assessed; measure of adherence; study intervention (if relevant); description of factors reported in studies that are associated with CPG adherence or non-adherence (eg, patient age, Charlson Comorbidity Index, Socioeconomic Status, geographic remoteness, Country of Birth, Eastern Cooperative Oncology Group performance status, Aboriginal and Torres Strait Islander status, clinician case load or hospital case load), including the strength of association of correlates with adherence/non-adherence; potential confounders (if available) and any available patient outcome data such as risk ratios, HRs, 5-year survival rates, patient satisfaction, etc. All cancer streams will be included in the review.
2. All included studies will be checked by a second reviewer to confirm accuracy of data extraction. Any disagreements will be resolved through team consensus.

Risk of bias and strength of evidence assessment

The quality appraisal and assessment of risk of bias for each included study will be conducted by two reviewers, experienced in conducting systematic reviews. The Joanna Briggs Institute checklists[36] for each study type (eg, randomised control trials, cross-sectional studies, cohort studies or case–control studies) will be used to assess the quality and risk of bias of each study, noting that questions differ for assessment of each study type. For example, the checklist questions for assessment of cross-sectional studies include, '1. Were the criteria for inclusion in the sample clearly defined? 2. Were the study subjects and the setting described in detail? 3. Was the exposure measured in a valid and reliable way? 4. Were objective, standard criteria used for measurement of the condition? 5. Were confounding factors identified? 6. Were strategies to deal with confounding factors stated? 7. Were the outcomes measured in a valid and reliable way? 8. Was appropriate statistical analysis used?'.[36] These data will be reported in the manuscript. Each risk of bias assessment will be checked by a second reviewer. Any disagreements will be resolved through team consensus.

Strategy for data synthesis

For each study, the frequency or rate of receipt of CPG adherent (or non-adherent) cancer treatment will be described. The factors associated with CPG adherent cancer treatment, including the strength of association, if available, will be described. The review will focus on variables that are significantly associated with CPG adherence in one or more studies. The categorisation of these variables will be guided by the WHO's five dimensions of adherence framework, which includes patient factors, socioeconomic factors, health condition factors, medical therapy factors, as well as factors related to the healthcare system and team.[37]

Where available, patient outcome rates (eg, HRs, 5-year survival rates) of patients in receipt of CPG adherent treatment, compared with those in receipt of CPG non-adherent treatment, will be described. A narrative synthesis of qualitative data regarding adherence rates or factors related to CPG adherence, from included mixed-methods studies, will be produced, if available. When two studies report adherence rates for a particular treatment, a pooled estimate of the rate of adherence (mean

adherence) will be calculated by conducting a random-effects meta-analysis, if appropriate. If non-adherence rates are reported, these will first be converted to adherence rates. Prior to pooling, forest plots, Q-tests or I^2 tests will be used to assess heterogeneity.[38] Funnel plots will be used to identify publication bias.

Patient and public involvement

Patients or the public were not involved in the design, or conduct, or reporting or dissemination plans of this research, and will not be involved in the research outlined by this protocol.

ETHICS AND DISSEMINATION

Ethics approval will not be required as this study will only present anonymised data from other published studies. On completion of the systematic review, results will be published in a peer-reviewed journal, and as part of a dissertation (MB). Results may also be presented at international and national conferences, as well as other academic presentations. To translate the research into action, the findings from this work will be distributed to guideline development bodies, clinical societies involved in cancer treatment in Australia and stakeholders involved in policy development and implementation in oncology.

Twitter Mia Bierbaum @Mia_R_Bierbaum

Contributors MB was responsible for the conception of the study plan, and preparation of the manuscript. JB, FR, GA, YT, BNGE and KL reviewed the study plan and manuscript and offered comments and edits.

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ORCID iDs

Mia Bierbaum http://orcid.org/0000-0002-7037-4708
Frances Rapport http://orcid.org/0000-0002-4428-2826
Gaston Arnolda http://orcid.org/0000-0003-4948-7633
Bróna Nic Giolla Easpaig http://orcid.org/0000-0001-6787-056X
Kristiana Ludlow http://orcid.org/0000-0001-7284-5625
Jeffrey Braithwaite http://orcid.org/0000-0003-0296-4957

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