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*Citation for published version (APA):*

Clemett, V., Graham, T., Woodward, S., & Grocott, P. (in press). Effectiveness of interventions to enhance shared decision making in wound care: A systematic review. *Journal of Clinical Nursing*.

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**Title**

Effectiveness of interventions to enhance shared decision making in wound care: A systematic review.

**Short running title**

Shared decision making in wound care

**Authors**

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	CRediT author statement	Conflicts of interest
Victoria J <b>CLEMETT</b>	Conceptualization, Methodology, Investigation, Writing - Original Draft, Visualization, Project administration	None
Tanya <b>GRAHAM</b>	Conceptualization, Methodology, Investigation, Writing - Review & Editing	None
Sue <b>WOODWARD</b>	Conceptualization, Methodology, Investigation, Writing - Review & Editing	None
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**Acknowledgements**

The research received no specific grant from any funding agency in the public, commercial or not-for profit sectors.

**Conflict of interest**

None.

**Registration**

The review protocol was prospectively registered (PROSPERO database: CRD42023389820).

**Effectiveness of interventions to enhance shared decision making in wound care: A systematic review**

## Abstract

**Aims:** To explore the effectiveness of interventions to enhance patient participation in shared decision making in wound care and tissue viability

**Background:** Caring for people living with a wound is complex due to interaction between wound healing, symptoms, psychological wellbeing, and treatment effectiveness. To respond to this complexity, there has been recent emphasis on the importance of delivering patient centred wound care and shared decision making to personalise health care. However, little is known about the effectiveness of existing interventions to support shared decision making in wound care.

**Design:** Systematic review of interventional studies to enhance shared decision making in wound care or tissue viability. This was reported following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines 2020.

**Methods:** Interventional primary research studies published in English up to January 2023 were included. Screening, data extraction and quality appraisal were undertaken independently by two authors.

**Data sources:** Medline, EMBASE, Cochrane Central Register of Controlled Trails (trials database), CINAHL, British Nursing Index (BNI), WorldCat (thesis database), Scopus and registries of ongoing studies (ISRCTN registry and [clinicaltrials.gov](http://clinicaltrials.gov)).

**Results:** 1,063 abstracts were screened, and eight full-text studies included. Findings indicate, interventions to support shared decision making are positively received. Goal or need setting components may assist knowledge transfer between patient and clinician, and could lower short term decisional conflict. However, generally findings within this study had very low certainty due to the inconsistencies in outcomes reported, and the variation and complexity of single and multiple interventions used.

**Conclusions:** Future research on shared decision making interventions in wound care should include the involvement of stakeholders and programme theory to underpin the interventions developed to consider the complexity of interventions.

**Registration:** The review protocol was prospectively registered (PROSPERO database: XXX00000000000).

**No Patient or Public Contribution:** Not applicable as this is a systematic review.

## Keywords

Decision Making, Shared; Health Knowledge, Attitudes, Practice; Patient Preference; Patient-Centered Care; Systematic Review; Tissue Viability; Wounds and Injuries

**Implications for the profession and patient care**

Patients setting out their needs or goals and exploring patient questions are important and should be considered in clinical care.

**What does this paper contribute to the wider global clinical community**

- This review found that shared decision making interventions are well received and lower short term decisional conflict.
- This review highlighted the complexity in shared decision interventions in wound care, and acknowledged future interventions should be theory driven to inform behavioural, procedural and structural changes needed to improve shared decisions in wound-care.

## 1. Introduction

Shared decision making is a concept embraced internationally, featuring in healthcare policy, clinical guidelines and informing the direction of healthcare (Bravo *et al.*, 2022). This is considered a desirable aspect of clinical care with patients wanting to understand their conditions and be actively involved in making decisions about their health and care (Légaré *et al.*, 2018). However, the utilisation of shared decision making within wound care is limited, even though it is one of the components identified by McCormack and McCance (2006) to implement patient centred nursing in practice, and there has been recent emphasis on the importance of delivering patient centred wound care (Lindsay *et al.*, 2017 ; Gethin *et al.*, 2020).

Wound care accounts for a significant healthcare expenditure (Guest, Fuller, Vowden, 2020; Sen *et al.*, 2009) which includes staff time (Guest, Fuller, Vowden, 2020). Wounds affect approximately 7.3% of the adult population per year needing healthcare interventions across primary, secondary and community care (Guest, Fuller, Vowden, 2020). People living with a wound experience a variety of wound symptoms such as pain and poor mobility (Olsson *et al.*, 2019). These limit social activity, ability to undertake their own activities of living, all of which lead to reduced independence and feeling dependent on others (Blome *et al.*, 2014 ; von Stülpnagel *et al.*, 2021). Wound symptoms such as mobility and pain, for example, may reduce the effectiveness of compression therapy and impact adherence to treatment respectively (Atkin *et al.*, 2019). Low psychological wellbeing, which may result from chronic or hard-to-heal wounds and their associated symptoms, may lead to a decreased motivation to manage the physical health condition and poor health seeking behaviours (Naylor *et al.*, 2016) thus further impeding healing. These interactions increase the complexity in delivering holistic wound care to this group. Therefore, people with a wound would benefit from the reported advantages of shared decision making to personalise health care, adding agency to warranted clinical variation based on patient needs and expectations (Sutherland and Levesque, 2020).

Increased patient-clinician communication may enable issues or symptoms that need to be considered in patient care plans to be discussed (World Union of Wound Healing Societies, (WUWHS), 2019; Coleman *et al.*, 2017). This relates to transferring knowledge and expressing preferences within the constructs of shared decision making (Stacey *et al.*, 2010). The assessment of complex issues is useful for determining treatment priorities for patients and enables patients to express the impact of their wound and talk about any issues or symptoms that need to be considered within their care plan (World Union of Wound Healing Societies, (WUWHS), 2019; Coleman *et al.*, 2017). Understanding patient priorities can ensure treatment goals are aligned with the clinician priorities, which has a positive impact on empowerment and shared decision making (Atkin *et al.*, 2019). However, shared decision making goes beyond ensuring treatment priorities are aligned.

During the assessment phase it may also involve choosing when further assessments or tests occur (National Institute for Health and Care Excellence (NICE), 2021) and recognising that new decisions need to be made (Stacey *et al.*, 2010). This leads to an iterative shared process to ensure care aligns with patients' objectives, beliefs and values by considering and discussing options (National Institute for Health and Care Excellence (NICE), 2021; Stacey *et al.*, 2010). This requires a shift in clinical care to ensure patients have the education and support required to make informed clinical decisions that impact their care rather than just adhering to the care set by the healthcare professional (World Health Organisation, 2023).

However, further understanding is required of the content of interventions or groups of interventions that are effective in wound care to enable shared decision making.

## **2. Aims.**

The aim of this review was to explore the effectiveness of interventions to enhance patient participation in shared decision making in wound care and tissue viability. The review addresses the following questions:

- What interventions are used to enhance patient participation in shared decision making in wound care and tissue viability?
- How effective are interventions targeting patients or patient/clinician interactions to facilitate shared decision making and patient participation in wound care and tissue viability?

## **3. Methods**

### **3.1. Design**

This systematic review protocol was prospectively registered with the PROSPERO database (XXX000000000000).

#### **3.1.1. Search methods**

A systematic search was conducted up to January 2023 by one reviewer (WW) of the following databases; Medline, Excerpta Medica dataBASE (EMBASE), Cochrane Central Register of Controlled Trials (CENTRAL) (trials database), Cumulated Index of Nursing and Allied Health Literature (CINAHL), British Nursing Index (BNI), WorldCat (thesis database), Scopus and registries of ongoing studies (ISRCTN registry and clinicaltrials.gov). The following search criteria were used across all databases using MeSH terms and keyword searches.

**Population:** Acute wound, penetrating/non-penetrating wounds, chronic wound, hard to heal wound, surgical wound, burn, leg ulcer, diabetic foot ulcer, pressure ulcer, fungating wound, incontinence associated dermatitis, tissue damage, deep tissue injury.

**Intervention:** Decision support techniques, patient decision aids, patient reported outcome measures, discrete choice, patient education, health literacy, patient-clinician

relations, therapeutic relations, patient-clinician communication, communication aid, motivational interviewing, health coaching, decision coaching, reflective questioning, personalised care support planning, communication skills training, patient centred training, motivational interview training.

Outcomes: Patient empowerment, patient motivation, patient partnership, shared decision making, patient centredness, patient participation, patient preference, patient concordance.

The detailed search strategy is reported in supplementary material 1.

The reference lists of included studies were examined for other potentially relevant sources that may have been missed by the database searches.

### **3.1.2. Inclusion and exclusion criteria**

#### **TYPES OF STUDIES**

Interventional primary research studies with a research methodology that included any intervention or group of interventions to enhance shared decision making in wound care or tissue viability were included in this review.

#### **TYPES OF INTERVENTIONS**

Interventions related to any of the core features of shared decision making identified by Stacey *et al.*, (2010) were included:

- Recognition that a decision needs to be made
- Transfer and exchange of knowledge
- Expression of values/preferences
- Deliberation
- The decision
- Implementation

These interventions may target patients, healthcare professionals or the clinician/patient interaction.

#### **TYPES OF PARTICIPANTS**

Patients include any individual with broken skin (chronic and/or acute wounds), all patients at risk of wound recurrence or those who have substantial tissue damage / poor tissue viability meaning a wound is likely. Studies were excluded if they were not published in English, did not include a research methodology (e.g., quality improvement papers, case reports) or were review papers (including systematic reviews). Efforts were made to obtain published primary research articles associated with relevant registered trials or conference abstracts. But these were excluded if only abstracts or conference papers were available.

### **3.1.3. Search outcome**

Two reviewers (WW & XX) independently screened the titles and abstracts for eligibility within Covidence (Covidence systematic review software, [www.covidence.org](http://www.covidence.org)). The reviewers met to discuss any disagreements prior to uploading the potentially relevant full-text articles to Covidence. Where trial registries were considered relevant effort was sought to obtain any published data associated with this registration. Two reviewers (WW & XX) then independently examined the full text articles to determine inclusion against the review question and inclusion/exclusion criteria. Throughout this process disagreements about eligibility were resolved through discussion and involvement of a third reviewer (YY) where required.

### **3.1.4. Data abstraction**

Two reviewers (WW & ZZ) independently extracted data from the included articles and met to resolve discrepancies in data collection. Study data were obtained on study characteristics and population characteristics (table 1). Participant characteristics extracted standard data on study setting, wound type, age and gender of participant but also focused on “psychological or neurological comorbidity” and “Education / Literature / Language information” as these factors were considered to be most relevant to whether a shared decision making intervention was effective. Target of intervention was mapped to the core features of the shared decision making process (recognition decision needs to be made, transfer and exchange of knowledge, expression of values/preferences, deliberation, the decision and implementation (Stacey *et al.*, 2010) with core elements of the intervention stated. Outcome data extracted both quantitative and qualitative data concentrated on shared decision making outcomes (table 3), patient outcomes (table 4), patient experience outcomes and process outcomes.

### **3.1.5. Quality appraisal**

Two reviewers (WW & ZZ) independently rated the quality of each article using the Joanna Briggs critical appraisal tools relevant to the study type (<https://jbi.global/critical-appraisal-tools>). Discrepancies were discussed and where disagreements or questions arose these were discussed with the other reviewers (XX & YY). No study was excluded based on the quality of their research however, more weight was given to findings of greater methodological rigour.

### **3.1.6. Synthesis**

Data were synthesised by findings related to the primary outcome (shared decision making) and secondary outcomes (wound healing and skin condition, wound symptoms and well-being, behavioural outcomes, user acceptance of the intervention, and organisational aspects of care). Quantitative outcome data were analysed according to the intention-to-treat (ITT) principle, whereby all participants are analysed in the group to which they were allocated.



Two studies measured the same outcome measure (Decisional conflict scale) and had an intervention that included setting goals and needs ahead of clinical consultations in similar populations, chronic wounds in out-patient setting. However, this intervention was part of differing packages of interventions to support shared decision making therefore meta-analysis could not be performed.

### **3.1.7. Reporting bias and certainty of assessment**

Reporting bias determined whether any findings of interest stated in the method but then not reported in findings or only partially reported in findings. The GRADE reporting system (Guyatt *et al.*, 2008) pooled the results to determine overall quality of evidence for each outcome within the different intervention types based on the core features of shared decision making (Stacey *et al.*, 2010).

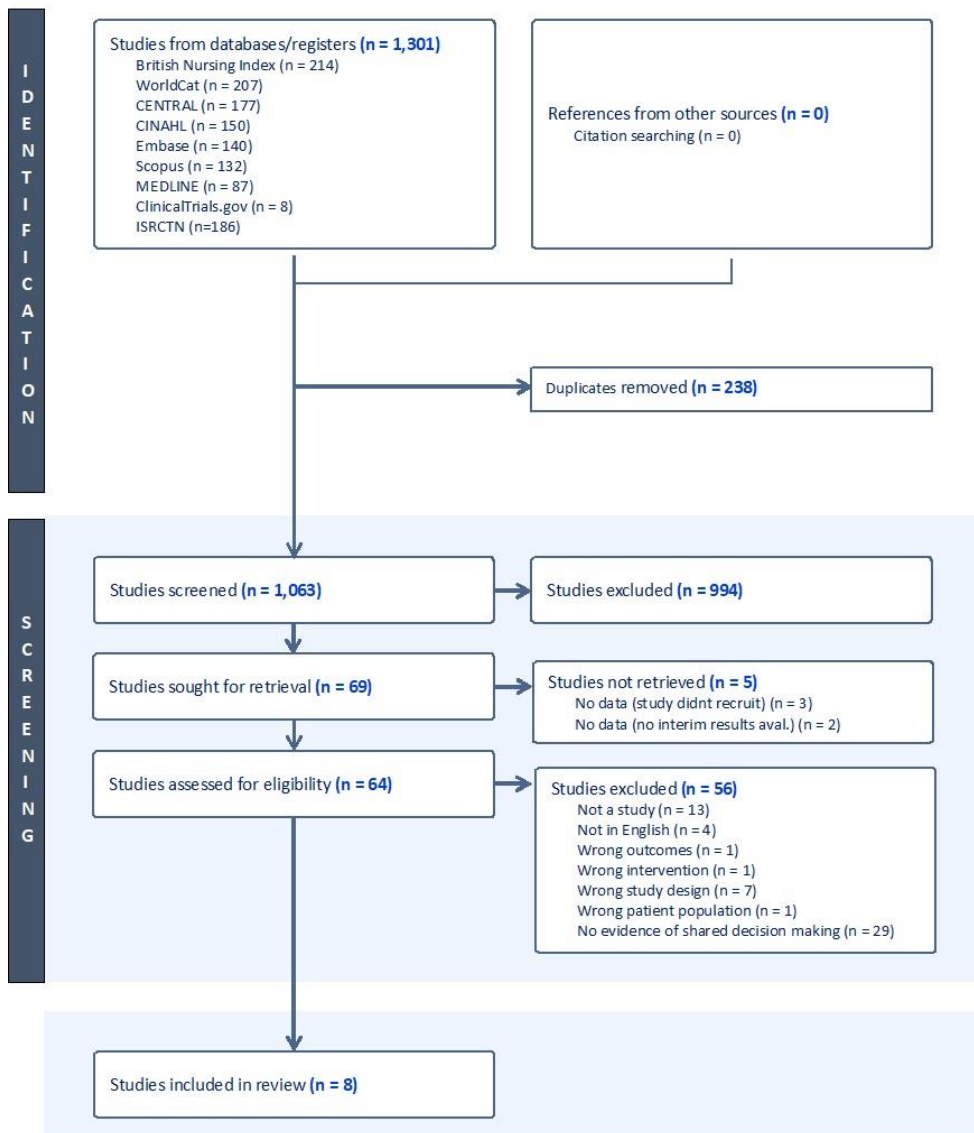
## **4. Results**

### **4.1. Search results and study characteristics**

Initial searches yielded 1,063 independent records from systematic database searching after removal of duplicates (Figure 1). After screening titles, abstracts and full texts for eligibility, eight articles were included in the review (Chaboyer *et al.*, 2016; Dobke *et al.*, 2008; Guihan *et al.*, 2014; Kelechi *et al.*, 2014; McBride *et al.*, 2016; Pereira, Figueiredo-Braga, Carvalho, 2016; Subrata *et al.*, 2020; Tobiano *et al.*, 2023) (Table 1). Two additional published study protocols may have produced relevant results for our review (NCT04019340: The Impact of a Pluridisciplinary Education Program on Venous Leg Ulcer Size Reduction and ISRCTN19208427: Enhancement of patient autonomy by active role training with operative patients). However, these were classed as studies not retrieved as no published research data was available at the time of writing.

The eight included articles covered a variety of wound types. Two studies included people with non-healing ulcers caused from a variety of different aetiologies (Dobke *et al.*, 2008; Kelechi *et al.*, 2014), two studies analysed surgical patients (Pereira, Figueiredo-Braga, Carvalho, 2016; Tobiano *et al.*, 2023) and two studies included people both at high risk of a wound occurrence and already having a wound caused by diabetes (Subrata *et al.*, 2020) or pressure (Chaboyer *et al.*, 2016). One study evaluated those with severe pressure ulcers (Guihan *et al.*, 2014) and another evaluated those with diabetic foot ulcers (McBride *et al.*, 2016).

**INSERT FIGURE 1: PRISMA DIAGRAM**



Three studies were conducted in the United States of America (Dobke *et al.*, 2008; Guihan *et al.*, 2014; Kelechi *et al.*, 2014), two in Australia (Chaboyer *et al.*, 2016; Tobiano *et al.*, 2023) and one each from Indonesia (Subrata *et al.*, 2020), Portugal (Pereira, Figueiredo-Braga, Carvalho, 2016) and the United Kingdom (McBride *et al.*, 2016) (table 1).

**INSERT TABLE 1: STUDY AND PARTICIPANT CHARACTERISTICS**

## 4.2. Methodological appraisal

The overall risk of bias varied between included studies (Table 2). Due to the nature of the interventions no participants could be blinded to intervention/control group assignment. However, there was an attempt to blind outcome assessors to interventions reported in two studies (table 2). It is acknowledged that when patient reported outcomes or patient experience measures were assessed, as in the Dobke *et al.* study, it was impossible to blind the assessor, but data produced remained useful to the objectives of this review and the patient perspective.

Due to the complex nature of wound care and the variation in care they would receive it was often unclear whether intervention and control groups were treated identically throughout the study, even if aspects of their care (for example clinical consultations) were the same. Outcomes were measured consistently between intervention and control groups with researchers selecting previously validated tools to assess outcomes in both intervention and control groups. However, the reliability of the tools, such as the training of assessors and inter-rater reliability, within the studies included in this review were often not stated or reported therefore it is unclear whether outcomes were measured in a reliable way.

### **INSERT TABLE 2: QUALITY APPRAISALS**

## 4.3. Content of interventions

The majority of interventions within the included studies targeted the transfer and exchange of knowledge between clinician and patients. This was done exclusively in five studies (Dobke *et al.*, 2008; Guihan *et al.*, 2014; Kelechi *et al.*, 2014; Pereira, Figueiredo-Braga, Carvalho, 2016; Subrata *et al.*, 2020). This was combined with a tool to support decision deliberation in one study (McBride *et al.*, 2016), involvement in how decisions are implemented in another (Chaboyer *et al.*, 2016) and was poorly described in one study but perceived to include a decision making component by a number of participants (Tobiano *et al.*, 2023)

The content and delivery of interventions to support the exchange and transfer for knowledge varied. Motivational interviewing or motivational enhancement techniques were used in three studies to help patients reflect on, discover and overcome barriers to care (Guihan *et al.*, 2014; Kelechi *et al.*, 2014; Subrata *et al.*, 2020). Two studies gave opportunities to explore patients' questions (Pereira, Figueiredo-Braga, Carvalho, 2016; Chaboyer *et al.*, 2016). Two implemented a more detailed feedback session between clinical consultations which included going over previous consultations and discussing patients' needs to plan future care (Dobke *et al.*, 2008; McBride *et al.*, 2016). In three studies additional patient education was also provided by the research team (Chaboyer *et al.*, 2016; Guihan *et al.*, 2014; Subrata *et al.*, 2020).

## 4.4. Results on primary outcome: shared decision making

Three studies quantitatively measured the effectiveness of interventions on decision making either directly using previously validated tools on the effectiveness of decisions (Dobke *et al.*, 2008 ;

McBride *et al.*, 2016) or determined the effectiveness of the decision making process from data obtained in patient reported evaluation of care collected as part of routine clinical care (Pereira, Figueiredo-Braga, Carvalho, 2016) (Table 3). An additional study asked participants to disclose which aspects of shared decision making occurred during their discharge information and questioning then undertook regression analysis to determine which factors included in their discharge interview predicted whether they felt they could manage their surgical wound at home (Tobiano *et al.*, 2023). All studies had methodological limitations with some risk of bias, however more weight was given to McBride *et al.* as it had less risk of bias. Qualitative feedback about shared decision making was omitted throughout.

Decisional conflict scale was assessed by two studies, which both set goals and needs determined with either the nurse, (Dobke *et al.*, 2008) or decision navigator (McBride *et al.*, 2016). However initial feedback of clinical review was also given by Dobke *et al.* (2008) and a decision aid was provided by McBride *et al.* (2016), meaning there were differences in the intervention, so a meta-analysis was not possible. At this time point the decisional conflict scale was significantly lower in the intervention group of both studies compared to their control group (Dobke *et al.*: 14 (/50) +/- 1.73 vs 35 (/50) +/- 4.26 and McBride *et al.*: 18.09 +/- 15.19 vs 35 (/50) +/- 4.26). However, the McBride study continued, with participants receiving a post-consultation summary and follow up 12 weeks later. At this time point decisional conflict was significantly greater in the intervention group (24.28 +/- 15.08 s 19.09 +/- 15.12) (table 3).

Other methods of collecting quantitative data related to shared decision making to compare intervention and control groups were only collected in one study, either the McBride *et al.* (2016) study or the Pereira *et al.* (2016) study (Table 3). But within these studies interventions to support shared decision making led to participants being significantly more likely to be satisfied with their decisions (Dobke *et al.*, 2008) and significantly more satisfied with the quality of information they received (Pereira, Figueiredo-Braga, Carvalho, 2016). There was also a trend towards more confidence in decisions with a shared decision making intervention, this was not statistically significant but could be clinically relevant (McBride *et al.*, 2016). Tobiano *et al.*, (2023) also found participants who were more confident in managing their wounds at home were more likely to have discussed pain management options for wound-related pain and felt invited to share in the wound care related decision making during their discharge education.

However, the majority of studies did not measure or evaluate the effectiveness of interventions on shared decision making directly.

### **INSERT TABLE 3: PRIMARY OUTCOMES**

#### **4.5. Results on secondary outcomes**

##### **4.5.1. Wound healing and skin condition**

The implementation of interventions that support shared decision making had a positive impact on wound healing outcomes in some studies with a significant reduction in ulcer size (Subrata *et al.*, 2020) and surgical recovery (Pereira, Figueiredo-Braga, Carvalho, 2016) reported (Table 4). However,

another study, which had better methodology quality, reported this was not significant and lacked sufficient data to determine any trends in healing (McBride *et al.*, 2016).

There was a trend for skin condition to deteriorate less in the intervention group, compared to the control (Chaboyer *et al.*, 2016; Guihan *et al.*, 2014) but this only reached statistical significance in one study (Chaboyer *et al.*, 2016) (Table 4). Other studies did not report wound healing or skin condition outcomes.

#### **4.5.2. Wound symptoms and patient wellbeing**

Wound symptoms and patient wellbeing were evaluated inconsistently throughout all studies, evaluating different symptoms and using different assessment tools. Pain and functional ability were reported in two studies, although different tools were used to determine these. Quality of life and anxiety were reported once (Table 4).

The management of pain was significantly better in the Pereira *et al.* study with their intervention, eliciting and exploring patients questioning with empathetic responses (Pereira, Figueiredo-Braga, Carvalho, 2016). However, pain was significantly greater in the intervention group for the Kelechi *et al.* (2014) study, where motivational enhancement was used.

Activity levels were significantly better in the shared decision making intervention group at 24 hours post-operatively (Pereira, Figueiredo-Braga, Carvalho, 2016). There was a smaller decline in activity levels among those with chronic leg and foot ulcers at eight-week follow-up when shared decision making interventions were used (Kelechi *et al.*, 2014).

Findings also indicate there were significant reductions in post-operative patient anxiety in the intervention group (Pereira, Figueiredo-Braga, Carvalho, 2016), which can impact patient wellbeing.

### **INSERT TABLE 4: SECONDARY OUTCOMES**

#### **4.5.3. Patient behaviours**

There was a trend that health behaviours by patients may improve during shared decision making interventions to improve the care of their skin (Guihan *et al.*, 2014) and improve self-efficacy to exercise (Kelechi *et al.*, 2014). However, none of these reached statistical significance.

#### **4.5.4. User acceptance**

Where reported, the shared decision-making interventions were positively received. These interventions were rated as helpful and participants would opt to use these again (McBride *et al.*, 2016). There was a greater satisfaction in the quality of information received (Pereira, Figueiredo-Braga, Carvalho, 2016) indicating user acceptance of shared decision making interventions. Informal perceptions of researchers also indicated these interventions were well received by patients (Dobke *et al.*, 2008). However, one study reported that 81% of participants only attended four of the eight

motivational interview sessions offered (Guihan *et al.*, 2014) which may indicate poor engagement and acceptance of some styles of interventions.

### **3.5.5 Organisational aspects of care**

One study asked participants their preferences on how they would like knowledge to be exchanged. This indicated verbal instructions, questions and answers, and printed material were desirable methods of delivery, and most participants also would like this from a doctor or a nurse (Tobiano *et al.*, 2023). Other studies did not specifically consider organisational aspects of care relevant to interventions evaluated. However, in a small number of studies patient education was provided as part of the intervention (Chaboyer *et al.*, 2016; Guihan *et al.*, 2014; Subrata *et al.*, 2020). Interventions that included additional patient education tended to have better skin conditions in the intervention group although this only reached statistical significance in two studies (Chaboyer *et al.*, 2016; Subrata *et al.*, 2020) and were combined with different primary intervention to support the transfer and exchange of knowledge between clinician and patient.

### **4.6. Reporting Bias**

Only one study was prospectively registered on clinical trials database (Subrata *et al.*, 2020). Data presented generally related to methods. However, McBride *et al.*, (2016) omitted data relating to wound healing as this was not statistically significant.

### **4.7. Certainty of evidence**

The majority of interventions focused on the transfer and exchange of knowledge between clinicians and patients. There are no data relating to interventions focusing on recognition when decisions need to be made, expression of values/preferences, or what specific decisions are made.

Our confidence in the effects of these interventions is limited by the variety of interventions evaluated and the variation in outcome measures used, which limits the ability to pool results. Inadequate reporting of methodology or small sample sizes also limits the confidence in the results in several studies (table 5).

## **INSERT TABLE 5: GRADE REPORTING AND CERTAINTY OF EVIDENCE**

## **5. Discussion.**

Findings from this review suggest interventions that include a goal or need setting component with either a nurse (Dobke *et al.*, 2008) or decision navigator (McBride *et al.*, 2016) ahead of clinical consultations should assist the transfer and exchange of knowledge between patient and clinician, and lower short term decisional conflict. This finding is similar to other studies in non-wound care populations that identified goal setting decision aids reduced decisional conflicts (Yu *et al.*, 2020). However, findings evaluating a wide range of shared decision making interventions on decisional conflict compared to usual care indicated there was little or no difference between control and

intervention groups (Légaré *et al.*, 2018). This could indicate the process of goal setting may be instrumental in reducing short term decisional conflict. However, there is no existing consensus on how goals or needs of the patient should be determined and communicated. One suggested option is to obtain and discuss patient reported outcome measures. These enable patients to articulate their needs and symptoms (Campbell *et al.*, 2022) and are shown to improve patient-clinician communication (Gibbons *et al.*, 2021). However, none of the articles in this review considered patient reported outcome measures as a tool for assisting with goal or need setting, and instead used a subjective, semi-structured discussion. This relies on personal attributes of the clinician to determine patient needs and goals. This reduced the transferability of the need and goal setting interventions in these studies to other groups. However, personal attributes are important to clinical care, as setting goal or need priorities with patients is likely to co-exist with empathic communication, a recognised facilitator to shared decision making and knowledge exchange (Pel-Littel *et al.*, 2021).

The low certainty of our findings highlights the need to evaluate the impact of goal setting interventions specifically on shared decision making in wound-care ahead of clinical consultations. This should include exploring occasions that are characterised by frequent healthcare interactions, such as nurse led dressing changes, as this has not been considered in existing research.

The importance of goal or need setting is supported by previous suggestions that assessing wound symptoms is considered useful to determine treatment priorities for patients and enables patients to express the impact of their wound and talk about any issues or symptoms that need to be considered within their care plan (World Union of Wound Healing Societies, (WUWHS), 2019; Coleman *et al.*, 2017). It also ensures treatment goals are aligned with the clinician, which may have a positive impact on empowerment and shared decision making, and subsequently improve satisfaction and adherence to suggested care plans (Atkin *et al.*, 2019). Therefore, further supporting the need to specifically focus on this intervention to support shared decision making.

However, having highlighted the promising impact a goal or need setting intervention should have on a reduction in decisional conflict, this was not maintained and increased by 12 weeks (McBride *et al.*, 2016). It is suggested this may be related to a shift in locus of control to a position where patients feel they now have a choice, which subsequently causes a conflict in their decision choices (McBride *et al.*, 2016). However, the need to determine patient readiness to engage in a shared decision making (Gethin *et al.*, 2020) and clinician or organisational resistance to patient involvement in treatment choices (Bravo *et al.*, 2022) should also be considered.

The facilitation of transferring and exchanging knowledge between the clinician and patient were the focus of interventions in this review with a dearth of evidence on facilitating the patient's expression of values/preferences and deliberation of decisions in wound care recognised. This may be, in part, because considering patients values and preferences, and deliberating healthcare decisions, are omitted from clinical guidelines for dressing selection (Moore *et al.*, 2019), and patient perspectives are frequently omitted from wound care guideline development (Franks *et al.*, 2016). This infrequent integration and inclusion of patients' values and preferences in clinical

guidelines is a widespread concern across all healthcare services and not specific to wound care (Tringale *et al.*, 2022). However, it is something that is managed on an individual level with clinicians advocating for and empowering patients to express their preferences and be involved within the shared decision making process (Tringale *et al.*, 2022; Pel-Littel *et al.*, 2021). Within wound care specifically, there has been a renewed focus on shared decision making within the constructs of person-centred care (Gethin *et al.*, 2020). Decision support tools are also recommended within international pressure ulcer guidelines (European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance, 2019). However the first study specifically on this topic was published after January 2023 (Hsu *et al.*, 2023). There therefore remains a lack of precise recommendations on how these should be designed and integrated in practice.

Unfortunately, this review is unable to recommend an approach due to lack of existing evidence and a lack of clinically applicable tools. However, previous research in other client groups supports using decision aids and considers these useful to ensure patients feel better informed and have considered how their values relate to the decisions about their healthcare (Stacey *et al.*, 2017). This is supported by data obtained from ten people with a pressure ulcer who piloted decision aids (Hsu *et al.*, 2023). Further research is required in wound-care to determine the presentation and design of tools and co-existing behaviours needed to support patients expressing their values and supporting them to deliberate their decisions.

Generally, findings within this study had very low certainty due to the inconsistencies in outcomes reported and how these were measured, and the variation and complexity of single and multiple interventions used. The complex nature of the constructs of shared decision making and their associated interventions, mean it is often challenging to interpret evidence on impact and effectiveness (Bravo *et al.*, 2022). However, it is argued the binary question of effectiveness is insufficient to answer questions relevant to policy makers and therefore acceptability, implementability and cost-effectiveness should also be considered (Skivington *et al.*, 2021). Studies within this review indicate shared decision making interventions are acceptable to patients (McBride *et al.*, 2016; Dobke *et al.*, 2008) and these discussions had a positive impact on participants feeling more confident in managing their wounds (Tobiano *et al.*, 2023). Thus, supporting the use of shared decision making interventions in practice even though design considerations of these interventions and strong evidence to support their effectiveness need developing.

Articles within this review included several components within their intervention related to one or more domains of shared decision making and targeted a range of behaviours that required changing to transform practice from a healthcare provider led approach to sharing clinical decisions. These would therefore be considered a complex intervention (Skivington *et al.*, 2021). However, current approaches used in the studies found in this review neglect to consider this complexity in their design and evaluation, omitting key considerations recommended by Skivington *et al.*, (2021) for the development of complex interventions. These include the involvement of stakeholders, and the utilisation and refinement of programme theory to underpin interventions developed (Skivington *et al.*, 2021). Study design may also need to be considered to translate the programme theory



developed into distinct groups of interventions to determine the effectiveness of each theoretical component rather than grouping interventions of the target of interventions (patients, healthcare professionals or both) as has been done previously (Légaré *et al.*, 2018).

The inconsistent approach to measuring shared decision making and wound care outcomes as well as how shared decision making was defined and conceptualized within the studies also made interpreting results in this review challenging. Current research is being undertaken to develop core outcome sets for wound care research, but these are wound or intervention specific (<https://www.comet-initiative.org/>) therefore insufficient to combine findings in interventions that are understudied necessitating the need to include a variety of wound types. There may therefore be some benefit to determining core, key outcomes that are assessed for all people living with a wound regardless of underlying aetiology.

### **Limitations**

This review excluded quality improvement work, which does not use a research methodology. However, some of this work may have been useful to determine the effectiveness of interventions that have previously been evaluated outside of wound care and implemented in clinical areas involved in wound care. The search terminology may also have limited evidence obtained for this review. Behavioural outcomes were not included in the search terms but were important findings within the obtained studies.

Reporting errors were also found for example interventions were very ambiguous in one paper (Tobiano *et al.*, 2023) and other papers did not provide sufficient detail for replication, and there was also a lack of methodology reported by Tobiano *et al.* (2023).

### **6. Conclusion**

The findings of this review give insufficient evidence to support the integration of specific interventions into clinical practice when caring for a patient with a wound. However, the review does highlight several areas that require further consideration and research to inform shared decision making interventions in clinical care. These include how goal or need setting interventions should be undertaken and whether these are useful to support shared decision making in practice. Further consideration should also be given to how to evaluate complex multi-level interventions in research so clinical effectiveness can be determined for each individual intervention or an intervention and its supporting infrastructure (i.e., staff education), to ensure results can be combined more easily.

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Shared decision making in wound care

**Table 1: Study and participant characteristics**

Author (date), country	Study design	Target of intervention	Core elements of intervention	Study setting	Wound type	Number of participants		Age (years)		Psychological or neurological comorbidity		Education / Literature / Language information	
						Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control
Chaboyer <i>et al.</i> , (2016), Australia	RCT (cluster)	Transfer / exchange of knowledge and implementation	<ul style="list-style-type: none"> <li>• 1 to 1 patient education,</li> <li>• Elicit &amp; explore patient questions,</li> <li>• Agree on position of reminders.</li> </ul>	Hospital in-patients	PU or high risk of PU	800 (799 patients analysed)	800 (799 patients analysed)	Median 70 (IQR 20). Range: 18-100	Median 74 (IQR 22). Range: 19-104	Neurological comorbidity y = 136 (17%)	Neurological comorbidity y = 105 (13.1%)	NP	NP
Dobke <i>et al.</i> , (2008), United States	RCT	Transfer / exchange of knowledge	<ul style="list-style-type: none"> <li>• Feedback from nurse assessment &amp; surgeons impressions</li> <li>• Determining patients needs</li> </ul>	Clinic out-patients	None healing wound	15	15	53.9+/- 10.4	54.9+/- 10.8	NP	NP	NP	NP
Guihan <i>et al.</i> , (2014), United States	RCT	Transfer / exchange of knowledge	<ul style="list-style-type: none"> <li>• Group patient education</li> <li>• Motivational interviewing</li> </ul>	Veteran affairs centres	Severe (stage III or IV) pelvic PU	71	72	59.4+/- 10.1. Range: 34-83	59.0 +/- 12.8. Range: 22-85	Depression = 29 (40.8%)	Depression = 29 (40.3%)	Highest education. High-school graduate or lower 23 (32.4%)	Highest education. High-school graduate or lower 22 (30.5%)

Shared decision making in wound care

Author (date), country	Study design	Target of intervention	Core elements of intervention	Study setting	Wound type	Number of participants		Age (years)		Psychological or neurological comorbidity		Education / Literature / Language information	
						Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control
Kelechi <i>et al.</i> , (2014), <b>United States</b>	Quasi-experimental	Transfer / exchange of knowledge	<ul style="list-style-type: none"> <li>Motivational enhancement</li> </ul>	Wound care centre	Leg or foot Ulcer for 3m+	12	9	NP	NP	NP	NP	NP	NP
McBride <i>et al.</i> , (2016), <b>United Kingdom</b>	RCT	Transfer / exchange of knowledge <u>and</u> Deliberation	<ul style="list-style-type: none"> <li>Treatment decision aid</li> <li>Determining patients needs</li> <li>Receiving post consultation summary</li> </ul>	Clinic out-patients	DFUs	30	26	62.5 +/- 14.98	59.5 +/- 9.9	NP	NP	Highest education Before 15 (20%) Secondary (33.3%)	Highest education Before 15 (11.5%), Secondary (26.9%)
Pereira, Figueiredo-Braga & Carvalho, (2016), <b>Portugal</b>	RCT	Transfer / exchange of knowledge	<ul style="list-style-type: none"> <li>Elicit &amp; explore patient questions,</li> <li>Empathetic responding</li> </ul>	Surgical in-patients	Surgical	52	52	44.1 +/- 14.5	44.2 +/- 14.7	Trait anxiety 35.2 +/- 8.5 State anxiety 33.9 +/- 9.2	Trait anxiety 38.4 +/- 9.3 State anxiety 38.7 +/- 1.5	NP	NP
Subrata <i>et al.</i> , (2020), <b>Indonesia</b>	RCT	Transfer / exchange of knowledge	<ul style="list-style-type: none"> <li>Patient &amp; family education</li> <li>Motivational interviewing</li> </ul>	Not clear - care delivered at home	DFU or high risk of DFU	27	29	51 +/- 5.1	51.2 +/- 5.41	NP	NP	NP	NP



Shared decision making in wound care

Author (date), country	Study design	Target of intervention	Core elements of intervention	Study setting	Wound type	Number of participants		Age (years)		Psychological or neurological comorbidity		Education / Literature / Language information	
						Intervention	Control	Intervention	Control	Intervention	Control	Intervention	Control
Tobiano <i>et al.</i> , (2023), Australia	Other: Telephone survey (analytical cross sectional study)	Transfer / exchange of knowledge <u>and</u> Deliberation	<ul style="list-style-type: none"> <li>Surgical wound care discharge education and information</li> <li>Elicit &amp; explore patient questions,</li> </ul>	In-patients. Followed up on discharge	Surgical	n=270 completed survey (145 in hospital 1. 125 in hospital 2)	N/A	55.1+/- 17.9 years	N/A	NP	N/A	Highest education. Primary 6 (2.2%), Secondary 154 (57%)	N/A

RCT = randomised control trial, DFU = diabetic foot ulcer, PU = pressure ulcer, N/A = Not applicable, NP = Not present

**Table 2: Quality appraisals using JBI critical appraisal checklists.**

Study design: Randomised-Control Trials													
	Was true randomization used for assignment of participants to treatment groups?	Was allocation to treatment groups concealed?	Were treatment groups similar at the baseline?	Were participants blind to treatment assignment?	Were those delivering the treatment blind to treatment assignment?	Were treatment groups treated identically other than the intervention of interest?	Were outcome assessors blind to treatment assignment?	Were outcomes measured in the same way for treatment groups?	Were outcomes measured in a reliable way?	Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analysed?	Were participants analysed in the groups to which they were randomized?	Was appropriate statistical analysis used?	Was the trial design appropriate and any deviations from the standard RCT design (individual randomization, parallel groups) accounted for in the conduct and analysis of the trial?
Chaboyer <i>et al.</i> , 2016	Y	Y	?	N	N	Y	Y	Y	Y	Y	Y	Y	Y
Dobke <i>et al.</i> , 2008	?	?	Y	N	?	?	N	Y	N	Y	Y	N	N
Guihan <i>et al.</i> , 2014	N	?	Y	N	N	?	Y	Y	?	Y	Y	Y	Y
McBride <i>et al.</i> , 2016	Y	Y	Y	N	N	Y	?	Y	?	Y	Y	Y	Y
Pereira <i>et al.</i> , 2016	?	?	Y	N	N	?	?	Y	?	Y	Y	Y	Y
Subrata <i>et al.</i> 2020	Y	?	Y	N	N	?	?	Y	?	Y	N	Y	Y

**Study design: Quasi-experimental studies**

	Is it clear in the study what is the cause and what is the effect (i.e. there is no confusion about which variable comes first)?	Were the participants included in any comparisons similar?	Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	Was there a control group?	Were there multiple measurements of the outcome both pre and post the intervention/exposure?	Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analyzed?	Were the outcomes of participants included in any comparisons measured in the same way?	Were outcomes measured in a reliable way?	Was appropriate statistical analysis used?
Kelechi <i>et al.</i> , 2014	Y	N	?	Y	Y	Y	Y	?	N

**Study design: cross sectional studies**

	Were the criteria for inclusion in the sample clearly defined?	Were the study subjects and the setting described in detail?	Was the exposure measured in a valid and reliable way?	Were objective, standard criteria used for measurement of the condition?	Were confounding factors identified?	Were strategies to deal with confounding factors stated?	Were the outcomes measured in a valid and reliable way? ?	Was appropriate statistical analysis used?
Tobiano <i>et al.</i> , 2023	Y	Y	?	Y	N/A	N/A	?	Y

Y = Yes, N = No, ? = unclear, N/A = not applicable

Shared decision making in wound care

**Table 3: Primary Outcomes**

Author (date), country	Decisional conflict scale (O’Conner et al) (Lower value is less conflict)			Decisional regret (O’Conner et al) (Higher scores more regret)			Decision Self Efficacy (O’Conner et al) (Higher scores more confident)			Satisfaction with decision scale (Holmes-Rovner et al) (1- strongly satisfied)			Satisfaction with quality of information (higher scores more satisfied 0-4 scale)			
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	
Dobke <i>et al.</i> , (2008), United States	14 (/50) +/- 1.73	35 (/50) +/- 4.26	<0. 001	NA	NA		NA	NA		1.13 (/5) +/-0.52	2.53 (/5) +/-0 1.64	0.004	93% rated “strongly satisfied”	47% rated “strong ly satisfie d”	NA	NA

Shared decision making in wound care

Author (date), country	Decisional conflict scale (O'Conner et al) (Lower value is less conflict)			Decisional regret (O'Conner et al) (Higher scores more regret)			Decision Self Efficacy (O'Conner et al) (Higher scores more confident)			Satisfaction with decision scale (Holmes-Rovner et al) (1- strongly satisfied)			Satisfaction with quality of information (higher scores more satisfied 0-4 scale)		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
McBride <i>et al.</i> , (2016), United Kingdom							Baseline								
							83.94 +/- 17								
	At appointment (after goal setting & decision aid)	At appointment		At 12 weeks	At 12 weeks		At appointment (after goal setting & decision aid)	Baseline							
	18.09 +/- 15.19	22.21 +/- 17.27	Group x time = 0.048	40.4 +/- 10.3	38.4 +/- 17	Group x time = NS	87.05 +/- 13.86	83.28 +/- 18.9					NA	NA	
	At 12 weeks	At 12 weeks		(by ITT)	(by ITT)		80.24 +/- 20.18	At appointment					NA	NA	
	24.28 +/- 15.08	19.09 +/- 15.12					At 12 weeks	At 12 weeks							
	(by ITT)					91.67 +/- 13.52	86.01 +/- 15.85								
	(by ITT)														

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Author (date), country	Decisional conflict scale (O'Conner et al) (Lower value is less conflict)			Decisional regret (O'Conner et al) (Higher scores more regret)			Decision Self Efficacy (O'Conner et al) (Higher scores more confident)			Satisfaction with decision scale (Holmes-Rovner et al) (1- strongly satisfied)			Satisfaction with quality of information (higher scores more satisfied 0-4 scale)		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
Pereira, Figueiredo-Braga & Carvalho, (2016), Portugal	NA	NA		NA	NA		NA	NA		NA	NA		2.7+/-0.5	2.4+/-0.6	0.009

NA = not applicable, NS = not significant

**Table 4: Secondary Outcomes**

Author (date), country	Wound healing			Skin condition			Quality of life & Wellbeing			Pain			Functional mobility			Patient behaviours		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
Chaboyer <i>et al.</i> , (2016), Australia	NA	NA		49 (6.1%) developed a HAPU	84 (10.5%) developed a HAPU	<0.001	NA	NA		NA	NA		NA	NA		NA	NA	

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Author (date), country	Wound healing			Skin condition			Quality of life & Wellbeing			Pain			Functional mobility			Patient behaviours		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
Guihan <i>et al.</i> , (2014), United States	NA	NA		Skin worsened	skin worsened	NS	NA	NA		NA	NA		NA	NA		Skin Behaviour improved (0-3m) = 9.7 +/- 19.3	Skin Behaviour improved (0-3m) = 5.4 +/- 22.9	NS
				in 35 (49.3%)	in 39 (54.2%)													

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Author (date), country	Wound healing			Skin condition			Quality of life & Wellbeing			Pain			Functional mobility			Patient behaviours		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
Kelechi <i>et al.</i> , (2014), United States	NA	NA		NA	NA		NA	NA		Reduced by	Reduced by	0.046	At 8 weeks:	At 8 weeks:	NS	Increased self-efficacy in exercise behaviours=	Increased Self-efficacy in exercise behaviours=	NS
										0.5+/-2	2.4+/- 2		13.9 +/-	17.3 +/-		1.2+/- 3.6	0.6+/-6	
													Timed Chair Standing Test reduced by	Timed Chair Standing Test reduced by	NS	Motivation in exercise behaviours reduced=	Motivation in exercise behaviours reduced=	NS
													5.7 +/- 18.9	9.1 +/- 19.4		3.8+/- 3.1	4.4+/- 2.9	



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Author (date), country	Wound healing			Skin condition			Quality of life & Wellbeing			Pain			Functional mobility			Patient behaviours		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
McBride <i>et al.</i> , (2016), United Kingdom	not present ed	not present ed	NS	NA	NA		HR-QoL (EQ-5D) = 69.17 +/- 20.05 (at 12 weeks by ITT)	HR-QoL (EQ-5D) = 63.65 +/- 22.78 (at 12 weeks by ITT)	NS	NA	NA		NA	NA		NA	NA	

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Author (date), country	Wound healing			Skin condition			Quality of life & Wellbeing			Pain			Functional mobility			Patient behaviours		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
Pereira, Figueiredo-Braga & Carvalho, (2016), Portugal	30 day exudate 0.1+/- 0.3	30 day exudate 0.3+/- 0.6	NS				Anxiety reduced between baseline & after intervention by 2.3+/- 0.2, and reduced further by 30 days +/-0.1	Anxiety reduced between baseline & after intervention by 0.2+/- 0.3, and reduced further by 30 days +/-0.2		24 hours 0.3 +/- 0.5	24 hours 0.7 +/- 0.6	<0.001						
	30 day tissue type 0.1+/- 0.3 (0-4 scale from PUSH, lower scores better)	30 day tissue type 0.4+/- 0.7 **	<0.001	NA	NA				<0.001	30 day 0.1 +/- 0.3 ** (0-4 scale from PUSH)	30 day 0.4 +/- 0.5	<0.001	24 hour activity level 3.1 +/- 0.7	24 hour activity level 2.5 +/- 0.9	<0.001	NA	NA	

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Author (date), country	Wound healing			Skin condition			Quality of life & Wellbeing			Pain			Functional mobility			Patient behaviours		
	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p	Intervention	Control	p
Subrata <i>et al.</i> , (2020), Indonesia	Healed more data not present	Healed not present	<0.001	NA	NA		NA	NA		NA	NA		NA	NA		NA	NA	

NA = not applicable, NS = not significant

**Table 5: GRADE reporting and certainty of evidence**

	Certainty of evidence
interventions that assist the transfer and exchange of knowledge containing a goal or needs setting component ahead of clinical consultations, lower short term decisional conflict in chronic wound care	low certainty
interventions to support shared decision making probably made no difference to health-related quality of life, functional ability, self-efficacy and health behaviours	low certainty
multi-modal interventions to support shared decision making result in more confidence and satisfaction in decisions	very low certainty
that interventions exploring patient questions and responding empathetically increase satisfaction with quality of information received.	very low certainty
interventions exploring patient questions and responding empathetically reduce anxiety.	very low certainty
interventions exploring patient questions and responding empathetically improved in wound healing and a reduction in tissue deterioration	very low certainty
interventions including motivational enhancement result in patients with chronic wounds reporting more pain.	very low certainty

**Supplementary Material 1 : Detailed search strategy**

<p>BNI</p>	<p>(SUBJECT.EXACT("Burns") OR SUBJECT.EXACT("Skin integrity") OR SUBJECT.EXACT("Pressure ulcers") OR SUBJECT.EXACT("Leg ulcers") OR (Acute wound) OR (Surgical wound) OR (Burn) OR (Penetrating injury) OR (Penetrating wound) OR (Chronic wound) OR (Leg ulcer) OR (Diabetic foot ulcer) OR (Pressure ulcer) OR (Non-healing wound) OR (Hard to heal wound) OR (Hard-to-heal wound) OR (Palliative wound) OR (Fungating wound) OR (Incontinence associated dermatitis) OR (Non-penetrating injury) OR (Non-penetrating wound) OR (Tissue damage) OR (Tissue viability) OR (Deep tissue injury)) AND ((SUBJECT.EXACT("Health literacy") OR SUBJECT.EXACT("Behavior modification") OR SUBJECT.EXACT("Nurse patient relationships") OR SUBJECT.EXACT("Physician patient relationships") OR (patient decision aids) OR (patient reported outcome measures) OR (discrete choice) OR (patient education) OR (health literacy) OR (clinician-patient relations) OR (nurse-patient relations) OR (doctor-patient relations) OR (Therapeutic relationship) OR (clinician-patient communication) OR (nurse-patient communication) OR (doctor-patient communication) OR (reflective questioning) OR (communication aid) OR (motivational interviewing) OR (bedside round) OR (health coaching) OR (decision coaching) OR (personalised care support planning) OR (communication skills training) OR (patient centred training) OR (patient centered training) OR (motivational interview training ) OR (decision support techniques)) AND (SUBJECT.EXACT("Patient-centered care") OR (patient empowerment) OR (patient motivation) OR (patient partnership ) OR (shared decision making) OR (patient decision making) OR (patient centredness) OR (patient centeredness) OR (patient centred care) OR (patient centered care) OR (patient participation) OR (patient concordance) OR (patient preference))</p>
<p>CINAHL</p>	<p>("Acute wound" OR (MH "Burns") OR (MH "Wounds, Nonpenetrating") OR (MH "Wounds, Penetrating") OR (MH "Surgical Wound") OR "Surgical wound" OR "Burn" OR "Penetrating injur*" OR "Penetrating wound*" OR (MH "Wounds, Chronic") OR "Chronic wound" OR (MH "Leg Ulcer") OR "Leg ulcer" OR (MH "Heel Ulcer") OR (MH "Venous Ulcer") OR (MH "Foot Ulcer") OR (MH "Diabetic Foot") OR "Diabetic foot ulcer" OR (MH "Pressure Ulcer") OR "Pressure ulcer" OR "Non-healing wound" OR "Hard to heal wound" OR "Hard-to-heal wound" OR (MH "Fungating Wounds") OR "Palliative wound" OR "Fungating wound" OR (MH "Dermatitis, Perineal") OR "Incontinence associated dermatitis" OR "Non?penetrating wound*" OR "Tissue damage" OR (MH "Tissue Viability") OR "Tissue viability" OR (MH "Deep Tissue Injury") OR "Deep tissue injury") AND ((MH "Decision Support Techniques") OR "Decision support techniques" OR "Patient decision aids" OR (MH "Patient-Reported Outcomes") OR "Patient reported outcome measures" OR "Discrete choice" OR (MH "Patient Education") OR "Patient education" OR (MH "Patient Education (Iowa NIC)") OR (MH "Health Literacy") OR "Health literacy" OR (MH "Professional-Patient Relations") OR (MH "Physician-Patient Relations") OR (MH "Nurse-Patient Relations") OR "Clinician?patient relations*" OR "Therapeutic relations*" OR "Clinician?patient communication" OR "physician-patient communication" OR "nurse-patient communication" OR "Reflective questioning" OR "Communication Aid" OR (MH "Motivational Interviewing") OR "Motivational interviewing" OR (MH "Patient Rounds") OR "Bedside round*" OR "Health coaching" OR "Decision coaching" OR (MH "Decision-Making Support (Iowa NIC)") OR "Personalised care support planning" OR (MH "Communication Skills Training") OR "Communication skills training" OR "Patient centred training" OR "Motivational interview training") AND ("patient empowerment" OR "patient motivation" OR "patient</p>

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	partnership" OR (MH "Decision Making, Shared") OR "shared decision making" OR (MH "Decision Making, Patient") OR "patient decision making" OR "patient cent#redness" OR (MH "Patient Centered Care") OR "Patient cent#red care" OR "Patient participation" OR (MH "Consumer Participation") OR "Patient concordance" OR (MH "Patient Preference") OR "Patient preference")
Clinicaltrials.gov	Other terms: ("patient empowerment") OR ("patient motivation") OR ("patient partnership") OR ("shared decision making") OR ("shared decision-making") OR ("patient decision making") OR ("patient centred care") OR ("patient centredness") Conditions or disease: (acute wound) OR (burn) OR (surgical wound) OR (chronic wound) OR (leg ulcer) OR (diabetic foot ulcer) OR (pressure ulcer) OR (non-healing wound) OR (hard to heal wound) OR (hard-to-heal wound) OR (palliative wound) OR (fungating wound)  <i>(Note: how they list interventions is different than how we have, need to be reviewed manually).</i>
Cochrane Trials	(Acute wound OR Surgical wound OR Burn OR Penetrating wound OR Chronic wound OR Leg ulcer OR Diabetic foot ulcer OR Pressure ulcer OR Non-healing wound OR Hard to heal wound OR Hard-to-heal wound OR Palliative wound OR Fungating wound OR Incontinence associated dermatitis OR Non-penetrating wound OR Tissue damage OR Tissue viability OR Deep tissue injury OR MeSH descriptor: [Surgical Wound] OR MeSH descriptor: [Burns] OR MeSH descriptor: [Wounds, Penetrating] OR MeSH descriptor: [Leg Ulcer] OR MeSH descriptor: [Diabetic Foot] OR MeSH descriptor: [Pressure Ulcer] OR MeSH descriptor: [Tissue Survival] OR MeSH descriptor: [Wounds, Nonpenetrating]) AND (Patient decision aids OR Patient reported outcome measures OR Discrete choice OR Patient education OR Health literacy OR clinician-patient relations OR nurse-patient relations OR doctor-patient relations OR Therapeutic relationship OR clinician-patient communication OR nurse-patient communication OR doctor-patient communication OR Reflective questioning OR Communication Aid OR Motivational interviewing OR Bedside round OR Health coaching OR Decision coaching OR Personalised care support planning OR Communication skills training OR Patient centred training OR Patient centered training OR Motivational interview training OR Decision support techniques OR MeSH descriptor: [Patient Reported Outcome Measures] OR MeSH descriptor: [Patient Education as Topic] OR MeSH descriptor: [Health Literacy] OR MeSH descriptor: [Professional-Patient Relations] OR MeSH descriptor: [Motivational Interviewing] OR MeSH descriptor: [Decision Support Techniques]) AND (patient empowerment OR patient motivation OR patient partnership OR shared decision making OR MeSH descriptor: [Decision Making, Shared] OR patient decision making OR MeSH descriptor: [Patient Participation] OR patient centredness OR patient centeredness OR Patient centred care OR Patient centered care OR Patient participation OR Patient concordance OR Patient preference OR MeSH descriptor: [Patient-Centered Care])
Embase	(Acute wound.mp. or exp wound/ or Surgical wound.mp. or exp surgical wound/ or exp burn/ or Burn.mp. or Penetrating injur*.mp. or exp penetrating trauma/ or Penetrating wound*.mp. or Chronic wound.mp. or exp chronic wound/ or Leg ulcer.mp. or exp leg ulcer/ or Diabetic foot ulcer.mp. or exp diabetic foot/ or Pressure ulcer.mp. or exp decubitus/ or Non-healing wound.mp. or Hard to heal wound.mp. or Hard-to-heal wound.mp. or Palliative wound.mp. or Fungating wound.mp. or Incontinence associated dermatitis.mp. or Non?penetrating injur*.mp. or Non?penetrating wound*.mp. or Tissue damage.mp. or Tissue viability.mp. or Deep tissue injury.mp.) AND (exp decision support system/ or Patient decision aids.mp. or Patient reported outcome measures.mp. or exp patient-reported outcome/ or Discrete choice.mp. or Patient

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	<p>education.mp. or exp patient education/ or exp patient education/ or Health literacy.mp. or exp health literacy/ or Clinician?patient relations*.mp. or nurse-patient relations.mp. or exp nurse patient relationship/ or doctor-patient relations.mp. or exp doctor patient relationship/ or exp nurse patient relationship/ or Therapeutic relationship.mp. or exp doctor patient relation/ or Clinician-patient communication.mp. or nurse-patient communication.mp. or exp doctor patient relationship/ or doctor-patient communication.mp. or exp doctor patient relation/ or Reflective questioning.mp. or Communication aid.mp. or exp communication aid/ or Motivational interviewing.mp. or exp motivational interviewing/ or Bedside round.mp. or Health coaching.mp. or Decision coaching.mp. or exp decision support system/ or Personalised care support planning.mp. or Communication skills training.mp. or Patient centred training.mp. or Patient centered training.mp. or exp motivational interviewing/ or Motivational interview training.mp. or Decision support techniques.mp. or exp decision support system/) AND (patient empowerment.mp. or exp patient empowerment/ or patient motivation.mp. or patient partnership.mp. or shared decision making.mp. or exp shared decision making/ or patient decision making.mp. or exp patient decision making/ or patient cent#redness.mp. or Patient cent#red care.mp. or Patient participation.mp. or exp patient participation/ or Patient concordance.mp. or Patient preference.mp. or exp patient preference/)</p>
ISRCTN	<p>("patient empowerment") OR ("patient motivation") OR ("patient partnership") OR ("shared decision making") OR ("shared decision-making") OR ("patient decision making") OR ("patient decision-making") OR ("patient centredness") OR ("patient centeredness") OR ("patient centred care") OR ("patient centered care") OR ("patient participation") OR ("patient concordance") OR ("patient preference") within Condition: (acute wound) OR (burn) OR (surgical wound) OR (chronic wound) OR (leg ulcer) OR (diabetic foot ulcer) OR (pressure ulcer) OR (non-healing wound) OR (hard to heal wound) OR (hard-to-heal wound) OR (palliative wound) OR (fungating wound) OR (incontinence associated dermatitis) OR (tissue damage) OR (tissue viability) OR (deep tissue injury)</p> <p><i>(Note: if I add in the interventions it makes the search string too long and the search cannot take place. Will need to be reviewed manually).</i></p>
MedLine	<p>("Acute wound" OR (MH "Wounds, Penetrating") OR (MH "Wounds, Nonpenetrating") OR (MH "Burns") OR (MH "Surgical Wound") OR "Surgical wound" OR "Burn" OR "Penetrating injur*" OR "Penetrating wound*" OR "Chronic wound" OR (MH "Leg Ulcer") OR "Leg ulcer" OR (MH "Varicose Ulcer") OR (MH "Pressure Ulcer") OR "Pressure ulcer" OR (MH "Foot Ulcer") OR (MH "Diabetic Foot") OR "Diabetic foot ulcer" OR "Non-healing wound" OR "Hard to heal wound" OR "Palliative wound" OR "Fungating wound" OR "Incontinence associated dermatitis" OR "Non?penetrating injur*" OR "Tissue damage" OR "Tissue viability" OR "Deep tissue injury") AND ((MH "Decision Support Techniques") OR "Decision support techniques" OR "Patient decision aids" OR (MH "Patient Reported Outcome Measures") OR "Patient reported outcome measures" OR (MH "Patient Outcome Assessment") OR "Discrete choice" OR (MH "Patient Education as Topic") OR "Patient education" OR (MH "Health Literacy") OR "Health literacy" OR "Clinician?patient relations*" OR (MH "Physician-Patient Relations") OR (MH "Nurse-Patient Relations") OR (MH "Professional-Patient Relations") OR "Therapeutic relationship" OR "Clinician?patient communication" OR "nurse-patient communication" OR "physician-patient communication" OR "Reflective questioning" OR "Communication aid" OR (MH "Motivational Interviewing") OR "Motivational</p>

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	interviewing" OR "Bedside round*" OR "Health coaching" OR "Decision coaching" OR "Personalised care support planning" OR "Communication skills training" OR "Patient centred training" OR "Patient centered training" OR "Motivational interview training") AND ((MH "Patient Participation") OR "Patient participation" OR (MH "Empowerment") OR "patient empowerment" OR "patient motivation" OR "patient partnership" OR (MH "Decision Making, Shared") OR "shared decision making" OR "patient decision making" OR "patient cent#redness" OR (MH "Patient-Centered Care") OR "Patient cent#red care" OR "Patient concordance" OR (MH "Patient Preference") OR "Patient preference")
Scopus	( TITLE-ABS-KEY ( ( patient AND decision AND aid ) OR ( "patient reported outcome measures" ) OR ( "discrete choice" ) OR ( "patient education" ) OR ( "health literacy" ) OR ( clinician-patient AND relations ) OR ( doctor-patient AND relations ) OR ( nurse-patient AND relations ) OR ( therapeutic AND relationship ) OR ( clinician-patient AND communication ) OR ( doctor-patient AND communication ) OR ( nurse-patient AND communication ) OR ( "reflective questioning" ) OR ( "communication aid" ) OR ( "motivational interviewing" ) OR ( "bedside round" ) OR ( "health coaching" ) OR ( "decision coaching" ) OR ( "personalised care support planning" ) OR ( "communication skills training" ) OR ( "patient centred training" ) OR ( "patient centered training" ) OR ( "motivational interview training" ) OR ( "decision support" ) OR ( "decision support techniques" ) ) ) AND ( TITLE-ABS-KEY ( ( "acute wound" ) OR ( burn ) OR ( "surgical wound" ) OR ( "chronic wound" ) OR ( "leg ulcer" ) OR ( diabetic AND foot AND ulcer ) OR ( "pressure ulcer" ) OR ( "non-healing wound" ) OR ( "hard to heal wound" ) OR ( "hard-to-heal wound" ) OR ( "palliative wound" ) OR ( "fungating wound" ) OR ( incontinence AND associated AND dermatitis ) OR ( "tissue damage" ) OR ( "tissue viability" ) OR ( "deep tissue injury" ) ) ) AND ( TITLE-ABS-KEY ( ( "patient empowerment" ) OR ( "patient motivation" ) OR ( "patient partnership" ) OR ( "shared decision making" ) OR ( "shared decision-making" ) OR ( "patient decision making" ) OR ( "patient decision-making" ) OR ( "patient centredness" ) OR ( "patient centeredness" ) OR ( "patient centred care" ) OR ( "patient centered care" ) OR ( "patient participation" ) OR ( "patient concordance" ) OR ( "patient preference" ) ) ) )
WorldCat	kw: (("acute wound") OR (burn) OR ("surgical wound") OR ("chronic wound") OR ("leg ulcer") OR (diabetic foot ulcer) OR ("pressure ulcer") OR ("non-healing wound") OR ("hard to heal wound") OR ("hard-to-heal wound") OR (palliative wound) OR ("fungating wound") OR (incontinence associated dermatitis) OR ("tissue damage") OR ("tissue viability") OR ("deep tissue injury")) AND kw: (("patient empowerment") OR ("patient motivation") OR ("patient partnership") OR ("shared decision making") OR ("shared decision-making") OR ("patient decision making") OR ("patient decision-making") OR ("patient centredness") OR ("patient centeredness") OR ("patient centred care") OR ("patient centered care") OR ("patient participation") OR ("patient concordance") OR ("patient preference")) AND kw: ((patient decision aid) OR ("patient reported outcome measures") OR ("discrete choice" ) OR ("patient education" ) OR ("health literacy") OR (clinician-patient relations) OR (doctor-patient relations) OR (nurse-patient AND relations) OR (therapeutic relationship) OR (clinician-patient communication) OR ( doctor-patient communication ) OR ( nurse-patient communication ) OR ("reflective questioning") OR ("communication aid") OR ("motivational interviewing") OR ("bedside round") OR ("health coaching") OR ( "decision coaching" ) OR ( "personalised care support planning" ) OR ( "communication skills training" ) OR ( "patient centred training" ) OR ( "patient centered training" ) OR ( "motivational interview training" ) OR ( "decision support" ) OR ( "decision support techniques" ) )



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**Supplementary Material 1 : PRISMA Checklist**

Section and Topic	Item #	Checklist item	Location where item is reported
<b>TITLE</b>			
Title	1	Identify the report as a systematic review.	Title
<b>ABSTRACT</b>			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	Done. Abstract.
<b>INTRODUCTION</b>			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	Pg3, para 1 & pg4, para 2
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	Section 1.1
<b>METHODS</b>			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	Section 2.1.1 & section 2.1.6
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	Section 2.1.2
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	Supplementary material 1
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	Section 2.1.3
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	Section 2.1.4
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	Section 2.1.4
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	Section 2.1.4
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	Sections 2.1.5
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	Section 2.1.6, & tables 3 & 4

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Section and Topic	Item #	Checklist item	Location where item is reported
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	Section 2.1.6
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	Section 2.1.6
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	Section 2.1.6
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	No meta-analysis performed. Rationale in section 2.1.6
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	Methods and interventions and outcome measured varied between studies.
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	No meta-analysis performed.
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	Section 2.1.7
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	Section 2.1.7
<b>RESULTS</b>			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	Section 3.1 & figure 1
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	Rationale for exclusion on full text given figure 1. Study protocols which may be relevant are explained section 3.1
Study	17	Cite each included study and present its characteristics.	Section 3.1 &

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Section and Topic	Item #	Checklist item	Location where item is reported
characteristics			table 1
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	Sections 3.2 & 3.6. Table 2
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	Tables 3 & 4
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	Pg9, Para 1 & pg9, para 5
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	N/A – No statistical synthesis undertaken
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	Section 3
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A – No statistical synthesis undertaken
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	Section 3.6
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	Section 3.7
<b>DISCUSSION</b>			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	Section 4
	23b	Discuss any limitations of the evidence included in the review.	Pg 14, para 5
	23c	Discuss any limitations of the review processes used.	Pg 14, para 4
	23d	Discuss implications of the results for practice, policy, and future research.	Pg12, para 2 Pg13, para 3 Pg 14, para 2 Pg 14, para 3
<b>OTHER INFORMATION</b>			
Registration and protocol	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	PROSPERO CRD42023389820

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Section and Topic	Item #	Checklist item	Location where item is reported
			Abstract & Section 2.1
	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	Abstract & Section 2.1
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	N/A – Stated pg15
Competing interests	26	Declare any competing interests of review authors.	N/A – Stated pg15
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	N/A

From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71

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