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REVIEW ARTICLE

# Assessing patients' experiences of cancer care across the treatment pathway: a mapping review of recent psychosocial cancer care publications

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## Abstract

**Purpose** Patients are a critical source of information about the quality of the components of cancer care that contributes to optimal psychosocial outcomes. Recently published research was examined to determine the: (1) proportion of studies that examined at least one of 14 components of cancer care, (2) the proportion of studies that included multiple components of care, and (3) the phase of the cancer care pathway in which data collection occurred (i.e. pre-, during and post-treatment).

**Methods** MEDLINE was searched to retrieve all data-based publications indexed for two international psychosocial cancer care journals (Supportive Care in Cancer and Psycho-Oncology) over a 2-year period. A total of 333 publications yielded 214 eligible publications that were assessed against the 14 components of care for which measurement by healthcare providers at multiple phases during cancer care is recommended. Publications were coded based on the: (1) specific component/s of care focused upon in the research, (2) number of components examined and (3) timing of data collection.

**Results** The most frequently assessed component of care was physical and psychosocial screening ($n$ = 198, 93%). Most studies ($n$ = 187, 87%) examined a single component of care. No studies assessed all 14 components. Only seven studies (2.1%) examined components of care across multiple phases of the care pathway.

**Conclusions** Recently published studies have examined limited segments of patients' experiences of cancer care. To improve psychosocial outcomes among people living with and beyond cancer, there should be a greater focus on patients' experiences across multiple components and the whole care pathway.

**Keywords** Cancer · Oncology · Psycho-oncology · Psychosocial care · Quality of health care · Review

## Background

### What constitutes high-quality patient-centred cancer care?

High-quality patient-centred cancer care seeks to improve the responsiveness of care to patients' needs, values and preferences throughout their cancer journey. Patient-centred care is an essential, overarching component of quality health and cancer care. [1] Conceptualised broadly, patient-centred care includes patients' experiences of respect, emotional support, physical comfort, information and communication, continuity and transition, care coordination, involvement of family and carers and access to care. [2] The provision of quality patient-centred care has resulted in improvements in important psychosocial outcomes for patients, including anxiety, depression, unmet supportive care needs and quality of life. [3]

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## Patients report sub-optimal care across the cancer care pathway

Patients' views and experiences are a critical source of information about the provision and quality of cancer care being delivered across the cancer care pathway. Despite strong scientific evidence, consensus guidelines and ethical and legal imperatives supporting the idea of patient-centred care, [1, 4–6] many cancer patients continue to report sub-optimal outcomes across the cancer care pathway from diagnosis, treatment, survivorship through to the end-of-life. In Australia for instance, 23% of 244 medical oncology outpatients reported that they were not asked about preferences for involvement in decision-making. [7] Sixty percent of 208 radiation oncology outpatients experienced a patient-centred approach to life expectancy disclosure. [8] However, 28% of 1431 medical oncology outpatients did not get the information they wanted about life expectancy. [9] Only 7% of 203 medical oncology outpatients had conversations about preferred end-of-life care with their doctor, despite 87% reporting wanting their doctor to ask them about their preferences. [10] Continued efforts to improve cancer care at multiple points along the cancer care pathway are required.

## A need for more holistic and integrated assessment of patient experiences of cancer care

A person diagnosed with cancer will have multiple interactions with a number of healthcare providers within a complex healthcare system. [11] These interactions will often involve multiple components of care, such as information provision, decision-making and the delivery of technical medical care. Therefore, high-quality patient-centred care often depends on the delivery of multiple care components simultaneously. Principles to guide the identification of priority issues, or components of cancer care that should be assessed regularly by healthcare providers, have been proposed [12]: (1) evidence or consensus-based; (2) underpinned by ethical and/or legal obligations; (3) occur, or should occur, on a frequent basis for most cancer patients and survivors; (4) carry a potentially high burden of suffering and where improvements in care could lessen the burden imposed upon the patient; and (5) are deemed important by patients. [12] We suggest there are 14 such important components of cancer care along the patient treatment pathway for which assessment and improvement might improve psychosocial outcomes for patients. These components were initially derived from existing supportive and psychosocial care guidelines; [4–6, 13, 14] reports of consumer needs, preferences and priorities and the Institute of Medicine's (IOM) dimensions of patient-centred care, [1, 15, 16] which were expanded to address all phases across the cancer trajectory. The components were reviewed by a multidisciplinary team of health behaviour scientists, clinicians and consumer representatives who provided independent informal feedback in relation to relevance and supporting evidence for each component. The 14 components of cancer care include: patient-centred communication and interaction style, diagnosis and prognosis disclosure, involvement of supportive others, treatment decision-making, preparation for potentially threatening medical procedures, peer support, management of the financial impact of cancer, navigating the system, physical and psychosocial screening, shared care, continuity of care, self-management, end-of-life care including palliative care and medical errors. A definition of each component as well as supporting evidence for their inclusion are listed in Table 1.

## Mapping the literature to determine the progression of research effort in this field

Previous research has typically adopted a reductionist, [11] segmented approach to improving cancer care, with studies tending to focus on single components of care or particular phases of the treatment pathway. While this approach makes assessment easier and can undoubtedly provide important new information, it may not lead to improved outcomes. For instance, achieving improvements in one component of cancer care may not improve psychosocial wellbeing if there are other components of care that are not managed well.

We suggest that all 14 components of cancer care identified here are important and should be reflected in the proportion of research effort directed to patient assessment of cancer care experiences. Examining the volume of research output via a bibliometric review is considered a proxy measure of research productivity. [45] One method of determining the amount of research that has assessed patient experiences of cancer care across the treatment pathway is to conduct a mapping review. Mapping reviews do not focus on study results, but instead represent activity related to the publications (e.g. volume of research output). [46] A mapping review was undertaken to look at the components of cancer care and data collection time points that have been examined in recently published research studies related to experiences of psychosocial cancer care.

# Aims

The aims of the study were to determine in a sample of recent publications reporting patient assessment of cancer care experiences:

1) The proportion of studies that examined at least one of 14 component/s of cancer care
2) The proportion of studies that included multiple components of care
3) The phase of the cancer care pathway in which data collection occurred (i.e. pre-, during and post-treatment)

**Table 1** Assessed components of cancer care and supporting evidence

| Component (including guideline reference if applicable) | Supporting evidence |
|---|---|
| 1. Communication and interaction style [14] | Clinicians' way of interacting with patients and their families can affect the quality of the communication and patient outcomes. [17] For example, active listening, effective eliciting of patient preferences, encouraging patients to express emotions and responding emphatically have been shown to reduce patient anxiety and increase patient satisfaction with the consultation and adherence to therapy. [18] |
| 2. Diagnosis and prognosis disclosure [5, 6, 14] | Most cancer patients want to be informed about their diagnosis and prognosis. However, patients' preferences for information provision vary depending on patient, disease-related or situational factors. [19] Congruence between patients' preferences for information about their diagnosis and prognosis and their actual experiences of care can result in lower levels of anxiety and depression and greater satisfaction with care. [5] |
| 3. Involvement of supportive others [1, 14] | People vary in their preferences for involvement of supportive others (e.g. family and friends) in their care. [20] Adequately involving patients' support persons can increase patients' confidence in their treatment decisions, and help improve patient recall and their satisfaction with the information provided by their doctor. [21, 22] |
| 4. Treatment decision-making [14] | Congruence between patients' preferences for involvement in decision-making and their perceived involvement can have a positive effect on patient wellbeing. [23] Involving patients in their healthcare decisions, to the extent they desire, is associated with decreased anxiety related to their illness, increased satisfaction with the consultation and improved quality of life. [23, 24] |
| 5. Preparation for potentially threatening medical procedures [14] | Provision of tailored procedural (i.e. what will happen) and sensory (i.e. what it will feel like) information before, during and after procedures can improve a range of outcomes for patients, including anxiety, depression, pain and physical recovery. [25, 26] |
| 6. Peer support | Some cancer patients report finding other patients to talk to about their cancer experiences as an area of high unmet need. [27] Peer support can improve patients' psychological wellbeing and coping with illness, reduce anxiety and depression and improve quality of life. [28] |
| 7. Financial impact of cancer | Many cancer patients bear a financial burden as a result of changes in employment status and increased out-of-pocket expenses related to treatment. Financial strain may also result in changes in patients' treatment choices and lead to adverse health outcomes, such as decreased quality of life. [29] |
| 8. Navigating the system | Receiving a cancer diagnosis and subsequent treatments can require patients to undergo multiple episodes of care. There is evidence to suggest that supporting patients with the logistics of accessing care can improve patient outcomes. For instance, patient navigation has been shown to decrease patient anxiety, and increase their quality of life, satisfaction and adherence to diagnostic follow-up care. [30] Assistance with parking or scheduling appointments might reduce stress to patients and help improve the clinic workflow. [31] |
| 9. Physical and psychosocial screening [4, 14] | Guidelines recommend that routine screening should be conducted regularly across the cancer continuum. [4, 14] Screening may enhance psychosocial referrals and can improve communication between patients and clinicians, for example by helping improve discussions around quality-of-life issues. [32] Health-related quality-of-life and other psychosocial outcomes (e.g. anxiety or depression) are clinically relevant outcomes of cancer care and are specifically recommended for inclusion in cancer clinical trials. [33] |
| 10. Shared care | Shared care is the joint coordination and delivery of healthcare by a patient's specialist and their general practitioner. [34] Shared care has a myriad of potential benefits, including improved access to and delivery of recommended healthcare, [35] and improved coordination and continuity of care. [36] |
| 11. Continuity of care [1] | Cancer care often involves a multidisciplinary healthcare team across a variety of settings. [37] This situation increases the probability of fragmented, uncoordinated care leading to poorer patient outcomes. [37] It has been suggested that continuity of care, i.e. care that is coordinated and integrated, has a number of benefits, including improved patient satisfaction, decreased hospitalisation and increased use of diagnostic tests. [38] |
| 12. Self-management and follow-up care [14] | Cancer patients experience a range of symptoms and side effects, as well as other practical and emotional issues, that can have a significant impact on physical health, quality of life and psychological wellbeing if they are not well-managed. Many of these issues are ongoing even after treatment is completed, with little attention paid to supportive care needs during follow-up consultations. [39] |
| 13. End-of-life care including palliative care [5, 14, 40] | Early access to end-of-life care, palliative care and advance care planning improves symptom control, can reduce anxiety, hospital admissions and receipt of unwanted, aggressive medical care. [41, 42] |
| 14. Medical errors | Studies may examine whether an adverse event or mistake during care has occurred, the level of harm associated with the medical error, how the healthcare organisation responded to the medical error or to whom the medical error was attributable. [43, 44] Examples of medical errors include incorrect medication or dosage, infections and patient falls |

# Methods

## Search strategy

Two journals with the highest relevance relating to psychosocial cancer care based on impact factor and thematic focus, *Supportive Care in Cancer* and *Psycho-Oncology*, were selected for inclusion in order to get a sense of the focus of published research into psychosocial cancer care and the 14 identified components of cancer care across the treatment pathway. Both journals are a point of contact for researchers and clinicians attempting to improve patient outcomes. MEDLINE was searched to retrieve all databased publications indexed for the two journals for the period from September 2015 to August 2017. This period was chosen given the International Psycho-Oncology Society (IPOS) Human Rights Task Force 2014/2015 Lisbon declaration that psychosocial cancer care is a human rights issue globally. The 2015 update and endorsement of the IPOS Standard on Quality Cancer Care also heightened the awareness of patient-centeredness as key component of high-quality cancer care. [47] The search was restricted to exclude non-data based publications using MEDLINE publication type categorisation, with the following publication types excluded: case report, comment, editorial, letter, meta-analysis, review, scientific integrity review, systematic review and technical report.

## Inclusion and exclusion criteria

Studies were included if they: (1) examined cancer care (in an inpatient, outpatient or community setting), (2) were published in the period from September 2015 to August 2017, (3) included adults aged 18 years or older, (4) were data-based interventional studies (randomised controlled trials, controlled clinical trials, controlled before and after studies, interrupted time series designs) or observational studies (cross-sectional, longitudinal or qualitative studies) and (5) included patient assessment of care experiences via Patient-Reported Outcome Measures (PROMs) or Patient-Reported Experience Measures (PREMS). PREMS and PROMS are widely used to obtain patient views about their experiences. Patient perceptions of quality-of-life, health status and symptoms (e.g. nausea, depression and anxiety) are examples of PROMS that measure how the respondent feels or their wellbeing. [33] In contrast, PREMS measure patient reports of what actually occurred during a care event. These include measures of a range of components of care. [48]

We did not assess the quality of evidence, as this is outside the scope of a mapping review.

## Data extraction

The titles and abstracts of all articles identified were assessed for eligibility by a research assistant with experience conducting literature reviews. Remaining full text articles were assessed for eligibility and coded by the same researcher. A second researcher (KF) cross-checked a random selection of 20% of the abstracts and articles to confirm their eligibility and coding.

Descriptive data extracted from each publication included: first author, accession number, any reasons for exclusion and study type (observational, intervention). Outcome data extracted from each publication included: (1) the components of cancer care assessed and (2) the data collection time-point/s (i.e. pre-treatment, during or post-treatment) for each component of care assessed. To examine whether an outcome was assessed multiple times during the same treatment time-point (e.g. three times during treatment to look at a change) was beyond the scope of this review. Thus, publications were counted once in each treatment time-point, regardless of the number of assessments within that time-point. The checklist of 14 components of the patient treatment pathway (Table 1) was used to assess the components of cancer care included in each study. The component of care was classified as being present if the publication text explicitly included a description of the component of care in the methods or results sections, thereby indicating the component of care was a focus of the study. The results were compared and any discrepancies regarding coding were resolved by mutual discussion between coders. Kappa statistics were calculated for agreement between the two researchers in relation to the eligibility and care component assessments.

# Results

## Search results

A total of 1517 publications were identified. Conservatively assuming 50% of studies incorporated at least one of the 14 items of care, a sample of 200 publications was estimated to be sufficient to estimate this proportion and 95% confidence interval with a 6.5% margin of error. Preliminary coding of 50 papers suggested that a sample of 333 would provide at least 200 relevant articles. A random sample of 333 publications was then obtained using the random number generation function in Microsoft Excel and examined. A total of 214 studies met the inclusion criteria and were included in the review. Double coding resulted in 95% agreement (Kappa = 0.89) between the reviewers for inclusion/exclusion status and 98% agreement (Kappa = 0.90) about the component of care, indicating almost perfect agreement. The majority of studies ($n$ =

172, 80%) were observational, while only 42 were interventions.

## Focus of recently published research into patient assessment of cancer care experiences

### Most commonly assessed components of cancer care

Figure 1 presents the proportion of publications assessing each of the 14 identified components of cancer care. The most commonly examined component of care was physical and psychosocial screening (*n* = 198), followed by self-management (*n* = 13), communication and support person involvement (*n* = 10 each; see Fig. 1). Only one component, navigating the system, was not assessed in any of the examined publications.

As the majority of studies included physical and psychosocial screening (*n* = 198), the categories of outcome measure/s utilised in these studies were subsequently examined. Of these, 178 studies included a quantitative outcome measure (i.e. 20 qualitative studies were not included in this further examination). Most focused on emotional wellbeing (*n* = 115, 65%) or physical functioning or symptoms (*n* = 108, 61%), followed by quality of life (*n* = 65, 37%), and social functioning (*n* = 30, 17%) (Fig. 2).

### Number of cancer care components assessed

Figure 3 presents the proportion of publications where the provision of single or multiple components of cancer care were assessed. No publications assessed all 14 components of care. Most (*n* = 187; 87.4%) examined only one component of care. Only eight examined three or more care components (3.7%) (Fig. 3). Physical and psychosocial screening was included in seven of those eight publications, while support person involvement and self-management/follow-up care were both included in five of the eight publications.

### Timing of data collection points along the cancer care pathway

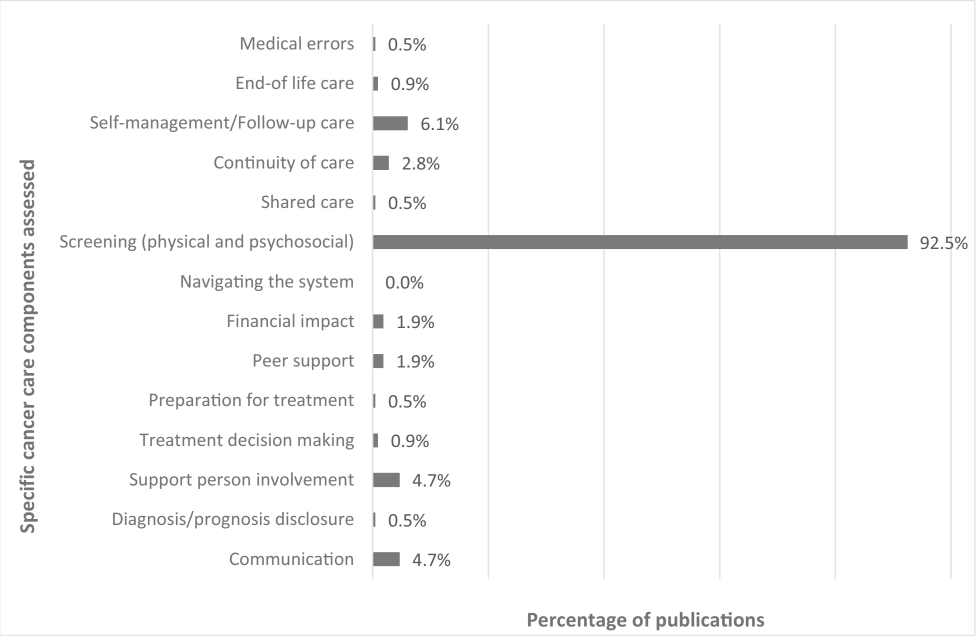
Most publications (*n* = 187, 87%) examined care at only one time-point in the treatment pathway, and 166 of these examined a single component of care. The most commonly included data collection time-points were during treatment (*n* = 126; 42%) and post-treatment (*n* = 125; 42%) followed by pre-treatment (*n* = 32; 11%). The time-point of data collection was not specified in 13 publications (6%).

Only 27 publications reported data collection across multiple points on the cancer care pathway (i.e. pre- and/or during and/or post-treatment). Twenty publications examined care at two time-points, while only seven publications assessed a component of care across all three time-points (pre-, during and post-treatment). All seven of these publications examined physical and psychosocial screening across these time-points. One publication also assessed the components of communication and interaction style and involvement of supportive others.

## Discussion

Recognising that cancer patients' views are a critical source of information about gaps in cancer care, this

**Fig. 1** Proportion of identified publications (*n* = 214) assessing each component of cancer care



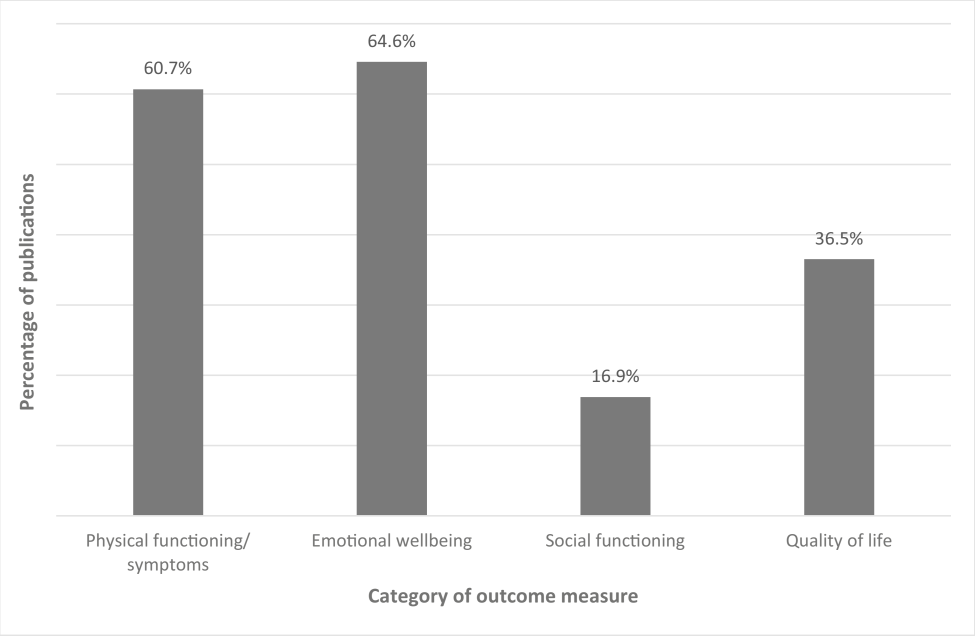


**Fig. 2** Quantitative outcome/s measured in the publications assessing physical and psychosocial screening ($n = 178$)

mapping review examined the extent to which recent research has been conducted to elicit patients' views across 14 components of care. Of the 214 studies examined, none assessed all of the 14 components of care that should be delivered across the cancer treatment pathway to improve psychosocial outcomes. The most frequently examined component was screening for physical/psychosocial concerns (198 studies). Only 27 (13%) studies examined more than one component of care. This is not to say that all of the 14 components of care presented in this paper could be included in every research study. However, to make a real difference to patients' psychosocial outcomes, it is critical that we examine and respond to patients' experiences throughout their cancer journey, rather than segmented components such as physical and psychosocial screening during or post-treatment.

## The need to examine patients' experiences of cancer care across the treatment pathway

There is increasing recognition of the need to deliver evidence-based, integrated care across multiple components of

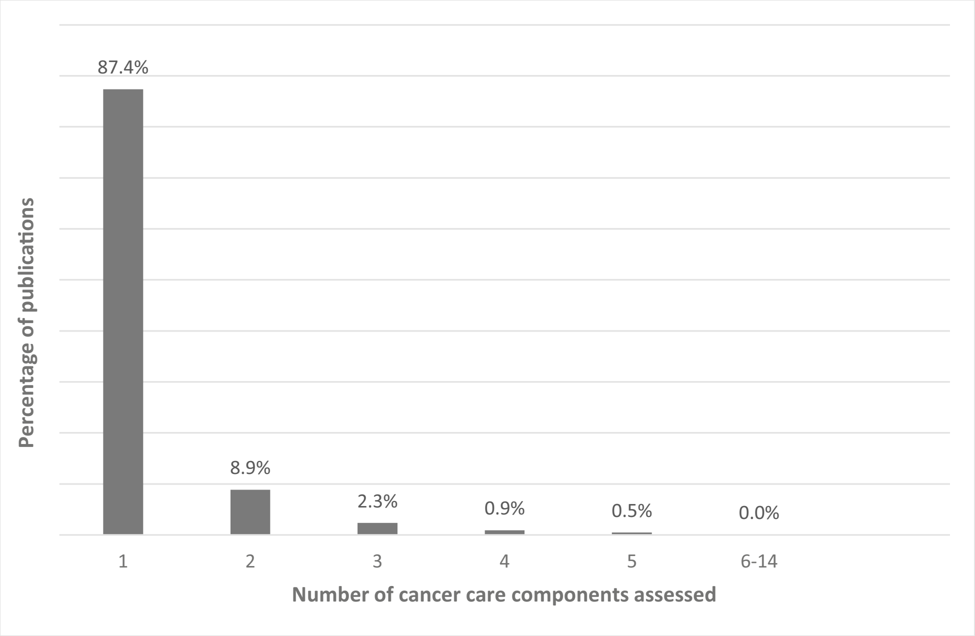


**Fig. 3** Proportion of identified publications ($n = 214$) reporting on single or multiple components of cancer care

patients' treatment pathway, ranging from communicating a diagnosis, making treatment decisions, to follow-up and end-of-life care. [11] While some components of care are specific to a phase of the pathway (e.g. end-of-life care), others, such as communication and screening for physical and psychosocial concerns, are relevant throughout. Consequently, monitoring for various components of care regularly across the cancer continuum is often recommended. [4, 13, 14] Despite this, the majority of studies included in this review focused on care during the treatment phase (42%) or post-treatment phase (42%), with only 11% of studies reporting on pre-treatment care. This finding is consistent with a recent scoping review of cancer survivors' information needs [19] which found that 52.9% ($n = 55$) of the 104 included studies focused only on diagnosis or active treatment, 25.0% ($n = 26$) on multiple phases (based on the stage of the survivor at time of data collection), 2.9% on recurrence/metastasis ($n = 3$) and 2.9% on end-of life care ($n = 3$). [19] This represents an important gap in research efforts.

The low number of included studies that assessed components such as prognosis disclosure, decision-making and preparation is also concerning. High-quality, patient-centred care requires that patients, their support persons and healthcare providers have shared understanding of potential risks, benefits and likely treatment outcomes. Ideally, information should align with patient preferences, be easy to understand and recall and assist those affected by cancer to choose between available treatment options. [49] Without such information, patients may be more likely to experience uncertainty, distress or receive unwanted care. [50]

## What may have led to the segmented approach to the assessment of patients' cancer care experiences?

It is not surprising that physical/psychosocial screening was the most frequently examined component of care. This component of care is supported by developed practice and consensus-based guidelines and structured care pathways [51] and screening is included in hospital accreditation schemes in countries such as the USA and Canada (e.g. the NCCN Clinical Practice Guidelines in Oncology for Distress Management). [52] The focus on physical/psychosocial screening may also reflect the interests of a large number of researchers in the area. Furthermore, there are widely used, validated and accepted PROMS available to assess these concerns, for example the Short-Form (SF-36) Survey for HrQoL [53] and the Hospital Anxiety and Depression Scale (HADS) for anxiety and depression. [54] In the reviewed studies, the PROMS most frequently utilised were those designed to assess measures of physical and emotional wellbeing (118 studies, 61%) and physical symptoms or functioning ($n = 115$, 59%). These measures are valuable supplements to objective clinical measures that can be used to assess the need for health care, the effectiveness of interventions and in cost-utility analyses. [55] They can also provide an assessment of individual patient status and response to treatment. However, there are a number of disadvantages to relying solely on these measures to determine quality of patient-centred cancer care. PROMS often fail to distinguish between health problems and the individual's desire for assistance, and do not always address what is most important to patients. [56] Further, studies have shown that patients may still report a high quality of life, even though they experience difficulties performing activities of daily living, are socially isolated and have emotional and financial concerns that are not being met. [57]

The lack of focus on other care components may be due, in part, to a lack of available and validated PREMS. For instance, a prior systematic review [58] identified that few comprehensive measures of patient preparation for medical procedures have been developed. Similarly, a 2011 review [59] of tools assessing patients' satisfaction with cancer care or experiences of care found that of the 14 identified tools, most focussed on one aspect of care, most commonly communication. A 2014 systematic review of measures assessing the quality of patient-centred cancer care found that there were no psychometrically rigorous self-reported measures developed with cancer survivors that captured all IOM dimensions of patient-centred care. [60] Recent efforts to systematically measure data on patients' perceptions of care quality have been implemented in a number of countries, including the USA, UK, Canada and Australia. For instance, the suite of Picker Institute surveys are commonly used to assess patients' experiences of care across eight patient-centred care domains. [61] Studies based on these surveys are conducted in some hospital settings. However, these initiatives tend to focus on particular care settings (i.e. hospital). In addition, while such surveys are comprehensive, they may not reflect each sequence of the cancer pathway, from diagnosis through to treatment, end-of-life or survivorship.

## How can we move forward and improve patients' experiences of cancer care?

To address the multitude of barriers and achieve improvements in patients' experiences of cancer care across multiple components and phases of care, a new approach is needed. An important element of quality health care is to ensure the care provided is patient-centred and aligns with patients' preferences. Given that changes in patient preferences for components of care, such as involvement of supportive others in their care, [20] prognosis disclosure, involvement in decision-making [62] and physical/psychosocial concerns, [15] can occur over time, a more holistic, ongoing approach to assessing the receipt of care is needed. Incorporating a response scale that enables patients to report on the actual care that they have received, as well as indicate whether this care was desired, could enhance the delivery of care that is patient-centred.

An assessment of patients' experiences of cancer care on its own is insufficient to achieve improvements. It also requires that the data collected from patients be routinely fed back to clinicians and services. Feedback is more effective when based on recent performance and delivered regularly. [63] Longitudinal studies which collect data repeatedly from patients and at multiple points across the cancer care pathway could help to monitor whether there are any changes in care delivered across the treatment pathway (e.g. communication), and detect any changes in patient preferences for care which may occur as their health or personal circumstances change. Repeated data collection will also allow services to monitor the effectiveness of their efforts to improve quality of care. Information and communication technology (ICT) can be used to collect and provide information from patients about their experiences in an acceptable and cost effective manner. For example, web-based surveys can be completed by participants via touchscreen tablet devices (e.g. iPad). [64] Algorithms can be programmed to allow this data to be automatically scored, aggregated and provided to treatment centres. The benefit of utilising ICT to ensure quality cancer care is emphasised by its inclusion as the fifth IOM criteria for quality cancer care. [65]

Based on these principles, we have developed and are currently testing a new method for assessing patients' experiences of cancer care. This approach will allow patients to report their perceptions about the care that was provided for each one of the 14 identified components at multiple timepoints along the care pathway.

### Study limitations

The findings of this review should be considered in light of several limitations. The literature search was restricted to English language publications and only included two journals across 2 years; thus, it is possible that relevant publications were missed. However, the two journals with the highest relevance relating to psychosocial cancer care internationally were chosen in order to get a sense of the focus of recently published research into psychosocial cancer care and the 14 identified components of cancer care across the treatment pathway. This may have influenced the key finding that studies focused on screening, particularly psychosocial screening, comprised a majority of the recently published literature. A further issue is the lack of a standardised taxonomy related to components of care across the cancer care trajectory. While the components in the treatment pathway of people living with and after cancer used in this mapping review were developed by a multidisciplinary team of health behaviour scientists, clinicians and consumer representatives, and were based on practice guidelines and international evidence, it should be noted there are no clear nationally or internationally standardised criteria. Thus, the identified 14 components of cancer care may be disputed due to subjectivity, and may not capture all of the components relevant to patients or clinicians.

### Clinical implications

Healthcare providers need access to patients' views about gaps in care across a broad range of components and phases of care in order to prioritise healthcare setting and system-level quality improvement initiatives which can enhance the delivery of integrated, patient-centred care. However, the majority of recent research appears to have taken a segmented approach and focused on experiences of physical and psychosocial screening. Greater clarity is needed regarding the acceptability of measures to consumers; the frequency with which assessments should occur; how, when and to whom quality monitoring results should be communicated and the type of interventions that can be effectively implemented to address gaps in care.

## Conclusions

To inform and improve practice, a systematic, evidence-based approach to assessing patients' cancer care experiences is needed. Assessments should include an assessment of patient preferences, be implemented repeatedly and at multiple time points along the cancer pathway, and the results provided to the treatment centre to inform quality improvement initiatives. Future research should be directed at examining multiple components of psychosocial care along the cancer care trajectory.

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### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interest.

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