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Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care

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ABSTRACT

Objective: To develop a multidimensional framework representing patients' perspectives on comfort to guide practice and quality initiatives aimed at improving patients' experiences of care.

Design: Two-stage qualitative descriptive study design. Findings from a previously published synthesis of 62 studies (Stage one) informed data collection and analysis of semi-structured interviews (Stage two) exploring patients' perspectives of comfort in an acute care setting.

Setting: Cardiac surgical unit in New Zealand.

Participants: Culturally diverse patients in the hospital undergoing heart surgery.

Main Outcomes: A definition of comfort. The Comfort ALways Matters (CALM) framework describing factors influencing comfort.

Results: Comfort is transient and multidimensional, and, as defined by patients, incorporates more than the absence of pain. Factors influencing comfort were synthesised into 10 themes within four interrelated layers: patients' personal (often private) strategies; the unique role of family; staff actions and behaviours; and factors within the clinical environment.

Conclusions: These findings provide new insights into what comfort means to patients, the care required to promote their comfort, and the reasons for which doing so is important. We have developed a definition of comfort and the Comfort Always Matters (CALM) framework, which can be used by healthcare leaders and clinicians to guide practice and quality initiatives aimed at maximising comfort and minimising distress. A focus on comfort by individuals is crucial but leadership will be essential for driving the changes needed to reduce unwarranted variability in care that affects comfort.

ARTICLE SUMMARY

Strengths and limitations of this study

- A comprehensive conceptual framework developed from an integrative review of 62 studies (14 theoretical and 48 qualitative) focused exploration of patients' perspectives on comfort in a clinical setting.

- The definition of comfort (the state) and description of influencing factors (processes of care) were developed using qualitative methods aimed at understanding how comfort and comforting is perceived and experienced by patients.
- This is the first study that has set out to explore a cultural dimension of comfort via purposive sampling of culturally diverse patients.
- Peer debriefing, Māori and Pacific consultation, prolonged engagement, negative case analysis and triangulation promote credibility.
- The two-stage approach enabled capture of the broad influences on comfort in one unifying framework, but context specific detail is required for application.

INTRODUCTION

Championing patients' need for comfort was central to the origins of person-centred care organisations such as the Picker Institute[1] and Planetree[2]. Within the executive summary of the Institute of Medicine's landmark report "To Err is Human" is stated "it is not acceptable for patients to be harmed by the health care system that is supposed to offer healing and comfort"[3, p3]. Hippocrates' quote "To cure sometimes, to relieve often, to comfort always" is familiar to many. More recently, the 2012 NICE Patient Experience Guideline identified "comfort" as one of seven outcomes of a good patient experience[4]. Informed by the work of Gerteis and colleagues[5], promoting physical comfort is core to person-centred care frameworks[4, 6, 7]. Comfort is also regarded as holistic and multidimensional[8-12], associated with concepts that are hallmarks of a caring and humane society such as dignity, empathy, kindness and compassion[13-15]. This notion of comfort fits with evidence provided by patients and family during the Mid-Staffordshire Inquiry[16] where good - and bad - care was described in terms of comfort, discomfort, comforting, or feeling/looking uncomfortable. As such, comfort, or lack of it, is not only a defining aspect of patients' experiences but an indication of the overall quality and safety of care. A service that fails to provide high-quality care that includes the promotion of comfort, or recognise avoidable suffering as a source of harm, means that patients and their family have been let down by those who are meant to care for them [3, 16-22]. Overall, reducing unwarranted variability in care important for comfort is a crucial aspect of quality person-centred health care in contemporary healthcare settings.

But what is comfort, and what care matters to patients? Differing definitions[8, 10, 11, 23]and perspectives on comfort depicted in person-centred frameworks[6, 7] and concept analyses[8-12] highlight that this concept is poorly defined for practice and quality improvement. In particular, the absence of a framework incorporating all that is relevant from patients' perspectives[24] risks provider-centric improvement that fails to deliver the care that matters. The purpose of this research was to develop a multidimensional framework representing patients' perspectives on comfort that can be applied in a range of healthcare settings to guide practice and quality improvement initiatives aimed at improving patients' experiences of care.

METHOD

A two-stage qualitative descriptive study design[25] was used to explore patients' perspectives of comfort and its influencing factors. This design is known for producing "findings closer to the data"[25, p 78] and was considered appropriate for generating findings that could be translated into practice. In Stage one, data from 62 studies exploring the concept of comfort in healthcare settings were synthesised into a conceptual framework representing patients' perspectives on comfort[24]. Integrative review methods facilitated development of a framework that incorporated all possible (i.e. multiple) dimensions of comfort that appeared relevant to patients' perspectives. This framework informed the study reported here, which explored the concept of comfort with patients undergoing heart surgery. Heart surgery can be physically and emotionally distressing,[26] therefore exploring patients' perspectives on comfort and comforting care in a cardiac surgical setting was ideal. Our two-stage approach enabled development (Stage one) and then refinement (Stage two) of a framework representing patients' perspectives on factors influencing comfort.

Patient and Public Involvement

We used an exploratory method of data collection to better understand patients' perspectives and experiences of care. Questions were informed by a conceptual framework developed from studies also exploring patients' perspectives. Patients were not directly involved in the design of this research. However, cultural advisors provided advice that facilitated Māori and Pacific recruitment, led to refinements of the interview procedure and supported accurate representation of Māori and Pacific worldviews. The acceptability of the interview process and questions were tested in five pilot interviews involving patients of Māori, Pacific and New Zealand European ethnicity. As part of the informed consent process, participating patients were offered the opportunity to review their interview transcript and feedback on its accuracy via a pre-paid postage return of the hard copy or follow-up phone call. Presentations of the findings have been made in order for our results to benefit future patients and to guide research aimed at improving patient experience.

Site and setting

The study was conducted in a 47-bed cardiac surgical unit in a publicly funded hospital in Auckland, New Zealand.

Participant selection

Purposive sampling was used to access and invite participation from culturally diverse patients. Sampling aimed for one third each of Māori (the *tangata whenua* or indigenous people of Aotearoa/New Zealand), New Zealand European (NZE) and Pacific people (people who migrated from, or who identify with, the Pacific Islands) to enable exploration of a cultural dimension of comfort. Inclusion criteria were: postoperative day four or five after operations classified as Coronary Artery Bypass Graft or Valve Replacement/Repair; age 16 years or older; English speaking; transferred from the Intensive Care Unit postoperative day one; an expectation of discharge at or before eight postoperative days; sedation score of 0 (awake, alert) or 1 (mild sedation, easy to rouse), and ability to provide consent. Participants were identified in consultation with a senior nurse, and then invited to participate by one researcher (CW) who emphasised her non-employee status. Informed consent was obtained. One experienced researcher (CW) conducted all interviews.

Data collection:

In-depth, semi-structured patient interviews explored (1) what comfort meant to patients from which a definition of comfort was to be developed and, (2) factors within the care setting that influenced comfort, i.e. what care mattered to patients. Questions exploring influencing factors were informed by the conceptual framework[24] (see Supplementary File 1- Patient Interview Guide). Patients were not asked directly if the broad influences identified *a priori* were important for comfort. Pilot testing indicated this approach risked bias towards affirmative responses and less nuanced data. Rather, patients were asked about aspects of care related to conceptual framework themes, and responses were probed to determine the influences on comfort. Negative case analysis (searching for disconfirming evidence) was used throughout data collection and analysis[27]. The final interview question gave participants the opportunity to describe influences on comfort that may have been missed. Interview settings were patients' single rooms (n = 7), a quiet room on the ward (n=11), or patients' four bedded room (n = 5); the latter being participants' preference. Interview durations were between 23 and 66 minutes (average 43 minutes) and similar between ethnicities (see Supplementary File 2 - Characteristics of patients). Audio recorded interviews were transcribed verbatim. Participants were sent a copy of their interview transcript and given the opportunity to comment on accuracy and content.

Data Analysis

Analysis was sequential. General inductive method[28] was used to analyse data contributing to a definition of comfort. Inductive analysis gave some assurance that the definition of comfort was data-derived and developed without undue researcher influence[28, 29]. Analysis involved: close reading of the transcribed text; creation of specific and then general (higher level) categories from patients' description of comfort or derivatives of the word comfort (comforting, comfortable, uncomfortable, discomfort); and revision and refinement until four overall categories capturing the essence of what comfort feels like to patients were identified. Categories were summarised into a definition of comfort.

Thematic analysis[29] and Framework method[30] were used to analyse data related to influences on comfort using both deductive and inductive analysis. Deductive analysis tested the relevance of the conceptual framework to patients' perspectives. Inductive analysis was important for enabling us to identify any new themes[29, 30] within patient interview data. The steps involved were:

- Familiarisation with the transcribed texts. The definition of comfort was used to identify data relevant to the concept of comfort and the overall "fit" to conceptual framework themes related to influences on comfort assessed.
- Constructing an initial thematic framework from the conceptual framework headings[24], building in any new themes identified within the data.
- Indexing and sorting, in which data were systematically sorted into the thematic framework.
- Reviewing data extracts, checking for coherence between codes and refining the thematic framework accordingly.
- Data summary and display; matrices of distilled coded text were developed for each subtheme to enable data to be easily compared between participants and between ethnic groups.
- Abstraction and interpretation of the data; multiple and interrelated factors influencing patient comfort were identified, as depicted in the Comfort ALways Matters (CALM) framework (Fig 1). Operational definitions, subthemes and illustrative quotes portray the essence of what was important for each theme (Tables 1- 4). Careful comparison between Stage one[24] and Stage two findings were made to determine transferability beyond the cardiac surgical setting.

Data were managed using NVivo Version 10 software. One researcher (CW) coded all data. Peer debriefing (MB, AM) and discussion and refinement of themes and subthemes occurred until consensus was reached. Consultation with Māori and Pacific healthcare staff ensured that the recruitment process, interview procedure and data analysis promoted participation of Māori and Pacific patients and accurate representation of their worldview. We used the SRQR checklist when writing our report[31].

Ethical Considerations

Ethics approval was gained from Deakin University Human Research Ethics Committee (2013-180), the New Zealand Health and Disability Ethics Committee (13/CEN/95) and the institution at which recruitment and interviewing occurred (A+ 5824).

RESULTS

Twenty-five participants were interviewed on either day four (72%) or day five (28%) after surgery. Eight patients self-identified as Māori, seven as Pacific people, and 10 as NZE. Median age was 63 years (range 30 to 85) and 64% were men. Fourteen patients underwent Coronary Artery Bypass Graft, 10 underwent Valve Replacement/Repair (n = 10) and one patient underwent both (Supplementary File 2). Fifteen patients declined participation for reasons outlined in Supplementary File 3.

Comfort - a universal concept

Perspectives on comfort reported by patients in primary studies[24] were similar to those held by patients undergoing heart surgery. As such, comfort is regarded as having universal relevance and the findings presented here appear applicable to a range of inpatient populations.

Patients' perspectives on comfort

Patients' perspectives on comfort are summarised in the following definition:

Comfort is a transient and dynamic state characterised not only by ease from pain, emotional and physical distress but an emerging sense of positivity, safety, strength and acceptance of one's situation that is both underpinned, and sustained, by feeling valued, cared for, confident and accepting treatment by choice. Total comfort is elusive; rather, patients seek to be as comfortable as they can be under the circumstances of their healthcare interaction.

Underpinning our definition are the following four senses of comfort that were identified in the patient interview data:

- "Relief (ease) from pain, emotional and physical distress"
- "Feeling positive, safe and stronger"
- "Feeling confident, in control, accepting treatment and care by choice"
- "Feeling cared for, valued; connecting positively to people and place".

When is comforting care important?

Patients’ need for comforting care varied between individuals and could occur at any stage of the healthcare interaction. Common triggers were the uncertainty and fear of treatment and planned procedures; pain, emotional and physical distress; feeling vulnerable, dependent and weak from functional loss and the accumulative effect of multiple symptoms; being in an unfamiliar environment; and missing home and family.

Factors influencing patients’ comfort

Factors influencing comfort were complex but underpinned by 10 well-defined themes, as depicted in the multidimensional framework named the Comfort ALways Matters (CALM) framework (Fig 1). Themes occurred within four integrated layers: patients’ personal strategies, the unique role of family; staff actions and behaviours; and factors within the clinical environment. Patient interview data enhanced understanding of all themes identified in Stage one and previous operational definitions were refined to better reflect the essence of care that matters to patients, and the integrated nature of this care, see Tables 1- 4. The theme relating to family influences on comfort was renamed in response to insights gained from analysis of patient interview data and the CALM framework updated accordingly. The essence of each theme and the unified influence of these themes on patients’ sense of comfort is portrayed in Fig 2. Themes within each layer are discussed further below.

The first (inner) layer of the CALM framework relates to patients’ use of personal (often private) strategies to promote comfort and ease distress. Strategies included positive thinking, getting informed and seeking reassuring signs of safety, normality (“Self-comforting strategies”); seeking cultural familiarity, understanding and respect for cultural norms and values (“Culturally connected”) and seeking spiritual comfort (“Spiritually connected”), see Table 1. Actions and behaviour of family, staff, and factors within the clinical environment moderated the success of patients’ efforts to self-comfort.

Table 1 Patients personal (often private) strategies

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Self-comforting strategies	During times of distress and uncertainty, patients work to maintain a sense of comfort using personal strategies that include positive thinking, looking for reassuring signs of safety and normality through surveillance of self and others, self-care routines, getting informed, planning and learning to trust. The success of these strategies is moderated by patient characteristics and influences from family, staff, other patients and the clinical environment. Some patients may use withdrawal (disengagement from staff, service), or at least thoughts of doing so, as a strategy to promote short-term but potentially self-harming relief from discomfort and distress.	The operational definition for the theme "Self-comforting strategies" was generated from data coded to four subthemes: **"Maintaining positivity and strength"** Positive thinking helped patients stay positive and mentally strong when faced with fear and uncertainty of personally challenging treatment and care. Examples include celebrating small milestones during postoperative recovery and focusing on the benefits (better life, longer time with family) of surgery rather than the risks. *"I just kept on saying to myself I'm part of the majority* [who survive], *that kept me going because I was going to walk straight out." (P5)* **"Safety through surveillance of self and others"** Patients sought to reassure themselves of their safety through surveillance of their own symptoms and surveillance of staff. Not being able to rationalise symptoms as "normal" (NZE8) could cause significant distress. Conversely, patients drew comfort from the knowledge that symptoms or odd sensations were to be expected under the circumstances. *"I just told myself it was something from the surgery you know I knew exactly what it was." (NZE7)* Observing that staff were watchful and checking on them "when they're supposed to" (NZE7) also provided reassurance of safety. *"They'll pop their head in when it's not their time to see how you are. I know I keep an eye on their schedules"* (M1). **"Strategies to develop a sense of ease"** Distraction (watching TV, listening to music, seeking out people to chat with) eased emotional discomfort by helping patients take their mind off unpleasant or unsettling events. *"I didn't like being in a separate room, I didn't like that … I felt quite isolated. I mean I'm a bit of a chatty person, not everybody likes to talk but you know you like to know the people around." (NZE4)* Self-care routines (mindfulness, meditation), pulling curtains for privacy, making the effort to connect with one's roommates temporarily eased discomfort associated with disturbing factors within the hospital environment (such as noise, room sharing with strangers). *"I'll just go into the room and I tend to pull the curtains across, I've got an iPod there, I usually listen to a bit of music" (NZE2)*

		Some patients used withdrawal and disengagement to ease discomfort and distress. Examples included withdrawing from interactions with staff, with other patients, contemplating not going through with the surgery, or self (early) discharge after surgery. *“I was a bit emotional before the operation … I was crying, I want to go home, I want to go home.”* (NZE6) *“They say oh I’ll be back in five minutes and they’re gone. And then ring the bell, ring the bell, that’s why I said to my daughter I’m ready to go home”* (P1). **“Strategies promoting acceptance”** Underpinning a sense of comfort was developing acceptance of one’s situation using strategies that included use of humour, getting informed (reading, asking questions), developing some sort of plan or way forward for situations causing concern, and focusing on the necessity of unpleasant treatments, surgery, lifestyle changes and so forth. *“[I was] quite chirpy and cheeky to the [theatre] nurses just to try and keep myself cool, you know, just to cool myself down and get ready to accept the inevitable, you know.”* (M8) Patients also gained comfort by developing a sense of trust in either the process or the people around them. Trust was integral to feeling able to accept care and treatment by choice. *“I don’t ask much because I haven’t been concerned about anything really. I trust them. My first operation really gave me the trust you know, people that trained years to be there, you’ve got to trust them.” (M7).*
Culturally connected	Patients find it hard to be fully comfortable in hospital because they miss home, family and invariably encounter cultural norms, values and practices that may be different to their own. Comfort is enhanced in an environment that patients perceive to be welcoming to them and their family, culturally familiar, and there is the sense that others (staff, other patients) understand and respect their cultural norms and values. These perceptions help patients develop a sense of comfort related to connecting positively with people and place without tension	The operational definition for the theme “Culturally connected” was generated from data coded to three subthemes. The first two subthemes provide the context for a cultural dimension of comfort, the third indicates the importance of staff competence in culturally safe care. **“Missing home and family - hospital as a culturally unfamiliar environment”** Patients described the discomfort of needing to live - albeit temporarily - in an environment patients variously described as “alien”, “foreign” and very “different” to home. Different things were missed by different people but, overall, unfamiliar routines, certain expectations of behaviour and missing home and home life exacerbated patients’ sense of unease associated with being in the healthcare setting. *“…I’ve had my brother in law and his children come up and his kids are like my grandkids you know, full of life. The doctors say keep quiet, and I keep quiet and let them make the noise. I love the children … (M4)* *“…I just couldn’t go anywhere and feel that you were finally away in your own private little area that you could just chill out in with your family and things like that. So that’s pretty hard, you’re just trapped”. (NZE2)*

	or the need to repress personally important values, beliefs and preferences for care.	*“I miss my kids and my husband and my grandchildren. It’s the love that you have at home. It’s your privacy your own privacy at home. (P1)* **“Culturally important values and care preferences”** All patients held important values and care preferences related to, for example, meaning of family (who should visit and expected visitor behaviour); room sharing; communication styles, deference to hospital rules; attitudes around treatment regimens, putting up with pain, body modesty; expectations of caring (notion of service, being treated like family), food preferences, and spiritual beliefs (use of prayer/karakia). Underlying tensions associated with cultural differences were evident. For example, perspectives may differ between patients, staff, other visiting families about who should visit and acceptable visitor behaviour. *“It’s what Pacific Islanders do. We all have the same sort of morals…They [visitors] just come to show their support, respect and love, yeah.” (P7)* **“Feeling welcome, connecting positively with others amidst cultural differences”** Crucial to comfort (feeling at ease, safe, positive connections) was patients’ sense of welcome and that others (staff, other patients) understood and accepted culturally important values and care preferences. Patients sought signs of welcome, of respect, of cultural acceptance. Examples include observing culturally diverse staff working as a team, the quality of communication between staff and other patients (“no racism here” M4), family being able to visit or share karakia outside of visiting hours, availability of cultural support staff and culturally diverse décor. *…it was a lot easier within our room because we were Māori, we understood. Like one whanau [family] came in first and I said kei te pai [good, that’s fine] you fellows have your time … They felt like they were taking up too much space.” (M3)* Attitudes, treatment regimens, rules and routines not congruent with one’s personal values (for example, differing interpretations of body modesty, expectations of service and care) or based on a stereotypical understanding of cultural preferences undermined patients’ sense of welcome and could distress. *"sometimes they leave you there naked* [under a sheet] *you know, and you can’t do anything.” (P1)*
Spiritually connected	Some patients gain a sense of comfort from feeling connected to a higher power and sustaining that connection through personally significant spiritual or religious practices. Patients’ need for spiritual comfort may be	The operational definition for the theme “Spiritually connected” was generated from data summarised in two subthemes: **“In God’s Hands”** During times of uncertainty, some patients gained a sense of comfort (feeling safe, strengthened, at ease) through their trust in God, believing that “God would do the right thing” (NZE6) and events were “part of God’s plan…no doubt, no fear” (M4).

	intensely private and not always related to strongly held religious or spiritual beliefs. The need for spiritual comfort is dynamic, intensifying during times of distress or uncertainty.	*"I pray for them [staff], when I went in to the operation and the nurses going to take care of me in there. …When you put your trust in the Lord He will come then, show them the way." (P1).* To those of no spiritual or religious affiliations, the idea of putting one's faith in a higher power neither provided nor detracted from their comfort. *"…I can understand people being of faith probably being comforted by the fact that they think someone's out there looking after them but I've never gone with that… "(NZE2)* **"Sustaining spiritually important practices, connecting with God"** Staying connected to (sometimes re-establishing) one's faith provided comfort during times of distress. *"…all the time I feel pain God helped me…I am very close to God when I'm sick, when I'm okay I run around and do everything I want and I forgot. I only remember Him when I'm sick…"* (P4) Not being able to sustain important spiritual values and practice could be distressing, for example, if food options or treatment regimens conflicted with spiritual beliefs, or if there was no space for sharing prayer (karakia) with family. Family, Kaumātua (Māori elder held in high esteem) and chaplains helped sustain spiritually important connections. *"I asked for a Kaumātua … could he say something* [a karakia before surgery] *for me. And I was happy. I was happy what he said to me, what he did to me. I'm happy about it". (M6)*

[1] Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview.

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

Family's unique connection with patients (familiarity, shared culture and understanding) was pivotal to their ability to comfort, which included providing holistic care, practical support and being a buffer to the unfamiliarity of the clinical environment, see Table 2. Comforting actions from loved ones were crucial for many, although family could also distress.

Table 2 Family influences on comfort

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Family's unique ability to comfort	Familiarity gives family the unique ability to comfort that complements care provided by staff. From most patients' perspectives, having loved ones near, connecting with those who know them best and whom they trust, promotes positivity, acceptance of care and provides an important buffer to the unfamiliarly and uncertainty of the clinical environment. Family also comfort through the provision of holistic care and practical support. Patients do not readily relinquish their family role and responsibilities even when facing personal health challenges. Under these circumstances, family-friendly facilities and positive family-staff relationships offset patients' sense of discomfort about the impact their situation may be having on others. These factors also support family in their comforting role. Conflicting views between family and clinical staff can exacerbate doubt in treatment and care amongst those already feeling vulnerable or uncertain; the most comforting scenario for patients is that family and clinical staff views align.	The operational definition for the theme "Unique ability to comfort" was generated from data summarised in three subthemes: **"You always want to see your family - comfort from someone who knows you"** The unique relationship between patient and family underpins family's ability to comfort. Loved ones can be a buffer to the unfamiliar healthcare setting and a constant comforting presence during times of illness and uncertainty. Patients spoke of hospital life as "100% worse without your partner" (NZE2), the comfort of having someone "hold my hand" (NZE4) and someone "to touch" (M7). *"…it doesn't matter how good the nurses, or the doctors are I always want to see my wife or my daughter…I know you give us a lot of helping hands but, in your mind, you always want to see your family." (P4).* Family also help patients feel safer and more confident about treatment and care decisions. *"My uncle came and just had a good word to me and sort of put me on track, he sort of made me feel better too you know …he was just more positive you know, like you're going to be better, have a better life, you're going to have a longer life …if I didn't have no family I would have taken off."* (P7) **"Comfort through practical support and care"** Family provide holistic and practical care that promoted comfort. Examples include back and shoulder rubs, bringing in traditional comfort or culturally preferred food, helping with and advocating for care promoting physical comfort (position changes, pain relief). Family also provided practical support that eased patients' concerns over impending discharge, lifestyle changes and how they would manage at home. *"I've noticed the doctors and nurses take the time to explain things to her* [wife] *as well as to me which is good. They can probably see I look really spaced out its better to talk to her" (NZE5).* **"Discomfort, unease related to family"** Even during personal distress, patients did not relinquish family roles and responsibilities (as grandmother, mother, father, partner, husband, daughter, family matriarch and so forth) were not readily relinquished. Patients' concern for their family's safety and wellbeing, worry over being a 'burden' or "scaring" family sometimes meant denying themselves the comfort of family visits.

	"… My daughter, she's got her three little children and I don't want her to take them around, I don't want them to get in the car accident, it's too far for them …I told them not to come back …I'd rather they were safe at home…" (P2). Strained family relationships, or family who did not understand patients' needs added a layer of distress additional to that arising from their clinical condition. Similarly, differing views between family and staff could undermine patients' confidence in treatment and care and may require them to make an uncomfortable choice between family and clinical staff recommendations. *"I don't want to deal with her [wife]. I want to concentrate on the nurses and the doctors... "(*P6)

[1] Patient interviews were coded by ethnicity and order of interview, i.e. M1 is the code for first Māori interview, P1 for the first Pacific interview and NZE1 for the first NZE interview.

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery

Staff influenced comfort in five distinct but integrated ways (see Table 3). Effective "Symptom Management" was essential and needed to focus on all symptoms, not just relief of pain. "Holistic Care and Assistance" related to non-pharmacological relief of distressing symptoms and staff providing help willingly. "Engagement and Commitment" related to patients' perceptions that staff were engaged in, and committed to, their welfare in ways that included being responsive to their discomfort or distress. "Information and Participation" influenced comfort in complex ways. Information can comfort by reducing uncertainty and enabling patients to prepare for what lies ahead. Information and participation opportunities empowered patients to personalise care crucial to physical comfort. Feeling disempowered, or unable to participate in care decisions, could distress. The fifth staff influence was "Perceived and Actual Competence". Perception of competence promotes a comforting sense of safety and confidence in staff and service. Actual competence in all influences is crucial.

Table 3 Staff influences on comfort

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Symptom Management	Patients experience a range of distressing symptoms for which effective and sustained relief is crucial for their comfort. Symptom trajectories vary between patients therefore individualised assessment and treatment is essential. From patients' perspectives, staff actions that promote effective symptom management include routinely asking about symptoms, taking patients' symptoms seriously, pre-emptive or prompt treatment and working with patients to understand barriers to reporting symptoms and accepting treatment. When there are few effective pharmacological options, patient comfort becomes more dependent on other influencing factors such as holistic care and assistance.	The operational definition for the theme "Symptom Management" summarises the findings from two underlying subthemes: **"Variation in experience of common postoperative symptoms"** Patients' symptom experience varied in terms of symptom presence, severity and trajectory. Physical and associated emotional discomfort commonly arose from pain. *"I was in a lot of pain. I couldn't move. I was really in agony. I couldn't put my legs flat so I remember clearly having my legs up and if I got them up to a certain point it was just very slightly less painful than anywhere else. You know I remember just lying like that holding my knees because it was the best I could do." (NZE5*) Other distressing symptoms were postoperative nausea (..it's killing me…(P2)), fatigue, inability to sleep, loss of appetite, shortness of breath, constipation, low mood, or depression, dreams, hallucinations and visual disturbance, taste disturbance, palpitations, and fluid retention. *"It's a very simple thing but it was upsetting, my fingers they were swollen twice the size …it was horrible." (NZE4* **"Complexity of effective symptom management":** Complex patient and contextual barriers to effective symptom management were identified. Barriers related to patients' motivation for reporting symptoms, patients' beliefs and preferences for treatment regimens, staff competence, underlying attitudes of staff and patients (such as to opioids, sleeping tablets), conflicting opinions on effective treatment, clinical jargon, and the ability to personalise care. Patients emphasised the importance of participation in symptom management decisions, and of feeling heard. Not feeling listened to, or believed about the extent of symptom distress, prolonged physical distress and was emotionally upsetting. *"I think because I'm big you know I don't show the full soreness of my body …maybe they think I might be lying or something …I think they thought they were giving me too much painkillers …they were just saying we're giving as much as we can …they were trying to find the best one for me but weren't actually asking me which one was the best you know…" (P7)* Regular and competent symptom assessment followed by titrated symptom relief was essential for the duration of the admission. Pre-emptive symptom management and regularly offering analgesics were also important. Overall, symptom management depended not only on competent application of evidence-based symptom management protocols but on staff working with patients to understand and address barriers to reporting symptoms and accepting treatment (refer Engagement and Commitment", "Information and Participation").

		Other comforting actions become crucial when there were few effective strategies to combat distressing symptoms. These included support from family, empathetic and holistic care, reassurance about 'normality' and expected trajectory (refer Family's Unique Ability to Comfort, Holistic Care and Assistance, Information and Participation).
Holistic Care and Assistance	Patients experience significant physical and emotional discomfort from the accumulative effect of symptoms, treatment side effects, unpleasant procedures and loss of functional ability. Holistic care involving multiple, non-pharmacological interventions for relieving physical and emotional discomfort is essential and complements efforts to promote comfort through pharmacological symptom management. Assistance provided willingly reduces the substantial emotional and physical impact of loss of function and is an essential aspect of comforting.	The operational definition for the theme "Holistic Care and Assistance" summarises the findings from three underlying subthemes, the first of which provides context for this theme. **"Physical and emotional discomfort and distress"** Adding to patients' symptom distress was an accumulation of factors that included treatment side effects (such as dry mouth, itchy skin), unpleasant treatments and procedures (a "cocktail" of pills, venepuncture, echocardiogram, intravenous lines, oxygen therapy, blood pressure monitoring) and restricted mobility (from surgery, from being attached to equipment). *"I had two days of pure hell, I just felt like I'd been run over by a truck. But there was no pain from the actual surgery it was all of the drugs that they had pumped through me, yeah, I had no energy to get up, no life. There was no life to push to get up."* (M3) Patients had limited ability to self-care, needing assistance getting out of bed, to the toilet, with hygiene, after vomiting or if they "made a mess in the toilet"; even pouring a drink of water could not be done without help. *"I've felt like, [I have] been being run over by a bus and then backed over again, I feel terrible. You can't even take your hands off the table to butter some bread. You just are so out of it, it's such an awful feeling." (M2)* Worry about finances, returning to work, managing after discharge also contributed to emotional distress. **"Treating the whole person, not discrete symptoms"**: Complementing pharmacological symptom management was holistic assessment and care. *"[the nurse] asked me really nicely and politely how I was, was this happening or is this happening, have I got any of this … you felt that somebody cared for sure which was, the other guys were saying that too." (NZE7)* Holistic interventions specific to heart surgery included being taught to use a "cough pillow" and providing larger patients with a chest binder to prevent strain on the chest wound. Other interventions were a cooling fan, ice to suck, swift removal of drains, urinary catheters and intravenous lines, shower for itchy skin and positioning.

		"…when the nurse came in I told her it was getting a bit sore around the back and shoulder blade and she says, get your bum back in that bed, she gets my pillow and straightens them up and, "lie there now" so I lay back down and oh yeah she knows what she's talking about alright. It felt a hell of a lot better". (M8) **"Getting the help needed"** Getting help with personal care and basic tasks was crucial for a sense of comfort (feeling cared for, safe). However, patients felt unprepared for how reliant they would be on nursing staff. Adjusting to dependency was difficult and some were reluctant to ask for help for reasons that included worry about being "demanding" (NZE4) and feeling uncomfortable asking for help with "basic bodily things" (NZE9). Observing staff readily and "graciously" (NZE10) providing help relieved a sense of unease about asking for, and accepting, the help needed. *"…I didn't realise that we'd have to be dependent on the nurses as much. I think I thought I could just get up and go, no it was far from it …they've been tremendous you know …it's an eye opener" (NZE10)* Overall, comfort from holistic care and assistance was enhanced when delivered by staff with comforting staff qualities (refer 'Engagement and Commitment'). Experiencing such care set the tone for positive patient-staff relationships and satisfaction with the service. *"I trust them. That's their work to give life back to people that's their work. Very hard work, but they never turn their back they try to do their work thoroughly. That's how I believe them" (P4).* *"…people going to hospital, they always talk about the nurses and I basically said it was absolutely true. You know they're the front-line staff and the ones you deal with every day and they're all amazing." (NZE2).* Conversely, a failure of staff to appear caring, helpful and responsive to one's needs harboured resentment and made patients wary of future engagement with that staff member. *"She didn't seem to be caring enough, yeah. I woke up having a bad dream and asked her to get me a flannel, which they don't even ask, can I?, I didn't have any bedclothes on because I was so hot but they don't even ask if they can put bedclothes on you know and so it's little things like that, you know.* [How does that affect you]. *I think it affects me in the way that when I ring the bell I hope she doesn't come you know. She was on nights and I was thinking gosh I hope that lady don't come again." (M2)*
Staff Engagement and Commitment	Knowing that staff (all roles) are watchful and available when needed is fundamental to a sense of comfort. Patients' comfort is also enhanced when staff make an effort to connect (are	The operational definition for the theme "Engagement and Commitment" summarises the findings from three underlying subthemes. **"Comforting staff presence – layers of surveillance and availability"**

	welcoming, friendly), when they promote positivity through reassurance and encouragement, are considerate and responsive to patients' needs, and when they demonstrate understanding of patients' discomfort (distress, uncertainty, vulnerability) using therapeutic strategies tailored to individual need. Strategies include empathetic listening, taking time to explain, comforting touch, careful use of humour/chit chat, maintaining privacy and respect, and a caring manner during unpleasant procedures. Being cared for in this way is foundational to a positive patient experience and appears to have therapeutic importance by promoting positive patient-staff relationships, participation in unpleasant treatment and procedures and, in conjunction with other influencing factors, engagement with staff (asking questions, seeking help, disclosing concerns), the service and health promoting behaviour in general.	Patients' perceptions that staff are present and available to them promotes emotional comfort associated with feeling safe and cared for. A comforting staff presence consisted of three layers: perception of 24-hour nursing presence; contact with doctors via ward or pain rounds, even if brief; and, knowing that staff were available should they be needed. *"…she [his primary nurse] might be attending another person but if she is normally it's – "can you wait?" but you know they're going to come." (NZE8)* **"Comforting staff qualities"** Staff qualities described as comforting were summarised as: • Making an effort to connect (welcoming, friendly, smiling) • Reassuring, encouraging - promoting positivity • Caring and considerate, responding to patients' needs (committed) • Empathetic, warm *"I thought the girl from Melbourne up in the surgery …I thought she had a very comforting and empathetic manner… That's probably the biggest time where you're starting to get a bit nervous anyway when you're in the holding pen to go into the, yeah* [became emotional]. *And I found she was very good … she just sort of says you'll be okay and give your arm a pat or something like that". (NZE1)* **"Therapeutic comforting strategies tailored to patients' individual needs"** Comforting staff were those who combined comforting staff qualities with individualised strategies in a way that was foundational to a positive patient experience and promoted good will towards the staff (and service) that has supported them through a physically and emotionally challenging time. *"I think they have done all, their faces, smiling faces, that will do. There's a good treatment, here" (P4).* Comforting staff behaviour also had therapeutic importance by promoting patients' willingness to disclose concerns, participation in care and treatment and positive patient-staff relationships. Conversely, patients disengaged from staff with whom they did not connect, some even considering (early) self-discharge when they felt uncared for or disregarded. Comforting strategies tailored to patient's unique needs and included: • Taking the time to explain, possible even in rapidly changing clinical situations to promote confidence and acceptance of care • Maintaining patient's privacy, dignity, being respectful during personal care, or bed-side discussions between staff

		- Supporting patients through unpleasant procedures/mobilisation (emphasising the necessity of the procedure while providing reassurance, empathy, a caring manner, boosting confidence) - Use of humour and chit chat, although judgment was needed - Giving patients the chance to talk about concerns; empathetic listening - Using touch to convey empathy, concern, connection. *“…she took that little bit of time with me and put her arm around me to make me strong and to say listen you can tell me…when I was really bad I just needed someone to put their arm around me and I told her a little bit …” (NZE6)*
Information and Participation	Information promotes comfort by reducing the distress of uncertainty and enables patients to prepare for and accept what lies ahead. Information also comforts by promoting trust and confidence in staff and the care provided. However, informing patients is an art and science; to comfort (and not distress), information needs to be provided by staff knowledgeable in the topic and sensitive to patients’ situation and personal preference for detail. Individualised care is essential for patients’ emotional and physical comfort. Patients who are accurately informed about when, why and how to report symptoms, who feel comfortable with staff and perceive them to be concerned for their welfare are more inclined to seek help, report symptoms, ask for clarification, and participate in care and treatment decisions. Feeling disempowered, or unable to participate in care decisions, can distress.	The operational definition for the theme “Information and Participation” summarises the findings from three underlying subthemes: **“Importance of personalised care, personalised information”** Underpinning the operational definition of this theme is the importance of personalising symptom management and holistic care. As such, patients needed to feel empowered to initiate non-standardised care and participate in treatment decisions. *“I had a bit of nausea but as soon as I mentioned it people tried to help me with it.”* (M4) Similarly, the right ‘dose’ of information was crucial to patients’ sense of comfort because information could either comfort or frighten and distress. Patients’ information needs were variable and personal. *“I came to see the anaesthetist and the only question I asked him was you just make sure I wake up … that’s the only thing that really frightened me”* M2) **“When delivered well, information underpins comfort (feel prepared, reassured, accepting; can personalised care)”** Patients gained a sense of comfort from understanding what is currently happening and what is likely to happen. This information helps them prepare for and accept what lies ahead. *“…the surgeon has been very comforting. He came along and explained, nice warm eyes you know” (M2)* Information about what, when and how to report symptoms or other causes of discomfort supported patient’s ability to personalise care, including safe self-triage, which was common. *“I never ring the bell straightaway. No, I just hang on* [and think] *whether why this pain comes in, why the pain, why I got a pain? …I try to play fair and square.”* (P4).

		Information was also important for addressing attitudinal barriers to symptom management. *"they did say however little your pain is it's good to let them know. Don't be a tough boy and handle the pain you know which is what I would probably do."* (M8) Information also comforted by reassuring patients their symptoms and side effects they were experiencing was normal, and likely to pass. However, sometimes information does not (and indeed cannot) comfort. Under these circumstances, staff experienced in the art and science of informing are pivotal. Balancing information about risk with positivity was important, as was being believable. For one patient, this meant staff being "confident but not cocky" (NZE5). *"there was one nurse [who] was just very, very good at just calming me down in general and just saying the right things to make me just feel a little bit more comfortable. Others have been very good at explaining the technical side of things…" (NZE5)* **"Feeling comfortable with staff – the subtle factor influencing personalised care, patient participation"** Feeling comfortable with staff underpinned patients' willingness and ability to personalise care. For example, patients could be reluctant to ask questions, disclose concerns, or use the call bell between times of staff-initiated contact for reasons that included expectations of an unfavourable reaction from staff, not wanting to "annoy" staff, a reluctance to question the "experts" or take up valuable time. *"I just sort of you know let them do what they've got to do. I just want them to do their job yep. And just say nothing to them like I'm alright".* (M6) Staff who demonstrated comforting qualities (refer Engagement and Commitment) helped to minimise these barriers. *"They'll show you, there's the buzzer if you need me, when you need me, just push the buzzer don't be worried about what time it is."* (M1) However, patients' preferences for participation varied and there was a level of comfort to be gained from having confidence in staff to step back from decision making. Patients tended to seek greater involvement when symptoms were poorly controlled, when they were anxious to avoid complications or worried about their safety. At these times, feeling unable to participate in care decisions placed patients in an uncomfortable situation of reluctant (rather than willing) acceptance of care and treatment. This was not only emotionally distressing but deterred effective symptom management. As such, comfort and participation are inextricably linked. "[Discussing pain management] *It could be better I think but who am I you know? These guys are professionals. They know what they're talking about…" (P5)*
Perceived and Actual Competence	The perception of clinical competency promotes a sense of comfort (safety and ease) because patients feel confident in the care provided.	The operational definition for the theme "Perceived and Actual Competence" summarises the findings from two underlying subthemes: **"Perception of competence"** Perceiving that staff were competent was comforting in the sense that patients felt at ease and confident in the care provided.

	However, all staff - clinical and ancillary - have the potential to be comforting by being competent in their role whilst mindful of patients' comfort needs.	*"…the doctors and the nurses they're very confident in how they attend you.* [How does that make you feel?] *Relaxed. And in good care." (M7)* **"Actual competence - expert comforters"** Staff competence related to each influence is essential. Staff whom patients particularly remembered for their comforting qualities were those that seemed to blend competence and commitment with comforting qualities. In some cases, care was not protocol driven; indeed, some staff had deviated from protocols to make a difference, such as ancillary staff enabling family to visit outside of visiting times, or a nurse letting a sleep-deprived patient sleep in a spare room. Other examples were the surgeon who expertly managed a patients' pain, the sonographer who described to one patient how well her new heart valve was working and the kaumātua who had knowledge of tikanga (the Māori way of doing things). *"…he said to me oh you from [place]? I said yeah. And he's been up there too and that's where I'm from. That's my marae. … I identified with him for being from the same place as he is, somebody from home … being Māori and him coming to talk to me it's good, made a big difference … [It was] uplifting…" (M5)*

1. Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview

2. Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

The outer layer of the CALM framework relates to factors within the clinical environment, see Table 4. Amongst the factors important here were an ambience of caring and positivity, observing that staff had time for all patients' needs, having control over one's personal space, and facilities that were clean, well-equipped and family-friendly.

Table 4 Influences on comfort within the Clinical Environmental

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Physical Facilities and Ambience	Patients feel comfortable (at ease, positive, safe) in a clinical environment in which staff are positive, helpful, have time for all patients' needs and work as a cohesive team (all roles, all ethnicities) to relieve discomfort and distress. Being away from home, feeling confined, sharing personal space, can be difficult therefore supporting patients' personal preferences for privacy, companionship, quiet and sleep is crucial. Additionally, facilities should be clean, well equipped, physically comfortable (temperature, beds, chairs, fresh air) and support self-comforting strategies such as faith-based activity, distraction (TV, Wi-Fi) and a sense that one's culture is respected. Family's unique comforting role is facilitated by staff who acknowledge, welcome and keep family informed; family-friendly space and flexible visiting times are essential.	The operational definition for the theme "Physical Facilities and Ambience" summarises the findings from four underlying subthemes: **"I've never once felt I didn't want to be here"** Contributing to comfort was an ambience of caring, positivity (staff are friendly, encouraging) and support, irrespective of who was on duty. [What makes you feel cared for] *"It's quite subtle, [but] you soon pick it up… really caring you know. I feel comfortable here type of thing… I've never once felt I didn't want to be here, if I had to be somewhere doing what I'm doing you know this will do me." (NZE7)* *"Even the people that are bringing breakfast for us and the cleaners, they're all good, good people." (M5)* Being able to rest/sleep without constant interruptions or disturbance from lights and noise was crucial. Also important was observing staff working as a cohesive team. Perceiving that there were enough staff to meet all patients' care needs (not just their own) was important. Patients did not like seeing busy, overworked staff, or other patients not getting prompt attention. *"…I get a bit stressed because I think the nurse in there now she's amazing …[but] she's the only one and she's doing the best job she can …I find it a bit hard because everyone's demanding things off her … she hasn't had her break and everybody else you know gets on top of her. I find that really hard to watch. The other lady is not being unreasonable, she's 85 and she needs more help…it would be great if staff could just spend ten minutes with her, ten minutes with you…" (NZE6)* **"Facilitating family's comforting role"** Important here was that family felt welcome, supported and able to be involved through staff actions and behaviour that included making an effort to connect with family, acknowledging and validating family's situation, supporting advocacy, keeping then informed, and through flexible visiting hours. *"…my husband's come in every day and that's been good and hard for him. I'll be pleased to get home to make it easier for him to be quite honest. He's a bit naughty he sort of sits there beside me over the hour* [when ward is closed to visitors] *but then he doesn't talk. He just sits there and holds my hand." (NZE4)* **"Physical facilities are clean, well equipped and facilitate all other influences on comfort"**

Physical facilities important for comfort include those that support privacy, rest and sleep (quiet, comfortable beds), are clean and essential equipment is readily available.

> *"…the top-up of the hand gloves, the towel, it's very good. You know they don't wait until they run out …*[How does that make you feel when you see that?] *I feel comfortable, yes. Yeah I feel comfortable you know…I get used to seeing the nurses wear the gloves, so I always feel good. That's hygienic to me wearing the gloves." (P6)*

Also important are family friendly facilities, family space and facilities that help patients sustain spiritual (place for prayer/ karakia) and cultural connectedness (such as culturally diverse décor). This is what a tapa cloth wall hanging signified to one Pacific patient:

> *"... our island is respected by here, our culture and everything like that".* (P4)

"Control over personal space"

The inability to control one's personal space with respect to lights, noise disturbances, roommates and other patients' visitors could be very distressing.

> *"…when you want to go to sleep their lights are on and they won't turn the lights off and that's happened here all this week, which is 100% worse when you're feeling awful … I like everything to be right and you can't have it right when you're in hospital. This is not your place; you're a guest here. So my tendency is to not sleep because of that." (NZE2)*

Patients appreciated staff-initiated efforts to reduce environmental stressors as they were reluctant to ask roommates, family or staff to curtail activities.

1. Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview
2. Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

DISCUSSION

Through a two-stage process commencing with an integrative review involving 62 studies[24] followed by semi-structured patient interviews we have (1) defined patients' perspectives on comfort and (2) developed a multidimensional framework representing patients' perspectives of important comfort-related care. Operational definitions developed for each theme reflect the essence of care that matters to patients and the integrated nature of this care.

Our definition of comfort broadly aligns with others[8, 10, 11] in the sense that comfort is defined as a dynamic and multidimensional state. Similarly, nurse theorists[8, 32-36], multiple qualitative studies[24] and concept analyses [9, 10, 12, 23, 37-39] have consistently described the holistic dimensions of comfort, and the art of comforting that we believe are captured in our findings. However, the CALM framework differs from most comfort frameworks/models[21, 40-47] in that patients' perspectives of all influencing factors are captured in one unifying framework. Differentiating the definition of comfort (the state) from the process of comforting (influencing factors) meant that findings are presented as a more "tangible product" considered essential for promoting the implementation of qualitative findings[48, p765]. Operational definitions are generated from rich, in-depth data using methods explicitly exploring patients' perspectives. We believe these definitions provide a clearer direction for practice and quality improvement in comparison to other published frameworks[21, 40-47, 49].

Implications for practice and quality improvement

Improving patients' experiences of care is core to healthcare quality. Patient experience is defined as "the sum of all interactions, shaped by an organization's culture, that influence patient perceptions across the continuum of care"[50, p10]. Improving patient experience therefore requires an understanding of what matters to patients during their interactions with healthcare staff. Work in this area has resulted in a range of frameworks and guiding principles[6, 51, 52]. Comfort-related care incorporates many factors considered important for patient experience[53] including compassionate care[54, 55]; compassion most simply described as "the recognition of and response to the distress and suffering of others"[55,p310].

One could assume that initiatives aimed at improving patient experience will also improve comfort. However, all patients interviewed had experienced distressing events even though patient experience indicators at the research site suggested a high-level of person-centred care. Similarly, examples of missed nursing care, also known as errors of omission or care rationing[19, 22, 56-59] relate to care patients described as important for comfort, such as position changes, patient surveillance, comforting/talking with patients, pain management, patient teaching and feeling prepared for discharge.

These similarities highlight the inextricable link between care promoting comfort and that inherent in high-quality, safe care.

However, improvement targeting causes of missed nursing care is not the only consideration when aiming to maximise patients' comfort. First, important care is not specific to the actions of any one discipline, or indeed clinical staff. Second, staff (any role) may not be able to provide the care they wish to provide because of factors beyond their control (for example, lack of equipment, unsupportive ward culture, regimented care routines, absence of evidence-based symptom protocols). Therefore, the breadth and depth of all that matters indicates that maximising patients' comfort requires an informed and systematic approach aimed at supporting staff to provide the person-centred care they most likely wish to provide. We therefore ask that healthcare leaders consider how the CALM framework may be used to drive a culture of care that maximises patient comfort, beginning with the message that 'comfort work' is essential[19, 56-59], an outcome of fundamental care[60] encompassing a caring, compassionate response to human suffering and distress[53-55] for which healthcare leaders have accountability to promote, monitor and address omissions.

Three principles underpin application of the CALM framework. The first is appreciating the context-specific nature of comfort, meaning that the detail of care underlying each of the broad influences may differ by condition, ethnicity and age. For example, effective and sustained symptom management is crucial for comfort, but distressing symptoms may fluctuate by type and stage of a condition. Similarly, family influenced the comfort of patients of all ethnicities but how patients define family, and comforting activities may differ by ethnicity, age and stage of condition. The second is that individualised care underpins all operational definitions. Efforts to reduce unwarranted variability through standardised care must not be at the expense of the intuitive art of comforting. The third is that all staff can comfort (or distress). Therefore, consider actions of clinical and ancillary staff when applying the framework. Operational definitions can be used to guide conversations with patients, family and staff about their perception of important care for each influence, with identified gaps providing a basis for improvement work. Ideal exploratory questions are under development.

Transferability

Triggers for comfort-related care summarised in the comfort definition were consistent with those identified in other settings[24]. Similarly, the definition of comfort and the CALM framework appear applicable to a range of inpatient populations. Transferability is suggested on the basis that patients of different clinical conditions, age, ethnicity, from a range of inpatient settings within fifteen countries[24] held similar perspectives on the meaning of comfort and the care that influenced it.

Strengths and limitations

A comprehensive conceptual framework[24] focused exploration of patients' perspectives in a clinical setting. Definitions are data derived and represent patients' perspectives. Our method enabled categorisation of concept characteristics in a way that promotes translation into practice; upwards of 60 attributes of comfort and comforting have been previously identified[10]. This is the first study that has set out to explore a cultural dimension of comfort. Findings collectively represent perspectives held by Māori, Pacific and NZE participants, suggesting that the CALM framework encompasses culturally responsive care. Importantly, within the CALM framework, the patient determines the extent to which culturally safe care is being provided through their sense of feeling "Culturally connected" i.e. they and their family feel welcome; actions and behaviours of others indicate understanding and respect for one's cultural norms and values. This emphasis is consistent with the notion of unsafe cultural practice as "any action which diminishes, demeans or disempowers the cultural identity and wellbeing of an individual"[61].

Data saturation was reached regarding understanding of how perspectives differ by ethnicity. However, it is unlikely that, for example, all faith-based activity, or staff-initiated comforting strategies have been identified. Peer debriefing, Māori and Pacific consultation, prolonged engagement (1082 minutes of interview), negative case analysis and triangulation methods[27] promote credibility of the findings. Triangulation - using multiple data sources to produce understanding - was used in both stages of this research. Stage one compared findings generated from theoretical and qualitative research (methods triangulation) and involving people from a range of healthcare settings, ages and ethnicities spanning decades of healthcare (triangulation of sources)[27]. Further triangulation occurred in Stage two when patient interview data were contrasted with findings from the integrative review and included studies. Finally, although participants were able to comment on their own transcripts they were not asked to comment on the findings. However, concept clarification was sought during all interviews[27].

Implications for research

Replication of this research may lead to further refinements of operational definitions, evaluate claims of transferability, and build an evidence base of context-specific comfort care. Exploring staff perspectives on comfort and determinants of comfort-related care in healthcare settings will inform efforts to improve the quality of care. Research is also required to identify how the art of comforting can be taught and modelled in clinical practice and educational curricula.

The influence of comfort on patients' outcomes may go beyond patients' experiences of care (see Fig 3). Our interview data indicate that a sense of comfort during one's healthcare interaction is associated with positive patient-staff relationships, a willingness to disclose concerns, to seek help and to participate in care and treatment, rather than disengage or withdraw. Other qualitative studies exploring comfort have proposed similar outcomes[24, 62]. An informed, systematic approach to maximising patients' comfort may therefore improve not only patients' experience but also population health, particularly in vulnerable sections of the population. These potential benefits warrant further evaluation. Clinically relevant metrics for quantifying comfort and monitoring important aspects of care are also needed. Such metrics may be relevant to measuring compassionate care.

Conclusion

This research provides new insights into what comfort means to patients, the care required to promote their comfort, and the reasons for which doing so is important. We have developed a definition of comfort and the Comfort Always Matters (CALM) framework, which can be used by healthcare leaders and clinicians to guide practice and quality initiatives aimed at maximising comfort and minimising distress in specific populations. A focus on comfort by individuals is crucial but leadership will be essential for driving the changes needed to reduce unwarranted variability in care that affects comfort.

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Data sharing statement:

Consistent with our institution's ethics approval, additional data generated in this study can not be made available.

Author Contributions

CJW Contributed to conceptualisation of the project, research design, undertook data collection, analysis, wrote the first draft of the manuscript, and coordinated its multiple revisions.

MB Contributed to conceptualisation of the project, research design, analysis and interpretation of the data and critical revision of the manuscript.

AM Contributed to research design, analysis and interpretation of the data, and critical revision of the manuscript.

AFM Contributed to conceptualisation of the project, research design, interpretation of Stage 1 data and critical revision of the manuscript.

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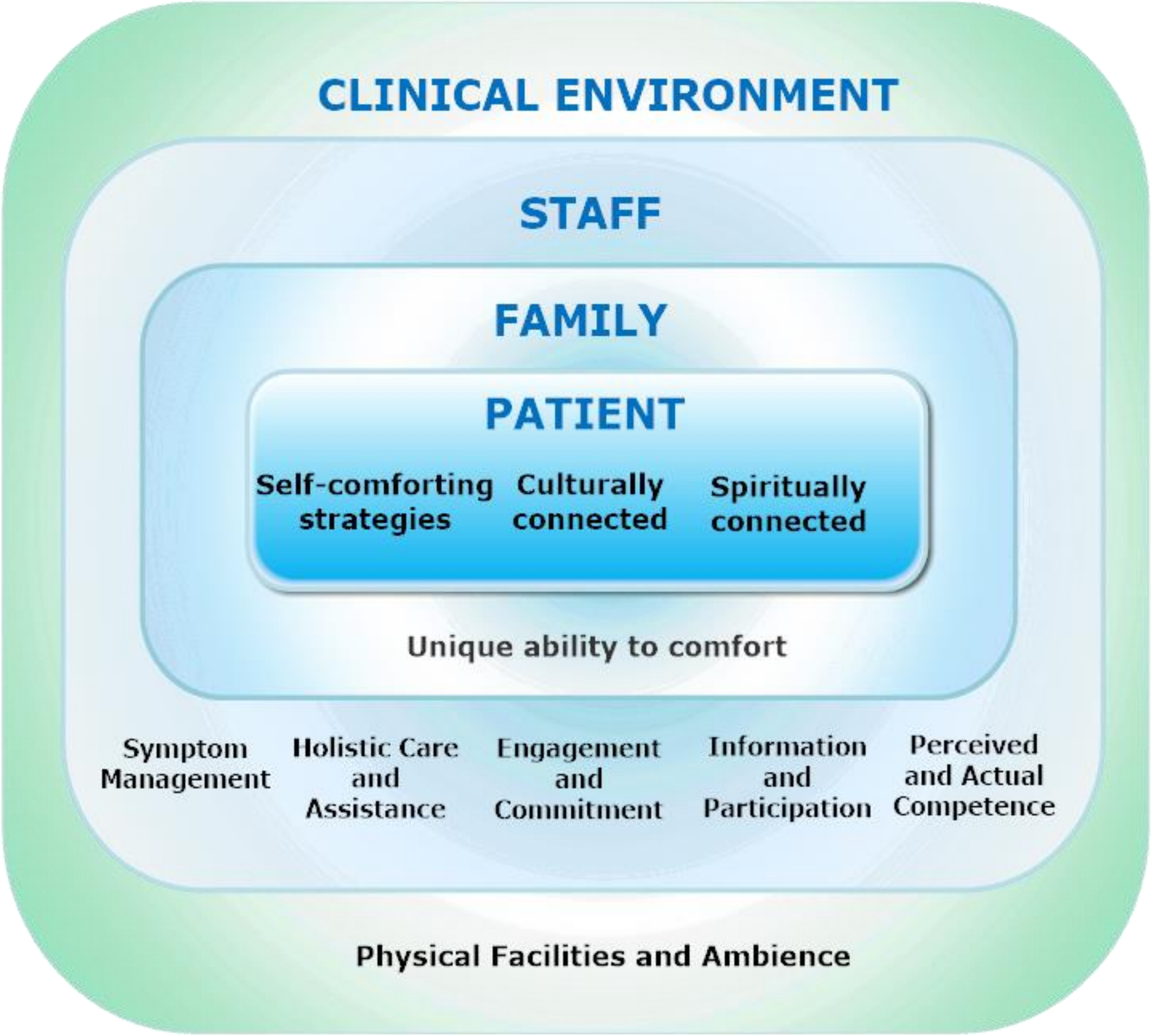

Figure 1 Comfort ALways Matters (CALM) framework.
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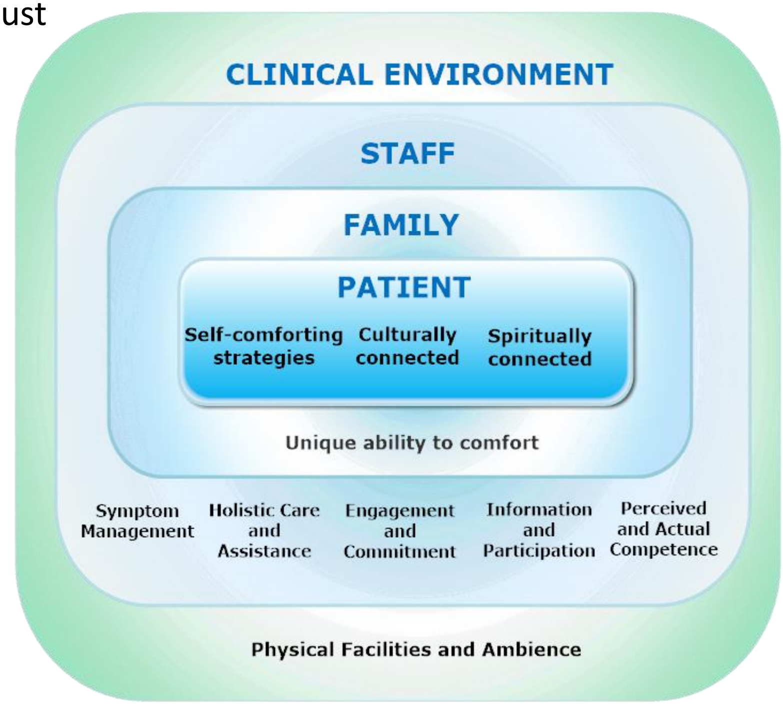
COMFORT

Comfort is a transient and dynamic state characterised not only by ease from pain, emotional and physical distress but an emerging sense of positivity, safety, strength and acceptance of one's situation that is both underpinned, and sustained, by feeling valued, cared for, confident and accepting treatment by choice. Total comfort is elusive; rather, patients seek to be as comfortable as they can be under the circumstances of their healthcare interaction.

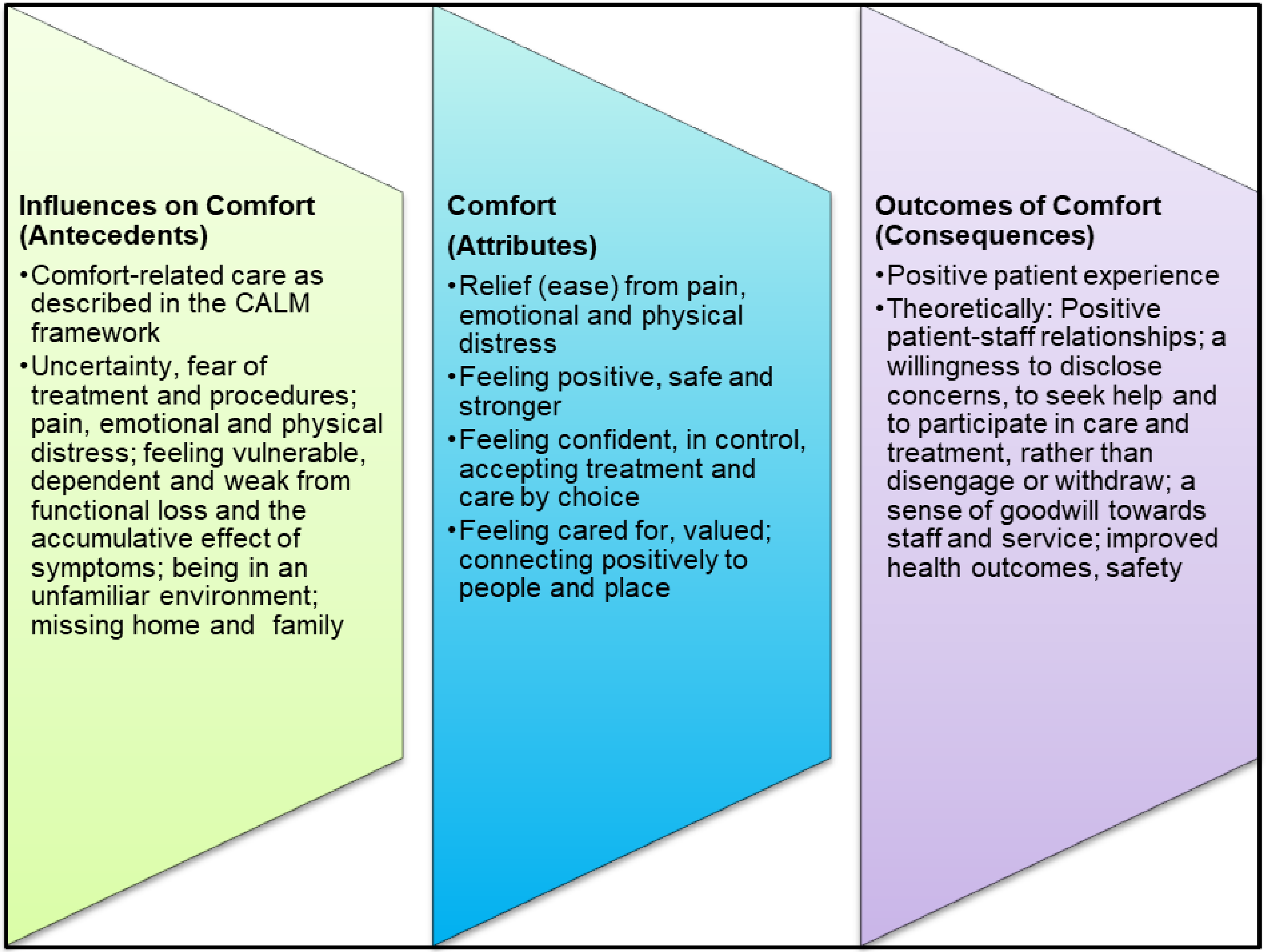
INFLUENCES ON COMFORT

- ✓ Self-comforting strategies; positive thinking, getting informed, planning, seeking signs of safety and normality, self-care routines, learning to trust
- ✓ Feeling culturally connected, others understand and respect one's cultural norms and values; cultural familiarity
- ✓ Spiritually connecting through faith-based activity, sustaining spiritual or religious practices
- ✓ Family's unique ability to comfort arising from familiarity, a shared culture and understanding
- ✓ Effective, sustained symptom management
- ✓ Holistic care, assistance provided willingly
- ✓ Engaged and committed staff
- ✓ Information is sensitively provided. Opportunities to participate in, and personalise, care
- ✓ Staff competence
- ✓ Physical facilities are clean, well-equipped, and family-friendly, patients have control over their personal space. There is an ambience of positivity and caring, staff have time for all patients' needs and are working as a cohesive team.



Comfort ALways Matters (CALM) framework

Figure 2 Patients' perspective of comfort and influencing care



Influences on Comfort (Antecedents)

- Comfort-related care as described in the CALM framework
- Uncertainty, fear of treatment and procedures; pain, emotional and physical distress; feeling vulnerable, dependent and weak from functional loss and the accumulative effect of symptoms; being in an unfamiliar environment; missing home and family

Comfort

(Attributes)

- Relief (ease) from pain, emotional and physical distress
- Feeling positive, safe and stronger
- Feeling confident, in control, accepting treatment and care by choice
- Feeling cared for, valued; connecting positively to people and place

Outcomes of Comfort (Consequences)

- Positive patient experience
- Theoretically: Positive patient-staff relationships; a willingness to disclose concerns, to seek help and to participate in care and treatment, rather than disengage or withdraw; a sense of goodwill towards staff and service; improved health outcomes, safety

Figure 3 Influences, attributes and outcomes of comfort

Supplementary File 1

Interview Guide

Interview questions covered eleven topics and were designed to explore patients' perceptions and experiences of comfort from the time they were notified they needed heart surgery through to the time they were preparing for discharge. Questions evoked responses that covered multiple topics and so participant burden was not as great as it appears. A one-page concept map summarising the interview topics enabled the researcher to keep track of the topics covered and note down key points to return to. Open-ended, probing questions were used to obtain rich, meaningful data [1,2]. Probing questions sought concept clarification when it was uncertain that patients were talking about their experience of comfort. Patients were also asked to score their comfort, and then their pain, on an 11-point Numeric Rating Scale (NRS) to further explore the meaning of comfort and conceptual similarity to absence of pain.

RQ = Research Question

Opening question

- I would like to begin by asking you about your overall experience of having surgery in this hospital. You have been in hospital a few days now after major surgery, what has your experience been like so far?

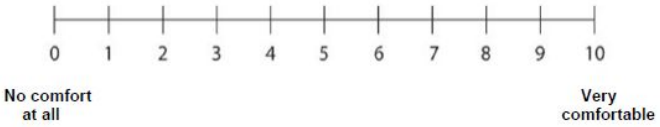
Topic 1 Meaning of comfort

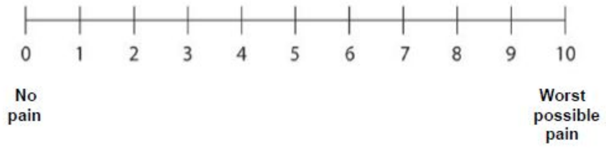
RQ: What does "comfort" mean to patients who have been recovering from cardiac surgery for at least four days?

- You've been in hospital recovering from surgery for 4/5 days now. I am interested to know how comfortable you feel right now. What does being comfortable mean to you?
- Can you please look at this comfort scale? It is a scale that goes from 0 to 10; a score of 0 would mean you are extremely uncomfortable - no comfort at all - and a score of 10 would mean you are extremely comfortable. Taking all your feelings and symptoms into consideration can you give a number from 0 to 10 that describes your level of comfort right now?
- What does that score mean to you? *Probe - what does a score of x feel like?*
- What would take you to get up 10?
- What would you most like staff to know about how to help patients feel comfortable in hospital after heart surgery?

RQ: Do patients perceive pain and comfort differently?

- On the other side of this paper is a scale you will be familiar with it is a pain scale also measured pain from 0 to 10. How much pain are you in right now on this scale of 0 to 10 where 0 is no pain and 10 is worst pain imaginable.





RQ: What does "discomfort" mean to patients who have been recovering from heart surgery for at least four days – understanding discomfort helps understand comfort

- Let's talk now about the lower end of the comfort scale, were you ever down closer to the bottom of the scale? What was that like?
- Let's talk about any discomfort you have experienced after surgery. Probe symptoms spontaneously mentioned. Ask about symptoms generally experienced such as pain, nausea, constipation, anxiety, worries or concerns. How did that make you feel?

Topic 2 Pre-operative preparation and expectations, influences on comfort at that time

RQ: How do pre-operative events influence pre and postoperative comfort?

- Let's talk a little about the events before surgery. What was it like for you when you realised that you needed heart surgery?
- During the time waiting for surgery what helped with those thoughts and feelings?

Topic 3 Self-comforting strategies

RQ: What strategies do patients use to promote their sense of comfort when undergoing heart surgery?

- Probe what helped/didn't help with an unpleasant/distressing situation/event.
- Have you felt safe? Probe confidence in staff, able to ask for help? Did staff check up on you? *Probe: Influence on comfort*
- Have you been chatting to other patients? Staff? *Probe: Influence on comfort*

Topic 4 Cultural Dimension of comfort

RQ: In what way does feeling culturally connected influence the comfort of patients when they are in hospital recovering from heart surgery?

- Let's talk now about what it is like for you in general being in hospital. Can you remember when you first came into the ward for your surgery? Did you feel welcome? *Probe What was welcoming/not welcoming i.e. greetings, environment, staff; How important was that initial welcome?*
- What have you missed from your home life?
- Have you any values, preferences related to health and illness that are important to you? *Probe: impact on comfort in context of care experienced.*

RQ: How does an acute care environment support cultural connectedness?

- Were staff aware and respectful of your cultural values, preferences? *Prompt: For e.g. return of body parts, cultural support such as visiting kaumātua*

Topic 5 Spiritual Dimension of comfort

RQ: In what way does spiritual connectedness influence the comfort of patients when they are in hospital recovering from heart surgery?

- Many patients can experience a feeling of uncertainty during the days before and after surgery. Some people find that spirituality, a faith or a belief, karakia, prayer can help them over this time. Is that something that occurred to you?
- Is there something else, some other sense of a higher power or meditation for example, that that has helped you at this time?
- Were there times when connecting with your faith or beliefs was comforting?

RQ: How does an acute care environment support spiritual connectedness?

- Was spiritual support offered and available?
- Do you feel that staff respected your spiritual needs?
- Has there been times in hospital when you have felt unsupported or restricted in your spiritual beliefs or faith? Prompt I am thinking of things that staff might have said or done? Was your time for karakia/ prayer respected? Quiet place for prayer?

Topic 6 Family/Whānau

RQ: How is family/whānau presence important to patient comfort?

- Have you missed your family/whānau since you have been in hospital?
- How important have family/whānau been for you at this time?
- Where there tines when you didn't want visitors?

RQ: In what way might staff-family/whānau relationships contribute to patient comfort?

- Did staff make your family/whānau feel welcome? How was that important to you?

RQ: If shown to be important, how does an acute care environment a) support family/whānau presence b) include family/whānau in care?

- Have family/whānau been able to visit or keep in contact as much as you needed them to be?
- How have your family been involved in your care? *Prompt: Have there been times when family/whānau have intervened on your behalf in ways that improved your comfort?*

Topic 7 Staff Influences - Engagement and Commitment

RQ: How do staff interactions influence the emotional and physical comfort of patients in hospital for heart surgery, including willingness to participate in care?

- Were doctors comforting? Were nurses comforting? *Or, ask in response to spontaneous description of a distressing situation.*
- What qualities did you want the nurses who look after you to have? Were there any staff that you felt you particularly related to or able to confide in? *Probe What was it about that person that made you feel that way? Why was that important?*
- In your experience of care in this hospital have staff had time for your needs? *Probe How/why this was important.*
- Were you comfortable using the call bell for help? *Probe Why was that?*
- Did you experience (or see) any care that disturbed you? *Probe What happened?*

RQ: *How do staff in acute care environments respond to individual patient's comfort needs?*

- Can you recall a time since your surgery when someone went out of his or her way to help you feel more comfortable? What difference did that make?

Topic 8 Staff Influences - Information and Participation

RQ: How does information influence patient comfort when undergoing heart surgery?

- Did anything happen in your recovery that you weren't prepared for?
- Did you know what your plan of care was for each day? How was this/would this have been helpful?
- Let's talk about going home and what life will be like for you in the first few weeks. Do you have any concerns about how you will manage? What have you been told about going home? *Probe impact on comfort*

RQ: How does patient participation (such as opportunities to personalise care by reporting symptoms, negotiating care) influence patients' physical comfort after heart surgery?

- Were you encouraged to report your pain? Other symptoms?
- Who made decisions about the pain relief you were given? Can you recall a time when you were given options about what strength pain relief you had? *Probe management of other physical symptoms of significance to the participant*
- Did you ever put up with any pain or symptoms? *Probe why*

RQ: How do opportunities for participation promote emotional comfort?

- Were you involved in treatment and care decision as much as you would have liked to be? *Probe preference for involvement in treatment decisions when asking about symptom management, or aspects of care described as distressing/improve comfort*
- How did you feel about taking the pills? Were there any medications that you refused to take? *Probe – or were reluctant to take? Why was this?*

RQ: How is patient participation influenced by the quality of staff interactions, specifically patients' sense of engaged and committed staff?

- *Refer Engagement and Commitment questions*

Topic 9 Staff Influences - Holistic Care and Assistance,

RQ: How is patient comfort assessed in the first four / five days after cardiac surgery?

- Let's talk about the care you needed to help you feel more comfortable. Did nurses ask you about your pain? What else did they ask you about? What did doctors seem concerned about? *Probe - Aware of patients' specific symptoms or causes of discomfort identified in other responses.*
- Were you able to do the things that were expected of you each day? *Probe - I am thinking of being able to get out of bed, walk to the toilet? What about sleep and rest?*
- Did you get the care you needed? *Probe how this affects comfort and who provided necessary help*

Topic 10 Staff Influences - Symptom Management

RQ: How effective and consistent is the care provided for patients' symptoms or generalised discomfort in the first four / five days after surgery?

- Can you remember any delays in getting relief for your symptoms? Explore symptoms previously mentioned.
- What about non-medicine methods (non-pharmacological) or non-western methods of healing or rongoa (Māori methods of healing)

Topic 11 Physical Facilities and Ambience

RQ: How does the ambience of an acute care environment affect people's comfort?

- Was the general ward environment comfortable? I am thinking about chairs, beds, smells, noise, lights, cleanliness, sharing a room, bright pictures, access to TV/radio, family space?

Closing Question

- Is there anything else you would like to add about your experience of comfort or discomfort during your time in hospital for heart surgery?

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Supplementary File 2

Table: Characteristics of patients

Participant characteristics	NZE (n = 10)	Māori (n = 8)	Pacific (n = 7)
Procedure			
CABG	6	3	5
Valves	4	4	2
CABG + Valve	-	1	-
Male (%)	6 (60)	5 (62)	5 (71)
Median Age Years (range)	63 (48-85)	64 (41-75)	58 (30-75)
Mode of admission			
Booked admission (n=12)	4	5	3
Transferred from a referring hospital after an acute, unplanned admission (n = 13)	6	3	4
Surgery postponed (n = 7)	4	2	1[#]
Interviewed POD 4 (n = 18) (remainder interviewed POD 5)	7 (70%)	6 (75%)	5 (71%)
Average interview duration in minutes (range)	40 minutes (23 to 62)	48 minutes (25 to 66)	42 minutes (26 to 58)
Family/whānau present at the interview	1	3	3

CABG - *Coronary Artery Bypass Grafts*; Valves - *Valve Replacement or Repair*; # - because of infection; POD – *postoperative day*

Supplementary File 3

Table: Reasons for non-participation in those approached

	Number of patients	Ethnicity of non-participants (N, %)		
		Maori	**Pacific**	**NZE**
Total number approached but did not participate	**15**	4 (27%)	4 (27%)	7 (47%)
Declined consent	**13**			
Inconvenient time	6	1	2	3
Reluctant – too much going on	2	-	-	2
Perceived as Australian research	1	-	-	1
Declined – no reason given	4	2	1	1
Approached, indicated interest but left the ward before interview	**1**	1	-	-
Judged as not meeting purposive sampling requirements*	**1**		1	

NZE - New Zealand European; *N*=number; * Admission details stated Pacific ethnicity but recent English ethnicity immigrant to Cook Islands.

Reporting checklist for qualitative study.

Title: Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care

		Reporting Item	Page Number
Title			
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	4
Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	2
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	3

Purpose or research question	#4	Purpose of the study and specific objectives or questions	4
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	3-4
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	5,6

Context	#7	Setting / site and salient contextual factors; rationale	4,5
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	5,29
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	7
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	5, 29
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	5, Supplementary File 1
Units of study	#12	Number and relevant characteristics of participants, documents, or events included in	6, Supplementary File 2

		the study; level of participation (could be reported in results)	
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	4-6
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	6
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	5-6; 29
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	7-26
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Table 1- 4
Discussion			

Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	27- 30
Limitations	#19	Trustworthiness and limitations of findings	29
Other			
Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	30
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	30

Notes:

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BMJ Open

Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care in inpatient settings

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2019-033336.R1
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Complete List of Authors:	Wensley, Cynthia; The University of Auckland, School of Nursing Botti, Mari; Deakin University, School of Nursing, Deakin University; Epworth Deakin Centre for Clinical Nursing Research McKillop, Ann; The University of Auckland , School of Nursing, Faculty of Medical and Health Science Merry, Alan; University of Auckland, Head of the School of Medicine, University of Auckland;Department of Anaesthesia, Auckland City Hospital
Primary Subject Heading:	Qualitative research
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Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care in inpatient settings

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ABSTRACT

Objective: To develop a multidimensional framework representing patients' perspectives on comfort to guide practice and quality initiatives aimed at improving patients' experiences of care.

Design: Two-stage qualitative descriptive study design. Findings from a previously published synthesis of 62 studies (Stage one) informed data collection and analysis of 25 semi-structured interviews (Stage two) exploring patients' perspectives of comfort in an acute care setting.

Setting: Cardiac surgical unit in New Zealand.

Participants: Culturally diverse patients in hospital undergoing heart surgery.

Main Outcomes: A definition of comfort. The Comfort ALways Matters (CALM) framework describing factors influencing comfort.

Results: Comfort is transient and multidimensional, and, as defined by patients, incorporates more than the absence of pain. Factors influencing comfort were synthesised into 10 themes within four interrelated layers: patients' personal (often private) strategies; the unique role of family; staff actions and behaviours; and factors within the clinical environment.

Conclusions: These findings provide new insights into what comfort means to patients, the care required to promote their comfort, and the reasons for which doing so is important. We have developed a definition of comfort and the Comfort ALways Matters (CALM) framework, which can be used by healthcare leaders and clinicians to guide practice and quality initiatives aimed at maximising comfort and minimising distress. These findings appear applicable to a range of inpatient populations. A focus on comfort by individuals is crucial but leadership will be essential for driving the changes needed to reduce unwarranted variability in care that affects comfort.

ARTICLE SUMMARY

Strengths and limitations of this study

- A comprehensive conceptual framework developed from an integrative review of 62 studies (14 theoretical and 48 qualitative) focused the exploration of patients' perspectives on comfort in an acute care setting.
- The definition of comfort (the state) and description of influencing factors (processes of care) were developed using qualitative methods aimed at understanding how comfort and comforting is perceived and experienced by patients.

- The study reported on here is the first that has set out to explore a cultural dimension of comfort via purposive sampling of culturally diverse patients.
- Peer debriefing, Māori and Pacific consultation, prolonged engagement, negative case analysis and triangulation promote credibility.
- The two-stage approach enabled development (Stage one) and then refinement (Stage two) of themes and operational definitions that capture the broad influences on comfort in one unifying framework. However, identifying context-specific detail is required for application.

INTRODUCTION

Championing patients' need for comfort was central to the origins of person-centred care organisations such as the Picker Institute[1] and Planetree[2]. Within the executive summary of the Institute of Medicine's landmark report "To Err is Human" is stated, "it is not acceptable for patients to be harmed by the health care system that is supposed to offer healing and comfort"[3, p3]. Hippocrates' quote "To cure sometimes, to relieve often, to comfort always" is familiar to many. More recently, the 2012 NICE Patient Experience Guideline identified "comfort" as one of seven outcomes of a good patient experience[4]. Informed by the work of Gerteis and colleagues[5], promoting physical comfort became a core aspect of person-centred care frameworks[4, 6, 7]. Comfort is also regarded as holistic and multidimensional[8-12], associated with concepts that are hallmarks of a caring and humane society such as dignity, empathy, kindness and compassion[13-15]. This notion of comfort fits with evidence provided by patients and family during the Mid-Staffordshire Inquiry[16] where good - and bad - care was described in terms of comfort, discomfort, comforting, or feeling/looking uncomfortable. As such, comfort, or lack of it, is not only a defining aspect of patients' experiences but an indication of the overall quality and safety of care. A service that fails to provide high-quality care that includes the promotion of comfort, or recognise avoidable suffering as a source of harm, means that patients and their family have been let down by those who are meant to care for them[3, 16-22]. Overall, reducing unwarranted variability in care important for comfort is a crucial aspect of quality person-centred care in contemporary healthcare settings.

But what is comfort, and what care matters to patients? Differing definitions[8, 10, 11, 23]and perspectives on comfort depicted in person-centred frameworks[6, 7] and concept analyses[8-12] highlight that this concept is poorly defined for practice and quality improvement. In particular, the absence of a framework incorporating all that is relevant from patients' perspectives[24] risks provider-centric improvement that fails to deliver the care that matters. The purpose of this research was to develop a multidimensional framework representing patients' perspectives on comfort that can be applied in a range of healthcare settings to guide practice and quality improvement initiatives aimed at improving patients' experiences of care.

METHOD

A two-stage qualitative descriptive study design[25] was used to explore patients' perspectives on comfort and its influencing factors. This design is known for producing "findings closer to the data"[25, p 78] and was considered appropriate for generating findings that could be translated into practice. In Stage one, data from 62 studies exploring the concept of comfort in healthcare settings were synthesised into a conceptual framework representing patients' perspectives on comfort[24]. Integrative review methods facilitated identification of multiple dimensions of comfort that appeared relevant. This framework informed the study reported here, which explored the concept of comfort in patients undergoing heart surgery. Heart surgery can be physically and emotionally distressing,[26] therefore exploring patients' perspectives on comfort and comforting care in a cardiac surgical setting was ideal. Our two-stage approach enabled development (Stage one) and then refinement (Stage two) of a framework representing patients' perspectives on factors influencing comfort.

Patient and Public Involvement

We used an exploratory method of data collection to better understand patients' perspectives and experiences of care. Questions were informed by a conceptual framework developed from studies also exploring patients' perspectives. Patients were not directly involved in the design of this research. However, cultural advisors provided advice that facilitated Māori and Pacific recruitment, led to refinements of the interview procedure and supported accurate representation of Māori and Pacific worldviews. The acceptability of the interview process and questions were tested in five pilot interviews involving patients of Māori, Pacific and New Zealand European ethnicity. As part of the informed consent process, participating patients were offered the opportunity to review their interview transcript and feedback on its accuracy via a pre-paid postage return of the hard copy or follow-up phone call. Presentations of the findings have been made in order for our results to benefit future patients and to guide research aimed at improving patient experience.

Site and setting

The study was conducted in a 47-bed cardiac surgical unit in a publicly funded hospital in Auckland, New Zealand.

Participant selection

Purposive sampling was used to access and invite participation from culturally diverse patients. Sampling aimed for one third each of Māori (the *tangata whenua* or indigenous people of Aotearoa/New Zealand), New Zealand European (NZE) and Pacific people (people who migrated from, or who identify with, the Pacific Islands) to enable exploration of a cultural dimension of comfort. Inclusion criteria were: postoperative day four or five after operations classified as Coronary Artery Bypass Graft or Valve Replacement/Repair; age 16 years or older; English speaking; transferred from the Intensive Care Unit postoperative day one; an expectation of discharge at or before eight postoperative days; sedation score of 0 (awake, alert) or 1 (mild sedation, easy to rouse), and ability to provide consent. Participants were identified in consultation with a senior nurse and then invited to participate by one researcher (CW) who emphasised her non-employee status. Informed consent was obtained. One experienced researcher (CW) conducted all interviews.

Data collection:

Semi-structured patient interviews explored (1) what comfort meant to patients from which a definition of comfort was to be developed and, (2) factors within the care setting that influenced comfort, i.e. what care mattered to patients. Questions exploring influencing factors were informed by the conceptual framework[24] (see Supplementary File 1- Patient Interview Guide). Patients were not asked directly if the broad influences identified *a priori* were important for comfort. Pilot testing indicated this approach risked bias towards affirmative responses and less nuanced data. Rather, patients were asked about aspects of care related to conceptual framework themes, and responses were probed to determine the influences on comfort. Negative case analysis (searching for disconfirming evidence) was used throughout data collection and analysis[27]. The final interview question gave participants the opportunity to describe influences on comfort that may have been missed. Interview settings were patients' single rooms (n = 7), a quiet room on the ward (n=13), or patients' four-bedded room (n = 5); the latter being participants' preference. Interview durations were between 23 and 66 minutes (average 43 minutes) and similar between ethnicities (see Supplementary File 2 - Characteristics of patients). Audio recorded interviews were transcribed verbatim. Participants were sent a copy of their interview transcript and given the opportunity to comment on accuracy and content.

Data Analysis

Analysis was sequential. General inductive method[28] was used to analyse data contributing to a definition of comfort. Inductive analysis gave some assurance that the definition of comfort was data-derived and developed without undue researcher influence[28, 29]. Analysis involved: close reading of the transcribed text; creation of specific and then general (higher level) categories from patients' description of comfort or derivatives of the word comfort (comforting, comfortable, uncomfortable, discomfort); and revision and refinement until four overall categories capturing the essence of what comfort feels like to patients were identified. Categories were summarised into a definition of comfort.

Thematic analysis[29] and Framework method[30] were used to analyse data related to influences on comfort using both deductive and inductive analysis. Deductive analysis tested the relevance of the conceptual framework to patients' perspectives. Inductive analysis was important for enabling us to identify any new themes[29, 30] within patient interview data. The steps involved were:

- Familiarisation with the transcribed texts. The definition of comfort was used to identify and begin coding patient interview data relevant to influences on comfort. Familiarisation involved careful consideration of the overall "fit" of that data to the conceptual framework themes[24].
- Constructing an initial thematic framework from the conceptual framework headings[24] building in themes and subthemes identified within the coded data. Some codes were derived from the *a priori* theme definitions[24], other codes developed inductively from the data.
- Indexing and sorting, in which data were systematically sorted into the thematic framework.
- Reviewing data extracts, checking for coherence between codes and refining the thematic framework accordingly.
- Data summary and display; matrices of distilled coded text were developed for each subtheme to enable data to be easily compared between participants and between ethnic groups.
- Abstraction and interpretation of the data; multiple and interrelated factors influencing patient comfort were identified. A careful comparison between Stage one[24] and Stage two findings was made to determine transferability beyond the cardiac surgical setting[31].

Data were managed using NVivo Version 10 software. One researcher (CW) coded all data. Coding decisions were discussed at regularly scheduled meetings (MB, AM, CW). Peer debriefing[27] occurred throughout all stages of data analysis. Discussion and refinement of themes and subthemes occurred until consensus was reached. Consultation with Māori and Pacific healthcare staff ensured that the recruitment process, interview procedure and data analysis promoted participation of Māori and Pacific patients and accurate representation of their worldview. We used the SRQR checklist when writing our report[32].

Ethical Considerations

Ethics approval was gained from Deakin University Human Research Ethics Committee (2013-180), the New Zealand Health and Disability Ethics Committee (13/CEN/95) and the institution at which recruitment and interviewing occurred (A+ 5824).

RESULTS

Twenty-five participants were interviewed on either day four (72%) or day five (28%) after surgery. Eight patients self-identified as Māori, seven as Pacific people, and 10 as NZE. Median age was 63 years (range 30 to 85) and 64% were men. Fourteen patients underwent Coronary Artery Bypass Graft, 10 underwent Valve Replacement/Repair (n = 10) and one patient underwent both (Supplementary File 2). Fifteen patients declined participation for reasons outlined in Supplementary File 3.

Comfort - a universal concept

Perspectives on comfort reported by patients in primary studies[24] were similar to those held by patients undergoing heart surgery. As such, comfort is regarded as having universal relevance and the findings presented here appear applicable to a range of inpatient populations.

Patients' perspectives on comfort

Patients' perspectives on comfort are summarised in the following definition:

Comfort is a transient and dynamic state characterised not only by ease from pain, emotional and physical distress but an emerging sense of positivity, safety, strength and acceptance of one's situation that is both underpinned, and sustained, by feeling valued, cared for, confident and accepting treatment by choice. Total comfort is elusive; rather, patients seek to be as comfortable as they can be under the circumstances of their healthcare interaction.

Underpinning our definition are the following four senses of comfort that were identified in the patient interview data:

- "Relief (ease) from pain, emotional and physical distress"
- "Feeling positive, safe and stronger"
- "Feeling confident, in control, accepting treatment and care by choice"
- "Feeling cared for, valued; connecting positively to people and place".

When is comforting care important?

Patients' need for comforting care varied between individuals and could occur at any stage of the healthcare interaction. Common triggers were the uncertainty and fear of treatment and planned procedures; pain, emotional and physical distress; feeling vulnerable, dependent and weak from functional loss and the accumulative effect of multiple symptoms; being in an unfamiliar environment, and missing home and family.

Factors influencing patients' comfort

Factors influencing comfort were complex but underpinned by 10 themes, as depicted in the conceptual framework that we had named the Comfort ALways Matters (CALM) framework[24]. Themes occurred within four integrated layers: patients' personal strategies; the role of family; staff actions and behaviours; and factors within the clinical environment. The broad themes identified in Stage one were consistent with those identified by patients undergoing heart surgery. Most theme names were retained. However, patient interview data led to a deeper, more nuanced understanding of these themes. Accordingly, the theme definitions presented here have been refined to better reflect (1) the care that matters to patients, (2) the integrated nature of that care, and (3) aspects of culturally responsive care that had not been previously identified. The theme related to family influences was renamed to reflect important ethnocultural differences in the way family comfort. The essence of each theme and their unified influence on patients' sense of comfort is portrayed in Figure 1. Operational definitions, subthemes and illustrative quotes for all themes are provided in Tables 1- 4. Themes within each layer are now discussed.

The first (inner) layer of the CALM framework relates to patients' use of personal (often private) strategies to promote comfort and ease distress. Three themes were identified, the first describes patients use of "Self-comforting strategies" during times of distress and uncertainty. Strategies were categorised under four subthemes, which were maintaining positivity; looking for reassuring signs of safety through surveillance of self and others; easing distress using distraction or self-care routines; and developing acceptance of one's situation by, for example, getting informed, planning, and learning to trust. The second theme was about comfort arising from feeling "Culturally connected", which related to seeking cultural familiarity, and feeling that one's cultural norms and values were understood and respected by others. The third theme described comfort gained from feeling "Spiritually connected". For some patients, connecting to a higher power through personally significant spiritual or religious practices was comforting. In all three themes, actions and behaviour of family, staff, and factors within the clinical environment moderated the success of these strategies.

Table 1 Patients personal (often private) strategies

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Self-comforting strategies	During times of distress and uncertainty, patients work to maintain a sense of comfort using personal strategies that include positive thinking, looking for reassuring signs of safety and normality through surveillance of self and others, self-care routines, getting informed, planning and learning to trust. The success of these strategies is moderated by patient characteristics and influences from family, staff, other patients and the clinical environment. Some patients may use withdrawal (disengagement from staff, service), or at least thoughts of doing so, as a strategy to promote short-term but potentially self-harming relief from discomfort and distress.	The operational definition for the theme "Self-comforting strategies" was generated from data coded to four subthemes: **"Maintaining positivity and strength"** Positive thinking helped patients stay positive and mentally strong when faced with fear and uncertainty of personally challenging treatment and care. Examples include celebrating small milestones during postoperative recovery and focusing on the benefits of surgery rather than the risks. *"I just kept on saying to myself I'm part of the majority* [who survive], *that kept me going because I was going to walk straight out." (P5)* **"Safety through surveillance of self and others"** Patients sought to reassure themselves of their safety through surveillance of their own symptoms and surveillance of staff. Not being able to rationalise symptoms as "normal" (NZE8) could cause significant distress. Conversely, patients drew comfort from the knowledge that symptoms or odd sensations were to be expected under the circumstances. *"I just told myself it was something from the surgery you know I knew exactly what it was." (NZE7)* Observing that staff were watchful and checking on them "when they're supposed to" (NZE7) also provided reassurance of safety. *"They'll pop their head in when it's not their time to see how you are. I know, I keep an eye on their schedules"* (M1). **"Strategies to develop a sense of ease"** Distraction (watching TV, listening to music, seeking out people to chat with) eased emotional discomfort by helping patients take their mind off unpleasant or unsettling events. *"I didn't like being in a separate room, I didn't like that … I felt quite isolated. I mean I'm a bit of a chatty person, not everybody likes to talk but you know you like to know the people around." (NZE4)* Self-care routines (mindfulness, meditation), pulling curtains for privacy, making the effort to connect with one's roommates temporarily eased discomfort associated with disturbing factors within the hospital environment (such as noise, room sharing with strangers). *"I'll just go into the room and I tend to pull the curtains across, I've got an iPod there, I usually listen to a bit of music" (NZE2)* Some patients used withdrawal and disengagement to ease discomfort and distress. Examples included withdrawing from interactions with staff, with other patients, contemplating not going through with the surgery, or self (early) discharge after surgery. *"I was a bit emotional before the operation … I was crying, I want to go home, I want to go home."* (NZE6)

		"They say oh I'll be back in five minutes and they're gone. And then ring the bell, ring the bell, that's why I said to my daughter I'm ready to go home" (P1). **"Strategies promoting acceptance"** Underpinning a sense of comfort was developing acceptance of one's situation using strategies that included use of humour, getting informed (reading, asking questions), developing some sort of plan or way forward for situations causing concern, and focusing on the necessity of unpleasant treatments, surgery, lifestyle changes and so forth. *"[I was] quite chirpy and cheeky to the [theatre] nurses just to try and keep myself cool, you know, just to cool myself down and get ready to accept the inevitable, you know."* (M8) Patients also gained comfort by developing a sense of trust in either the process or the people around them. Trust was integral to feeling able to accept care and treatment by choice. *"I don't ask much because I haven't been concerned about anything really. I trust them. My first operation really gave me the trust you know, people that trained years to be there, you've got to trust them." (M7).*
Culturally connected	Patients find it hard to be fully comfortable in hospital because they miss home, family and invariably encounter cultural norms, values and practices that may be different to their own. Comfort is enhanced in an environment that patients perceive to be welcoming to them and their family, culturally familiar, and there is the sense that others (staff, other patients) understand and respect their cultural norms and values. These perceptions help patients develop a sense of comfort related to connecting positively with people and place without tension or the need to repress personally important values, beliefs and preferences for care.	The operational definition for the theme "Culturally connected" was generated from data coded to three subthemes. The first two subthemes provide the context for a cultural dimension of comfort, the third indicates the importance of staff competence in culturally safe care. **"Missing home and family - hospital as a culturally unfamiliar environment"** Patients described the discomfort of needing to live - albeit temporarily - in an environment patients variously described as "alien", "foreign" and very "different" to home. Different things were missed by different people but, overall, unfamiliar routines, certain expectations of behaviour and missing home life exacerbated patients' sense of unease associated with being in the healthcare setting. *"…I've had my brother in law and his children come up and his kids are like my grandkids you know, full of life. The doctors say keep quiet, and I keep quiet and let them make the noise. I love the children …" (M4)* *"…I just couldn't go anywhere and feel that you were finally away in your own private little area that you could just chill out in with your family and things like that. So that's pretty hard, you're just trapped". (NZE2)* *"I miss my kids and my husband and my grandchildren. It's the love that you have at home. It's your privacy your own privacy at home. (P1)* **"Culturally important values and care preferences"** All patients held important values and care preferences related to, for example, meaning of family (who should visit and expected visitor behaviour); room sharing; communication styles, deference to hospital rules; attitudes around treatment regimens, putting up with pain, body modesty; expectations of caring

		(notion of service, being treated like family), food preferences, and spiritual beliefs (use of prayer/karakia). Underlying tensions associated with cultural differences were evident. For example, perspectives may differ between patients, staff, other visiting families about who should visit and acceptable visitor behaviour. *“It’s what Pacific Islanders do. We all have the same sort of morals…They [visitors] just come to show their support, respect and love, yeah.” (P7)* **“Feeling welcome, connecting positively with others amidst cultural differences”** Crucial to comfort (feeling at ease, safe, positive connections) was patients’ sense of welcome and that others (staff, other patients) understood and accepted culturally important values and care preferences. Patients sought signs of welcome, of respect, of cultural acceptance. Examples include observing culturally diverse staff working as a team, the quality of communication between staff and other patients (“no racism here” M4), family being able to visit or share karakia outside of visiting hours, availability of cultural support staff and culturally diverse décor. *…it was a lot easier within our room because we were Māori, we understood. Like one whanau [family] came in first and I said kei te pai [good, that’s fine] you fellows have your time … They felt like they were taking up too much space.” (M3)* Attitudes, treatment regimens, rules and routines not congruent with one’s personal values (for example, differing interpretations of body modesty, expectations of service and care) or based on a stereotypical understanding of cultural preferences undermined patients’ sense of welcome and could distress. *"sometimes they leave you there naked* [under a sheet] *you know, and you can’t do anything.” (P1)*
Spiritually connected	Some patients gain a sense of comfort from feeling connected to a higher power and sustaining that connection through personally significant spiritual or religious practices. Patients’ need for spiritual comfort may be intensely private and not always related to strongly held religious or spiritual beliefs. The need for spiritual comfort is dynamic, intensifying during times of distress or uncertainty.	The operational definition for the theme “Spiritually connected” was generated from data summarised in two subthemes: **“In God’s Hands”** During times of uncertainty, some patients gained a sense of comfort (feeling safe, strengthened, at ease) through their trust in God, believing that “God would do the right thing” (NZE6) and events were “part of God’s plan…no doubt, no fear” (M4). *“I pray for them [staff], when I went in to the operation and the nurses going to take care of me in there. …When you put your trust in the Lord He will come then, show them the way.” (P1).* To those of no spiritual or religious affiliations, the idea of putting one’s faith in a higher power neither provided nor detracted from their comfort. *“…I can understand people being of faith probably being comforted by the fact that they think someone’s out there looking after them but I’ve never gone with that… “(NZE2)* **“Sustaining spiritually important practices, connecting with God”**

	Staying connected to (sometimes re-establishing) one's faith provided comfort during times of distress. *"…all the time I feel pain God helped me…I am very close to God when I'm sick, when I'm okay I run around and do everything I want and I forgot. I only remember Him when I'm sick…"* (P4) Not being able to sustain important spiritual values and practice could be distressing, for example, if food options or treatment regimens conflicted with spiritual beliefs, or if there was no space for sharing prayer (karakia) with family. Family, Kaumātua (Māori elder held in high esteem) and chaplains helped sustain spiritually important connections. *"I asked for a Kaumātua … could he say something* [a karakia before surgery] *for me. And I was happy. I was happy what he said to me, what he did to me. I'm happy about it". (M6)*

[1] Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview.

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

The second layer of the CALM framework related to the theme “Family’s unique ability to comfort” (see Table 2). Exploring family comforting in a culturally diverse sample identified that family’s unique connection with patients was pivotal to their ability to comfort. Differences in the way families comforted (whether by shared prayer/karakia, bringing food in, encouraging trust) and who comforted (immediate or extended family) were identified between ethnicities. A shared culture and understanding appeared to underpin the differences in family-initiated comforting observed.

Overall, family were an important buffer to the unfamiliar clinical environment. Additionally, for most patients, having loved ones near, connecting with those who know them best and whom they trust promoted positivity and acceptance of care. Family-initiated comforting activities also included providing holistic care and practical support. However, family could also distress. Patients expressed concern for the safety and wellbeing of family members and worried about being a burden. Conflict between staff and family could undermine confidence in treatment and care. Positive family-staff relationships and family-friendly facilities are the most comforting scenario for patients. These examples demonstrate the integration between family- staff- clinical environment layers that was better understood through Stage two patient enquiry.

Table 2 Family influences on comfort

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Family's unique ability to comfort	Familiarity gives family the unique ability to comfort that complements care provided by staff. From most patients' perspectives, having loved ones near, connecting with those who know them best and whom they trust, promotes positivity, acceptance of care and provides an important buffer to the unfamiliarity and uncertainty of the clinical environment. Family also comfort through the provision of holistic care and practical support. Patients do not readily relinquish their family role and responsibilities even when facing personal health challenges. Under these circumstances, family-friendly facilities and positive family-staff relationships offset patients' sense of discomfort about the impact their situation may be having on others. These factors also facilitate family's ability to comfort. Conflicting views between family and clinical staff can exacerbate doubt in treatment and care amongst those already feeling vulnerable or uncertain; the most comforting scenario for patients is that family and staff views align. How family is defined, and the nature of comforting activities needs to be seen in the context of what is culturally important for patients and their family.	The operational definition for the theme "Unique ability to comfort" was generated from data summarised in three subthemes: **"You always want to see your family - comfort from someone who knows you"** The unique relationship between patient and family underpins family's ability to comfort. Loved ones can be a buffer to the unfamiliar healthcare setting and a constant comforting presence during times of illness and uncertainty. Patients spoke of hospital life as "100% worse without your partner" (NZE2), the comfort of having someone "hold my hand" (NZE4) and someone "to touch" (M7). *"…it doesn't matter how good the nurses, or the doctors are I always want to see my wife or my daughter…I know you give us a lot of helping hands but, in your mind, you always want to see your family." (P4).* Family also help patients feel safer and more confident about treatment and care decisions. *"My uncle came and just had a good word to me and sort of put me on track, he sort of made me feel better too you know …he was just more positive you know, like you're going to be better, have a better life, you're going to have a longer life …if I didn't have no family I would have taken off."* (P7) **"Comfort through practical support and care"** Family provide holistic and practical care that promoted comfort. Examples include back and shoulder rubs, bringing in culturally preferred food, helping with and advocating for care promoting physical comfort (position changes, pain relief). Family also provided practical support that eased patients' concerns over impending discharge, lifestyle changes and how they would manage at home. *"I've noticed the doctors and nurses take the time to explain things to her* [wife] *as well as to me which is good. They can probably see I look really spaced out its better to talk to her" (NZE5).* **"Discomfort, unease related to family"** Even during personal distress, patients did not relinquish family roles and responsibilities (as grandmother, mother, father, partner, husband, daughter, family matriarch and so forth) were not readily relinquished. Patients' concern for their family's safety and wellbeing, worry over being a 'burden' or "scaring" family sometimes meant denying themselves the comfort of family visits.

	"… My daughter, she's got her three little children and I don't want her to take them around, I don't want them to get in the car accident, it's too far for them …I told them not to come back …I'd rather they were safe at home…" (P2). Strained family relationships or family who did not understand patients' needs added a layer of distress additional to that arising from their clinical condition. Similarly, differing views between family and staff could undermine patients' confidence in treatment and care and may require them to make an uncomfortable choice between family and clinical staff recommendations. *"I don't want to deal with her [wife]. I want to concentrate on the nurses and the doctors... "*(P6)

[1] Patient interviews were coded by ethnicity and order of interview, i.e. M1 is the code for first Māori interview, P1 for the first Pacific interview and NZE1 for the first NZE interview.

[2].Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery

The third layer of the CALM framework relates to the way staff actions and behaviour influence comfort. Five distinct but integrated themes were identified (see Table 3). The first theme was effective "Symptom Management", which was essential for all symptoms including but not limited to pain. Distressing symptoms varied considerably even in a relatively homogeneous group of patients therefore individualised management was important.

The second theme, “Holistic Care and Assistance” acknowledges the significant physical and emotional discomfort that can arise from the accumulative effect of symptoms, treatment side effects, unpleasant procedures and loss of functional ability. Holistic care involving multiple, non-pharmacological interventions was essential and complemented pharmacological symptom management. Help with personal care and basic tasks was crucial for a sense of comfort related to feeling cared for and safe. Comfort from holistic care and assistance was enhanced when delivered by staff with qualities described in the third theme, “Engagement and Commitment”. This theme relates to a sense of comfort arising from patients’ perceptions that staff were engaged in, and committed to, their welfare. Staff presence was important, which encompassed: the perception of 24-hour nursing presence; contact with doctors via ward rounds; and knowing that staff were available should they be needed. Comforting staff qualities included making an effort to connect, providing reassurance, encouragement and responding to patients’ discomfort or distress using therapeutic strategies tailored to individual need.

The fourth theme related to staff influence was “Information and Participation”, which influenced comfort in complex ways. When delivered well, information influenced comfort by enabling patients to feel prepared, reassured or, at least, accept the need for treatment and care. In addition, information and participation opportunities moderated patients’ ability to personalise many aspects of care important for their comfort. For example, patients were more likely to seek help, disclose concerns, or report symptoms when clearly informed about when, why and how to do so. Personalising care in this way also seemed more likely when patients felt comfortable with staff (refer Engagement and Commitment”. Preferences for participation varied but feeling overlooked, or unable to participate in care decisions could distress.

The fifth theme was “Perceived and Actual Competence”. Perception of staff competence was comforting in the sense that patients felt at ease and confident in the care provided. Actual competence in all influences was crucial. Interview data indicated that all staff can influence comfort by being competent in their role whilst mindful that patients’ need for comfort is individual and may occur at any stage of their healthcare experience.

Table 3 Staff influences on comfort

Influence	Operational Definition	Subthemes and supporting evidence^{1,2}
Symptom Management	Patients experience a range of distressing symptoms for which effective and sustained relief is crucial for their comfort. Symptom trajectories vary between patients therefore individualised assessment and treatment is essential. From patients' perspectives, staff actions that promote effective symptom management include routinely asking about symptoms, taking patients' symptoms seriously, pre-emptive or prompt treatment and working with patients to understand barriers to reporting symptoms and accepting treatment. When there are few effective pharmacological options, patient comfort becomes more dependent on other influencing factors such as holistic care and assistance.	The operational definition for the theme "Symptom Management" summarises the findings from two underlying subthemes: **"Variation in experience of common postoperative symptoms"** Patients' symptom experience varied in terms of symptom presence, severity and trajectory. Physical and associated emotional discomfort commonly arose from pain. *"I was in a lot of pain. I couldn't move. I was really in agony. I couldn't put my legs flat so I remember clearly having my legs up and if I got them up to a certain point it was just very slightly less painful than anywhere else. You know I remember just lying like that holding my knees because it was the best I could do." (NZE5*) Other distressing symptoms were postoperative nausea (..it's killing me…(P2)), fatigue, inability to sleep, loss of appetite, shortness of breath, constipation, low mood, or depression, dreams, hallucinations and visual disturbance, taste disturbance, palpitations, and fluid retention. *"It's a very simple thing but it was upsetting, my fingers they were swollen twice the size …it was horrible." (NZE4* **"Complexity of effective symptom management":** Complex patient and contextual barriers to effective symptom management were identified. Barriers related to patients' motivation for reporting symptoms, patients' beliefs and preferences for treatment regimens, staff competence, underlying attitudes of staff and patients (such as to opioids, sleeping tablets), conflicting opinions on effective treatment, clinical jargon, and the ability to personalise care. Patients emphasised the importance of participation in symptom management decisions, and of feeling heard. Not feeling listened to, or believed about the extent of symptom distress, prolonged physical distress and was emotionally upsetting. *"I think because I'm big you know I don't show the full soreness of my body …maybe they think I might be lying or something …I think they thought they were giving me too much painkillers …they were just saying we're giving as much as we can …they were trying to find the best one for me but weren't actually asking me which one was the best you know…" (P7)* Regular and competent symptom assessment followed by titrated symptom relief was essential for the duration of the admission. Pre-emptive symptom management and regularly offering analgesics were also important. Overall, symptom management depended not only on competent application of evidence-based symptom management protocols but on staff working with patients to understand and address barriers to reporting symptoms and accepting treatment (refer Engagement and Commitment", "Information and Participation").

		Other comforting actions become crucial when there were few effective strategies to combat distressing symptoms. These included support from family, empathetic and holistic care, reassurance about 'normality' and expected trajectory (refer Family's Unique Ability to Comfort, Holistic Care and Assistance, Information and Participation).
Holistic Care and Assistance	Patients experience significant physical and emotional discomfort from the accumulative effect of symptoms, treatment side effects, unpleasant procedures and loss of functional ability. Holistic care involving multiple, non-pharmacological interventions for relieving physical and emotional discomfort is essential and complements efforts to promote comfort through pharmacological symptom management. Assistance provided willingly reduces the substantial emotional and physical impact of loss of function and is an essential aspect of comforting.	The operational definition for the theme "Holistic Care and Assistance" summarises the findings from three underlying subthemes, the first of which provides context for this theme. **"Physical and emotional discomfort and distress"** Adding to patients' symptom distress was an accumulation of factors that included treatment side effects (such as dry mouth, itchy skin), unpleasant treatments and procedures (a "cocktail" of pills, venepuncture, echocardiogram, intravenous lines, oxygen therapy, blood pressure monitoring) and restricted mobility (from surgery, from being attached to equipment). *"I had two days of pure hell, I just felt like I'd been run over by a truck. But there was no pain from the actual surgery it was all of the drugs that they had pumped through me, yeah, I had no energy to get up, no life. There was no life to push to get up."* (M3) Patients had limited ability to self-care, needing assistance getting out of bed, to the toilet, with hygiene, after vomiting or if they "made a mess in the toilet"; even pouring a drink of water could not be done without help. *"I've felt like, [I have] been being run over by a bus and then backed over again, I feel terrible. You can't even take your hands off the table to butter some bread. You just are so out of it, it's such an awful feeling." (M2)* Worry about finances, returning to work, managing after discharge also contributed to emotional distress. **"Treating the whole person, not discrete symptoms"**: Complementing pharmacological symptom management was holistic assessment and care. *"[the nurse] asked me really nicely and politely how I was, was this happening or is this happening, have I got any of this … you felt that somebody cared for sure which was, the other guys were saying that too." (NZE7)* Holistic interventions specific to heart surgery included being taught to use a "cough pillow" and providing larger patients with a chest binder to prevent strain on the chest wound. Other interventions were a cooling fan, ice to suck, swift removal of drains, urinary catheters and intravenous lines, shower for itchy skin and positioning. *"…when the nurse came in I told her it was getting a bit sore around the back and shoulder blade and she says, get your bum back in that bed, she gets my pillow and straightens them up and, "lie there now" so I lay back down and oh yeah she knows what she's talking about alright. It felt a hell of a lot better". (M8)*

		"Getting the help needed" Getting help with personal care and basic tasks was crucial for a sense of comfort (feeling cared for, safe). However, patients felt unprepared for how reliant they would be on nursing staff. Adjusting to dependency was difficult and some were reluctant to ask for help for reasons that included worry about being "demanding" (NZE4) and feeling uncomfortable asking for help with "basic bodily things" (NZE9). Observing staff readily and "graciously" (NZE10) providing help relieved a sense of unease about asking for, and accepting, the help needed. *"…I didn't realise that we'd have to be dependent on the nurses as much. I think I thought I could just get up and go, no it was far from it …they've been tremendous you know …it's an eye opener" (NZE10)* Overall, comfort from holistic care and assistance was enhanced when delivered by staff with comforting staff qualities (refer 'Engagement and Commitment'). Experiencing such care set the tone for positive patient-staff relationships and satisfaction with the service. *"I trust them. That's their work to give life back to people that's their work. Very hard work, but they never turn their back they try to do their work thoroughly. That's how I believe them" (P4).* *"…people going to hospital, they always talk about the nurses and I basically said it was absolutely true. You know they're the front-line staff and the ones you deal with every day and they're all amazing." (NZE2).* Conversely, a failure of staff to appear caring, helpful and responsive to one's needs harboured resentment and made patients wary of future engagement with that staff member. *"She didn't seem to be caring enough, yeah. I woke up having a bad dream and asked her to get me a flannel, which they don't even ask, can I?, I didn't have any bedclothes on because I was so hot but they don't even ask if they can put bedclothes on you know and so it's little things like that, you know.* [How does that affect you]. *I think it affects me in the way that when I ring the bell I hope she doesn't come you know. She was on nights and I was thinking gosh I hope that lady don't come again." (M2)*
Staff Engagement and Commitment	Knowing that staff (all roles) are watchful and available when needed is fundamental to a sense of comfort. Patients' comfort is also enhanced when staff make an effort to connect (are welcoming, friendly), when they promote positivity through reassurance and encouragement, are considerate and responsive to patients' needs, and when they demonstrate understanding of patients'	The operational definition for the theme "Engagement and Commitment" summarises the findings from three underlying subthemes. **"Comforting staff presence – layers of surveillance and availability"** Patients' perceptions that staff are present and available to them promotes emotional comfort associated with feeling safe and cared for. A comforting staff presence consisted of three layers: perception of 24-hour nursing presence; contact with doctors via ward or pain rounds, even if brief; and, knowing that staff were available should they be needed. *"…she [his primary nurse] might be attending another person but if she is normally it's – "can you wait?" but you know they're going to come." (NZE8)*

discomfort (distress, uncertainty, vulnerability) using therapeutic strategies tailored to individual need. Strategies include empathetic listening, taking time to explain, comforting touch, careful use of humour/chit chat, maintaining privacy, dignity, and a respectful and caring manner during interactions. Being cared for in this way is foundational to a positive patient experience and appears to have therapeutic importance by promoting positive patient-staff relationships and a willingness to engage with staff, the service and health promoting behaviour in general.	**"Comforting staff qualities"** Staff qualities described as comforting were summarised as: • Making an effort to connect (welcoming, friendly, smiling) • Reassuring, encouraging - promoting positivity • Caring and considerate, responding to patients' needs (committed) • Empathetic, warm *"I thought the girl from Melbourne up in the surgery …I thought she had a very comforting and empathetic manner… That's probably the biggest time where you're starting to get a bit nervous anyway when you're in the holding pen to go into the, yeah* [became emotional]. *And I found she was very good … she just sort of says you'll be okay and give your arm a pat or something like that". (NZE1)* **"Therapeutic comforting strategies tailored to patients' individual needs"** Comforting staff were those who combined comforting qualities with individualised strategies in a way that was foundational to a positive patient experience and promoted good will towards the staff (and service) that has supported them through a physically and emotionally challenging time. *"I think they have done all, their faces, smiling faces, that will do. There's a good treatment, here" (P4).* Comforting staff behaviour also had therapeutic importance by promoting patients' willingness to disclose concerns, participation in care and treatment and positive patient-staff relationships. Conversely, patients disengaged from staff with whom they did not connect, some even considering (early) self-discharge when they felt uncared for or disregarded. Comforting strategies tailored to patient's unique needs included: • Taking the time to explain, possible even in rapidly changing clinical situations to promote confidence and acceptance of care • Maintaining patient's privacy, dignity, being respectful during personal care, or bed-side discussions between staff • Supporting patients through unpleasant procedures/mobilisation (emphasising the necessity of the procedure while providing reassurance, empathy, a caring manner, boosting confidence) • Use of humour and chit chat, although judgment was needed • Giving patients the chance to talk about concerns; empathetic listening • Using touch to convey empathy, concern, connection. *"…she took that little bit of time with me and put her arm around me to make me strong and to say listen you can tell me…when I was really bad I just needed someone to put their arm around me and I told her a little bit …" (NZE6)*

Information and Participation	Information promotes comfort by reducing the distress of uncertainty and enables patients to prepare for and accept what lies ahead. Information also comforts by promoting trust and confidence in staff and the care provided. However, informing patients is an art and science; to comfort (and not distress), information needs to be provided by staff knowledgeable in the topic and sensitive to patients' situation and personal preference for detail. Individualised care is essential for patients' emotional and physical comfort. Patients who are accurately informed about when, why and how to report symptoms, who feel comfortable with staff and perceive them to be concerned for their welfare are more inclined to seek help, report symptoms, ask for clarification, and participate in care and treatment decisions. Feeling disempowered, or unable to participate in care decisions, can distress.	The operational definition for the theme "Information and Participation" summarises the findings from three underlying subthemes: **"Importance of personalised care, personalised information"** Underpinning the operational definition of this theme is the importance of personalising symptom management and holistic care. As such, patients needed to feel empowered to initiate non-standardised care and participate in treatment decisions. "*I had a bit of nausea but as soon as I mentioned it people tried to help me with it."* (M4) Similarly, the right 'dose' of information was crucial to patients' sense of comfort because information could either comfort or frighten and distress. Patients' information needs were variable and personal. *"I came to see the anaesthetist and the only question I asked him was you just make sure I wake up … that's the only thing that really frightened me"* M2) **"When delivered well, information underpins comfort (feel prepared, reassured, accepting; can personalised care)"** Patients gained a sense of comfort from understanding what is currently happening and what is likely to happen. This information helps them prepare for and accept what lies ahead. *"…the surgeon has been very comforting. He came along and explained, nice warm eyes you know" (M2)* Information about what, when and how to report symptoms or other causes of discomfort supported patient's ability to personalise care, including safe self-triage, which was common. *"I never ring the bell straightaway. No, I just hang on* [and think] *whether why this pain comes in, why the pain, why I got a pain? …I try to play fair and square."* (P4). Information was also important for addressing attitudinal barriers to symptom management. *"they did say however little your pain is it's good to let them know. Don't be a tough boy and handle the pain you know which is what I would probably do."* (M8) Information also comforted by reassuring patients their symptoms and side effects they were experiencing was normal, and likely to pass. However, sometimes information does not (and indeed cannot) comfort. Under these circumstances, staff experienced in the art and science of informing are pivotal. Balancing information about risk with positivity was important, as was being believable. For one patient, this meant staff being "confident but not cocky" (NZE5). *"there was one nurse [who] was just very, very good at just calming me down in general and just saying the right things to make me just feel a little bit more comfortable. Others have been very good at explaining the technical side of things…" (NZE5)* **"Feeling comfortable with staff – the subtle factor influencing personalised care, patient participation"**

		Feeling comfortable with staff underpinned patients’ willingness and ability to personalise care. For example, patients could be reluctant to ask questions, disclose concerns, or use the call bell between times of staff-initiated contact for reasons that included expectations of an unfavourable reaction from staff, not wanting to “annoy” staff, a reluctance to question the “experts” or take up valuable time. *“I just sort of you know let them do what they’ve got to do. I just want them to do their job yep. And just say nothing to them like I’m alright”.* (M6) Staff who demonstrated comforting qualities (refer Engagement and Commitment) helped to minimise these barriers. *“They’ll show you, there’s the buzzer if you need me, when you need me, just push the buzzer don’t be worried about what time it is.”* (M1) However, patients’ preferences for participation varied and there was a level of comfort to be gained from having confidence in staff to step back from decision making. Patients tended to seek greater involvement when symptoms were poorly controlled, when they were anxious to avoid complications or worried about their safety. At these times, feeling unable to participate in care decisions placed patients in an uncomfortable situation of reluctant (rather than willing) acceptance of care and treatment. This was not only emotionally distressing but deterred effective symptom management. As such, comfort and participation are inextricably linked. “[Discussing pain management] *It could be better I think but who am I you know? These guys are professionals. They know what they’re talking about…” (P5)*
Perceived and Actual Competence	The perception of clinical competency promotes a sense of comfort (safety and ease) because patients feel confident in the care provided. However, all staff - clinical and ancillary - have the potential to be comforting by being competent in their role whilst mindful of patients’ comfort needs.	The operational definition for the theme “Perceived and Actual Competence” summarises the findings from two underlying subthemes: **“Perception of competence”** Perceiving that staff were competent was comforting in the sense that patients felt at ease and confident in the care provided. *“…the doctors and the nurses they’re very confident in how they attend you.* [How does that make you feel?] *Relaxed. And in good care.” (M7)* **“Actual competence - expert comforters”** Staff competence related to each influence is essential. Staff whom patients particularly remembered for their comforting qualities were those that seemed to blend competence and commitment with comforting qualities. In some cases, care was not protocol driven; indeed, some staff had deviated from protocols to make a difference, such as ancillary staff enabling family to visit outside of visiting times, or a nurse letting a sleep-deprived patient sleep in a spare room. Other examples were the surgeon who expertly managed a patients’ pain, the sonographer who described to one patient how well her new heart valve was working and the kaumātua who had knowledge of tikanga (the Māori way of doing things). *“…he said to me oh you from [place]? I said yeah. And he’s been up there too and that’s where I’m from. That’s my marae. … I identified with him for being from the same place as he is, somebody from home … being Māori and him coming to talk to me it’s good, made a big difference … [It was] uplifting…” (M5)*

1. Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview

2. Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

The outer layer of the CALM framework relates to the theme “Physical Facilities and Ambience” (see Table 4), which summarises factors within the clinical environment that influence comfort. Amongst the factors important here were an ambience of caring and positivity, observing that staff had time for all patients’ needs, having control over one’s personal space (lights, noise) and facilities that were clean, well-equipped and family-friendly.

Table 4 Influences on comfort within the Clinical Environment

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Physical Facilities and Ambience	Patients feel comfortable (at ease, positive, safe) in a clinical environment in which staff are positive, helpful, have time for all patients' needs and work as a cohesive team (all roles, all ethnicities) to relieve discomfort and distress. Being away from home, feeling confined, sharing personal space, can be difficult therefore supporting patients' personal preferences for privacy, companionship, quiet and sleep is crucial. Additionally, facilities should be clean, well equipped, physically comfortable (temperature, beds, chairs, fresh air) and support self-comforting strategies such as faith-based activity, distraction (TV, Wi-Fi) and a sense that one's culture is respected. Family's unique comforting role is facilitated by staff who acknowledge, welcome and keep family informed; family-friendly space and flexible visiting times are essential.	The operational definition for the theme "Physical Facilities and Ambience" summarises the findings from four underlying subthemes: **"I've never once felt I didn't want to be here"** Contributing to comfort was an ambience of caring, positivity (staff are friendly, encouraging) and support, irrespective of who was on duty. [What makes you feel cared for] "*It's quite subtle, [but] you soon pick it up… really caring you know. I feel comfortable here type of thing… I've never once felt I didn't want to be here, if I had to be somewhere doing what I'm doing you know this will do me." (NZE7)* *"Even the people that are bringing breakfast for us and the cleaners, they're all good, good people." (M5)* Being able to rest/sleep without constant interruptions or disturbance from lights and noise was crucial. Also important was observing staff working as a cohesive team. Perceiving that there were enough staff to meet all patients' care needs (not just their own) was important. Patients did not like seeing busy, overworked staff, or other patients not getting prompt attention. *"…I get a bit stressed because I think the nurse in there now she's amazing …[but] she's the only one and she's doing the best job she can …I find it a bit hard because everyone's demanding things off her … she hasn't had her break and everybody else you know gets on top of her. I find that really hard to watch" (NZE6)* **"Facilitating family's comforting role"** Important here was that family felt welcome, supported and able to be involved through staff actions and behaviour that included making an effort to connect with family, acknowledging and validating family's situation, supporting advocacy, keeping then informed, and through flexible visiting hours. *"…my husband's come in every day and that's been good and hard for him. I'll be pleased to get home to make it easier for him to be quite honest. He's a bit naughty he sort of sits there beside me over the hour* [when ward is closed to visitors] *but then he doesn't talk. He just sits there and holds my hand." (NZE4)* **"Physical facilities are clean, well equipped and facilitate all other influences on comfort"** Physical facilities important for comfort include those that support privacy, rest and sleep (quiet, comfortable beds), are clean and essential equipment is readily available.

> *"…the top-up of the hand gloves, the towel, it's very good. You know they don't wait until they run out …*[How does that make you feel when you see that?] *I feel comfortable, yes. Yeah I feel comfortable you know…I get used to seeing the nurses wear the gloves, so I always feel good. That's hygienic to me wearing the gloves." (P6)*

Also important are family friendly facilities, family space and facilities that help patients sustain spiritual (place for prayer/ karakia) and cultural connectedness (such as culturally diverse décor). This is what a tapa cloth wall hanging signified to one Pacific patient:

> *"... our island is respected by here, our culture and everything like that".* (P4)

"Control over personal space"

The inability to control one's personal space with respect to lights, noise disturbances, roommates and other patients' visitors could be very distressing.

> *"…when you want to go to sleep their lights are on and they won't turn the lights off and that's happened here all this week, which is 100% worse when you're feeling awful … I like everything to be right and you can't have it right when you're in hospital. This is not your place; you're a guest here. So my tendency is to not sleep because of that." (NZE2)*

Patients appreciated staff-initiated efforts to reduce environmental stressors as they were reluctant to ask roommates, family or staff to curtail activities.

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1. Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview

2. Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

DISCUSSION

Through a two-stage process commencing with an integrative review involving 62 studies[24] followed by semi-structured patient interviews we have (1) defined patients' perspectives on comfort and (2) developed a multidimensional framework representing patients' perspectives on important comfort-related care. Operational definitions for each theme reflect the essence of care that matters to patients and the integrated nature of this care.

Our definition of comfort broadly aligns with others[8, 10, 11] in the sense that comfort is defined as a dynamic and multidimensional state. Similarly, nurse theorists[8, 33-37], multiple qualitative studies[24] and concept analyses[9, 10, 12, 23, 38-40] have consistently described the holistic dimensions of comfort, and the art of comforting that we believe are captured in our findings. However, the CALM framework differs from most comfort frameworks/models[21, 41-48] in that patients' perspectives of all influencing factors are captured in one unifying framework. Differentiating the definition of comfort (the state) from the process of comforting (influencing factors) meant that findings are presented as a more "tangible product" considered essential for implementing qualitative findings into practice[49, p765]. Operational definitions are generated from rich, in-depth data using methods explicitly exploring patients' perspectives. We believe these definitions provide a clearer direction for practice and quality improvement in comparison to other published frameworks[21, 41-48, 50].

Implications for practice and quality improvement

Improving patients' experiences of care is core to healthcare quality. Patient experience is defined as "the sum of all interactions, shaped by an organization's culture, that influence patient perceptions across the continuum of care"[51, p10]. Improving patient experience, therefore, requires an understanding of what matters to patients during their interactions with healthcare staff. Work in this area has resulted in a range of frameworks and guiding principles[6, 52, 53]. Comfort-related care incorporates many factors considered important for patient experience[54] including compassionate care[55, 56]; compassion most simply described as "the recognition of and response to the distress and suffering of others"[56,p310].

One could assume that initiatives aimed at improving patient experience will also improve comfort. However, all patients interviewed had experienced distressing events even though patient experience indicators at the research site suggested a high-level of person-centred care. Similarly, examples of missed nursing care, also known as errors of omission or care rationing[19, 22, 57-60] relate to care patients described as important for comfort, such as position changes, patient surveillance, comforting/talking with patients, pain management, patient teaching and feeling prepared for discharge.

These similarities highlight the inextricable link between care promoting comfort and that inherent in high-quality, safe care.

However, improvement targeting causes of missed nursing care is not the only consideration when aiming to maximise patients' comfort. First, important care is not specific to the actions of any discipline, or indeed clinical staff. Second, staff (any role) may not be able to provide the care they wish to provide because of factors beyond their control (for example, lack of equipment, unsupportive ward culture, absence of evidence-based symptom protocols). Therefore, the breadth and depth of all that matters indicates that maximising patients' comfort requires an informed and systematic approach aimed at supporting staff to provide the person-centred care they most likely wish to provide. We therefore ask that healthcare leaders consider how the CALM framework may be used to drive a culture of care that maximises patient comfort, beginning with the message that comfort-related care is essential work[19, 57-61] encompassing a caring, compassionate response to human distress[54-56] for which healthcare leaders have accountability to promote, monitor and address omissions.

Three principles underpin application of the CALM framework. The first is appreciating the context-specific nature of comfort, meaning that the detail of care underlying each of the broad influences may differ by condition, ethnicity and age. For example, effective symptom management is crucial for comfort, but distressing symptoms may fluctuate by type and stage of a condition. Similarly, family influenced the comfort of patients of all ethnicities but how patients define family, and comforting activities differs by ethnicity, age and stage of condition[31]. The second is that individualised care underpins all operational definitions. Efforts to reduce unwarranted variability through standardised care must not be at the expense of the intuitive art of comforting. The third is that all staff can comfort (or distress). Therefore, consider actions of clinical and ancillary staff when applying the framework. Operational definitions can be used to guide conversations with patients, family and staff about their perception of important care for each influence, with identified gaps providing a basis for improvement work.

Transferability

Triggers for comfort-related care summarised in the comfort definition were consistent with those identified in other settings[24]. Similarly, the definition of comfort and the CALM framework appear applicable to a range of inpatient populations. Transferability is suggested on the basis that patients of different clinical conditions, age, ethnicity, from a range of inpatient settings within fifteen countries[24] held similar perspectives on the meaning of comfort and the care that influenced it.

Strengths and limitations

A comprehensive conceptual framework[24] focused the exploration of patients' perspectives in a clinical setting. Definitions are data derived and represent patients' perspectives. Our method enabled categorisation of concept characteristics in a way that promotes translation into practice; upwards of 60 attributes of comfort and comforting have been previously identified[10]. This is the first study that has set out to explore a cultural dimension of comfort. Findings collectively represent perspectives held by Māori, Pacific and NZE participants, suggesting that the CALM framework encompasses culturally responsive care. Importantly, within the CALM framework, the patient determines the extent to which culturally safe care is being provided through their sense of feeling "Culturally connected" i.e. they and their family feel welcome; actions and behaviours of others indicate understanding and respect for one's cultural norms and values. This emphasis is consistent with the notion of unsafe cultural practice as "any action which diminishes, demeans or disempowers the cultural identity and wellbeing of an individual"[62].

Recruitment stopped when we reached an understanding of how perspectives on comfort broadly differ by ethnicity. However, more can be learned of the underlying detail for each influencing factor, such as preferences for comforting staff behaviour, attitudes to pain management or body modesty. In accordance with Morse's view[63], data saturation on all possible context-specific or individual details was not our intent. Peer debriefing by experienced qualitative researchers throughout all stages of the analysis, Māori and Pacific consultation, prolonged engagement (1082 minutes of interview), negative case analysis and triangulation methods[27] promote credibility of the findings. Triangulation - using multiple data sources to produce understanding - was used in both stages of this research. Stage one compared findings generated from theoretical and qualitative research (methods triangulation) and involving people from a range of healthcare settings, ages and ethnicities spanning decades of healthcare (triangulation of sources)[27]. Further triangulation occurred in Stage two when patient interview data were contrasted with findings from the integrative review and included studies[31]. Concept clarification was sought during all interviews[27]. However, a limitation is that participants were not asked to comment on the findings.

Implications for research

Replication of this research may lead to further refinements of operational definitions, evaluate claims of transferability, and build an evidence base of context-specific care. Exploring staff perspectives on comfort and determinants of comfort-related care in healthcare settings will inform implementation strategies. Research is also required to identify how the art of comforting can be taught and modelled in clinical practice and educational curricula.

The influence of comfort on patients' outcomes may go beyond patients' experiences of care (see Figure 2). Our interview data indicate that a sense of comfort during one's healthcare interaction is associated with positive patient-staff relationships, a willingness to disclose concerns, to seek help and to participate in care and treatment, rather than disengage or withdraw. Other qualitative studies exploring comfort have proposed similar outcomes[24, 64]. An informed, systematic approach to maximising patients' comfort may, therefore, improve not only patients' experiences but also population health, particularly in vulnerable sections of the population. These potential benefits warrant further evaluation. Clinically relevant metrics for quantifying comfort and monitoring important aspects of care are also needed.

Conclusion

This research provides new insights into what comfort means to patients, the care required to promote their comfort, and the reasons for which doing so is important. We have developed a definition of comfort and the Comfort Always Matters (CALM) framework, which can be used by healthcare leaders and clinicians to guide practice and quality initiatives aimed at maximising comfort and minimising distress in specific populations. A focus on comfort by individuals is crucial but leadership will be essential for driving the changes needed to reduce unwarranted variability in care that affects comfort.

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Contributor statement

CW Contributed to conceptualisation of the project, research design, undertook data collection, analysis, wrote the first draft of the manuscript, and coordinated its multiple revisions.

MB Contributed to conceptualisation of the project, research design, analysis and interpretation of the data and critical revision of the manuscript.

AM Contributed to research design, analysis and interpretation of the data, and critical revision of the manuscript.

AFM Contributed to conceptualisation of the project, research design, interpretation of Stage 1 data and critical revision of the manuscript.

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Data sharing statement:

Consistent with our institution’s ethics approval, additional data generated in this study can not be made available.

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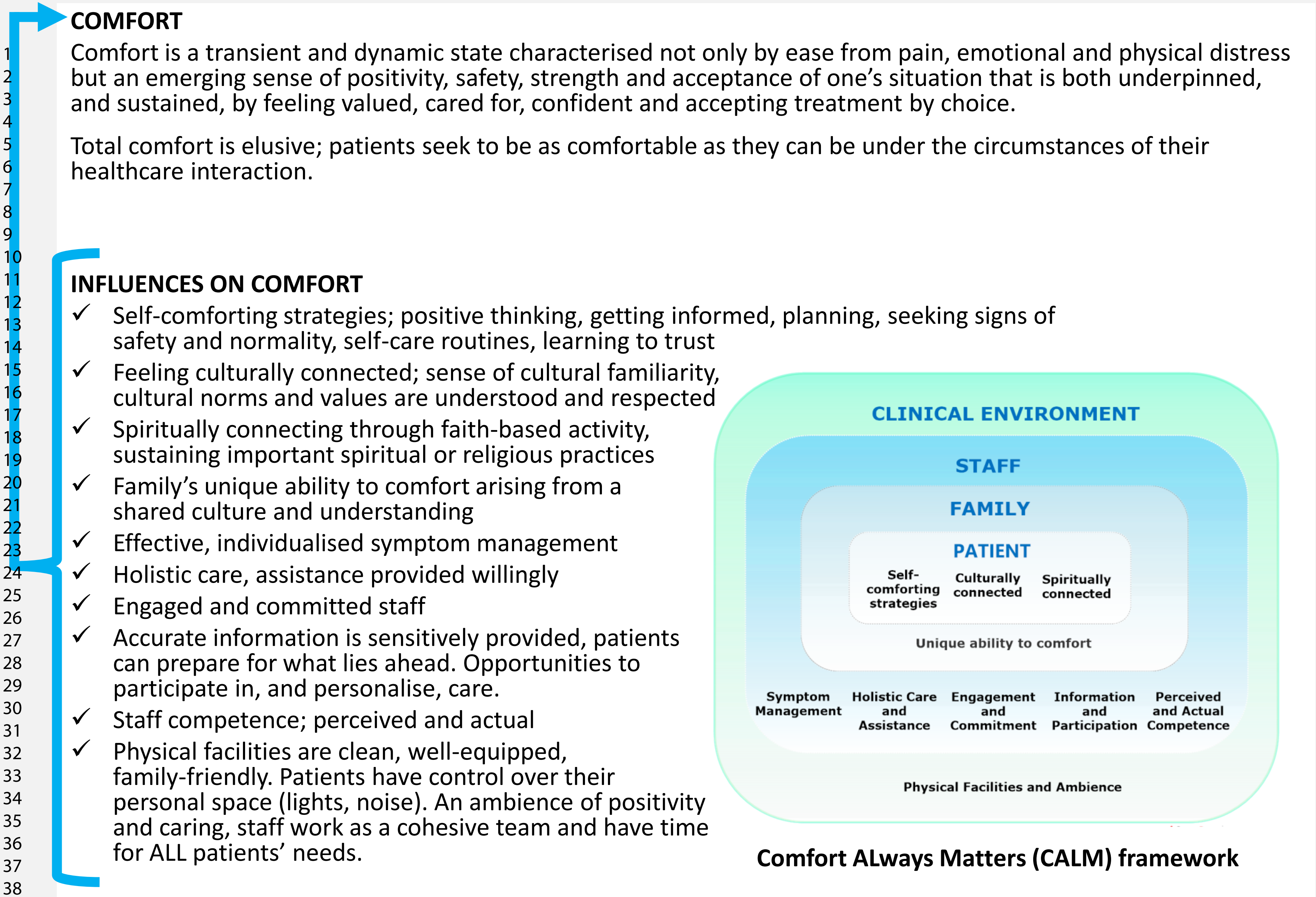


COMFORT

Comfort is a transient and dynamic state characterised not only by ease from pain, emotional and physical distress but an emerging sense of positivity, safety, strength and acceptance of one's situation that is both underpinned, and sustained, by feeling valued, cared for, confident and accepting treatment by choice.

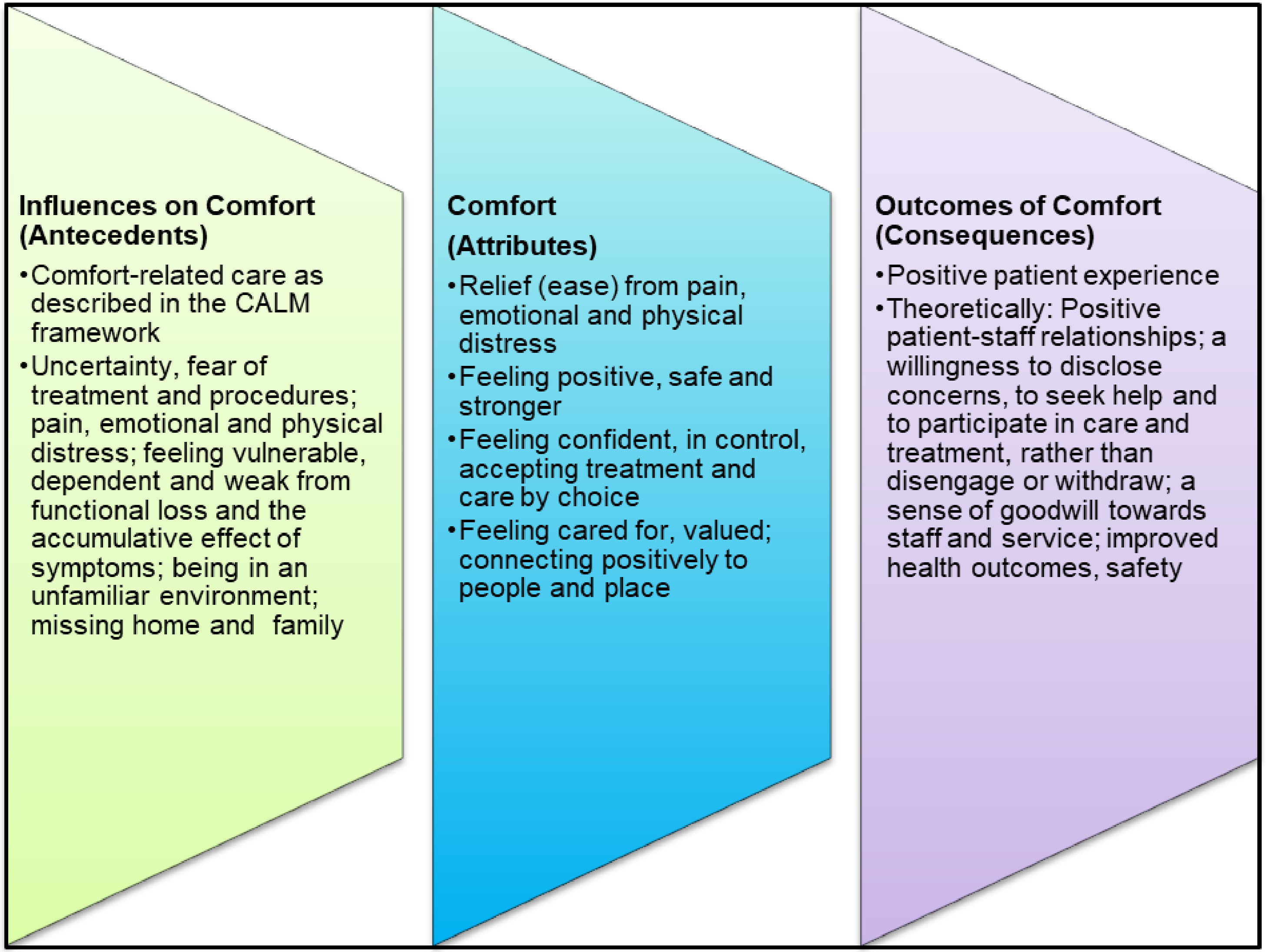
Total comfort is elusive; patients seek to be as comfortable as they can be under the circumstances of their healthcare interaction.

INFLUENCES ON COMFORT

- ✓ Self-comforting strategies; positive thinking, getting informed, planning, seeking signs of safety and normality, self-care routines, learning to trust
- ✓ Feeling culturally connected; sense of cultural familiarity, cultural norms and values are understood and respected
- ✓ Spiritually connecting through faith-based activity, sustaining important spiritual or religious practices
- ✓ Family's unique ability to comfort arising from a shared culture and understanding
- ✓ Effective, individualised symptom management
- ✓ Holistic care, assistance provided willingly
- ✓ Engaged and committed staff
- ✓ Accurate information is sensitively provided, patients can prepare for what lies ahead. Opportunities to participate in, and personalise, care.
- ✓ Staff competence; perceived and actual
- ✓ Physical facilities are clean, well-equipped, family-friendly. Patients have control over their personal space (lights, noise). An ambience of positivity and caring, staff work as a cohesive team and have time for ALL patients' needs.

Comfort ALways Matters (CALM) framework

Figure 1 Patients' perspectives on comfort and influencing factors



Influences on Comfort (Antecedents)

- Comfort-related care as described in the CALM framework
- Uncertainty, fear of treatment and procedures; pain, emotional and physical distress; feeling vulnerable, dependent and weak from functional loss and the accumulative effect of symptoms; being in an unfamiliar environment; missing home and family

Comfort (Attributes)

- Relief (ease) from pain, emotional and physical distress
- Feeling positive, safe and stronger
- Feeling confident, in control, accepting treatment and care by choice
- Feeling cared for, valued; connecting positively to people and place

Outcomes of Comfort (Consequences)

- Positive patient experience
- Theoretically: Positive patient-staff relationships; a willingness to disclose concerns, to seek help and to participate in care and treatment, rather than disengage or withdraw; a sense of goodwill towards staff and service; improved health outcomes, safety

Figure 2 Influences, attributes and outcomes of comfort

Supplementary File 1

Interview Guide

Interview questions covered eleven topics and were designed to explore patients' perceptions and experiences of comfort from the time they were notified they needed heart surgery through to the time they were preparing for discharge. Questions evoked responses that covered multiple topics and so participant burden was not as great as it appears. A one-page concept map summarising the interview topics enabled the researcher to keep track of the topics covered and note down key points to return to. Open-ended, probing questions were used to obtain rich, meaningful data [1,2]. Probing questions sought concept clarification when it was uncertain that patients were talking about their experience of comfort. Patients were also asked to score their comfort, and then their pain, on an 11-point Numeric Rating Scale (NRS) to further explore the meaning of comfort and conceptual similarity to absence of pain.

RQ = Research Question

Opening question

- I would like to begin by asking you about your overall experience of having surgery in this hospital. You have been in hospital a few days now after major surgery, what has your experience been like so far?

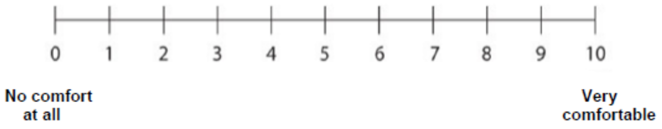
Topic 1 Meaning of comfort

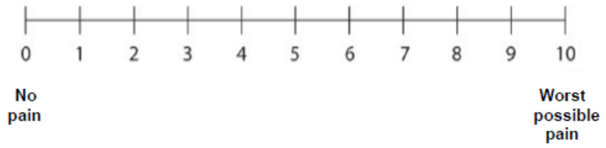
RQ: What does "comfort" mean to patients who have been recovering from cardiac surgery for at least four days?

- You've been in hospital recovering from surgery for 4/5 days now. I am interested to know how comfortable you feel right now. What does being comfortable mean to you?
- Can you please look at this comfort scale? It is a scale that goes from 0 to 10; a score of 0 would mean you are extremely uncomfortable - no comfort at all - and a score of 10 would mean you are extremely comfortable. Taking all your feelings and symptoms into consideration can you give a number from 0 to 10 that describes your level of comfort right now?
- What does that score mean to you? *Probe - what does a score of x feel like?*
- What would take you to get up 10?
- What would you most like staff to know about how to help patients feel comfortable in hospital after heart surgery?

RQ: Do patients perceive pain and comfort differently?

- On the other side of this paper is a scale you will be familiar with it is a pain scale also measured pain from 0 to 10. How much pain are you in right now on this scale of 0 to 10 where 0 is no pain and 10 is worst pain imaginable.





RQ: What does "discomfort" mean to patients who have been recovering from heart surgery for at least four days – understanding discomfort helps understand comfort

- Let's talk now about the lower end of the comfort scale, were you ever down closer to the bottom of the scale? What was that like?
- Let's talk about any discomfort you have experienced after surgery. Probe symptoms spontaneously mentioned. Ask about symptoms generally experienced such as pain, nausea, constipation, anxiety, worries or concerns. How did that make you feel?

Topic 2 Pre-operative preparation and expectations, influences on comfort at that time

RQ: How do pre-operative events influence pre and postoperative comfort?

- Let's talk a little about the events before surgery. What was it like for you when you realised that you needed heart surgery?
- During the time waiting for surgery what helped with those thoughts and feelings?

Topic 3 Self-comforting strategies

RQ: What strategies do patients use to promote their sense of comfort when undergoing heart surgery?

- Probe what helped/didn't help with an unpleasant/distressing situation/event.
- Have you felt safe? Probe confidence in staff, able to ask for help? Did staff check up on you? *Probe: Influence on comfort*
- Have you been chatting to other patients? Staff? *Probe: Influence on comfort*

Topic 4 Cultural Dimension of comfort

RQ: In what way does feeling culturally connected influence the comfort of patients when they are in hospital recovering from heart surgery?

- Let's talk now about what it is like for you in general being in hospital. Can you remember when you first came into the ward for your surgery? Did you feel welcome? *Probe What was welcoming/not welcoming i.e. greetings, environment, staff; How important was that initial welcome?*
- What have you missed from your home life?
- Have you any values, preferences related to health and illness that are important to you? *Probe: impact on comfort in context of care experienced.*

RQ: How does an acute care environment support cultural connectedness?

- Were staff aware and respectful of your cultural values, preferences? *Prompt: For e.g. return of body parts, cultural support such as visiting kaumātua*

Topic 5 Spiritual Dimension of comfort

RQ: In what way does spiritual connectedness influence the comfort of patients when they are in hospital recovering from heart surgery?

- Many patients can experience a feeling of uncertainty during the days before and after surgery. Some people find that spirituality, a faith or a belief, karakia, prayer can help them over this time. Is that something that occurred to you?
- Is there something else, some other sense of a higher power or meditation for example, that that has helped you at this time?
- Were there times when connecting with your faith or beliefs was comforting?

RQ: How does an acute care environment support spiritual connectedness?

- Was spiritual support offered and available?
- Do you feel that staff respected your spiritual needs?
- Has there been times in hospital when you have felt unsupported or restricted in your spiritual beliefs or faith? Prompt I am thinking of things that staff might have said or done? Was your time for karakia/ prayer respected? Quiet place for prayer?

Topic 6 Family/Whānau

RQ: How is family/whānau presence important to patient comfort?

- Have you missed your family/whānau since you have been in hospital?
- How important have family/whānau been for you at this time?
- Where there tines when you didn't want visitors?

RQ: In what way might staff-family/whānau relationships contribute to patient comfort?

- Did staff make your family/whānau feel welcome? How was that important to you?

RQ: If shown to be important, how does an acute care environment a) support family/whānau presence b) include family/whānau in care?

- Have family/whānau been able to visit or keep in contact as much as you needed them to be?
- How have your family been involved in your care? *Prompt: Have there been times when family/whānau have intervened on your behalf in ways that improved your comfort?*

Topic 7 Staff Influences - Engagement and Commitment

RQ: How do staff interactions influence the emotional and physical comfort of patients in hospital for heart surgery, including willingness to participate in care?

- Were doctors comforting? Were nurses comforting? *Or, ask in response to spontaneous description of a distressing situation.*
- What qualities did you want the nurses who look after you to have? Were there any staff that you felt you particularly related to or able to confide in? *Probe What was it about that person that made you feel that way? Why was that important?*
- In your experience of care in this hospital have staff had time for your needs? *Probe How/why this was important.*
- Were you comfortable using the call bell for help? *Probe Why was that?*
- Did you experience (or see) any care that disturbed you? *Probe What happened?*

RQ: *How do staff in acute care environments respond to individual patient's comfort needs?*

- Can you recall a time since your surgery when someone went out of his or her way to help you feel more comfortable? What difference did that make?

Topic 8 Staff Influences - Information and Participation

RQ: How does information influence patient comfort when undergoing heart surgery?

- Did anything happen in your recovery that you weren't prepared for?
- Did you know what your plan of care was for each day? How was this/would this have been helpful?
- Let's talk about going home and what life will be like for you in the first few weeks. Do you have any concerns about how you will manage? What have you been told about going home? *Probe impact on comfort*

RQ: How does patient participation (such as opportunities to personalise care by reporting symptoms, negotiating care) influence patients' physical comfort after heart surgery?

- Were you encouraged to report your pain? Other symptoms?
- Who made decisions about the pain relief you were given? Can you recall a time when you were given options about what strength pain relief you had? *Probe management of other physical symptoms of significance to the participant*
- Did you ever put up with any pain or symptoms? *Probe why*

RQ: How do opportunities for participation promote emotional comfort?

- Were you involved in treatment and care decision as much as you would have liked to be? *Probe preference for involvement in treatment decisions when asking about symptom management, or aspects of care described as distressing/improve comfort*
- How did you feel about taking the pills? Were there any medications that you refused to take? *Probe – or were reluctant to take? Why was this?*

RQ: How is patient participation influenced by the quality of staff interactions, specifically patients' sense of engaged and committed staff?

- *Refer Engagement and Commitment questions*

Topic 9 Staff Influences - Holistic Care and Assistance,

RQ: How is patient comfort assessed in the first four / five days after cardiac surgery?

- Let's talk about the care you needed to help you feel more comfortable. Did nurses ask you about your pain? What else did they ask you about? What did doctors seem concerned about? *Probe - Aware of patients' specific symptoms or causes of discomfort identified in other responses.*
- Were you able to do the things that were expected of you each day? *Probe - I am thinking of being able to get out of bed, walk to the toilet? What about sleep and rest?*
- Did you get the care you needed? *Probe how this affects comfort and who provided necessary help*

Topic 10 Staff Influences - Symptom Management

RQ: How effective and consistent is the care provided for patients' symptoms or generalised discomfort in the first four / five days after surgery?

- Can you remember any delays in getting relief for your symptoms? Explore symptoms previously mentioned.
- What about non-medicine methods (non-pharmacological) or non-western methods of healing or rongoa (Māori methods of healing)

Topic 11 Physical Facilities and Ambience

RQ: How does the ambience of an acute care environment affect people's comfort?

- Was the general ward environment comfortable? I am thinking about chairs, beds, smells, noise, lights, cleanliness, sharing a room, bright pictures, access to TV/radio, family space?

Closing Question

- Is there anything else you would like to add about your experience of comfort or discomfort during your time in hospital for heart surgery?

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Supplementary File 2

Table: Characteristics of patients

Participant characteristics	NZE (n = 10)	Māori (n = 8)	Pacific (n = 7)
Procedure			
CABG	6	3	5
Valves	4	4	2
CABG + Valve	-	1	-
Male (%)	6 (60)	5 (62)	5 (71)
Median Age Years (range)	63 (48-85)	64 (41-75)	58 (30-75)
Mode of admission			
Booked admission (n=12)	4	5	3
Transferred from a referring hospital after an acute, unplanned admission (n = 13)	6	3	4
Surgery postponed (n = 7)	4	2	1[#]
Interviewed POD 4 (n = 18) (remainder interviewed POD 5)	7 (70%)	6 (75%)	5 (71%)
Average interview duration in minutes (range)	40 minutes (23 to 62)	48 minutes (25 to 66)	42 minutes (26 to 58)
Family/whānau present at the interview	1	3	3

CABG - ***Coronary Artery Bypass Grafts*****; Valves -** ***Valve Replacement or Repair*****; # - because of infection; POD –** ***postoperative day***

Supplementary File 3

Table: Reasons for non-participation in those approached

	Number of patients	Ethnicity of non-participants (N, %)		
		Maori	**Pacific**	**NZE**
Total number approached but did not participate	**15**	4 (27%)	4 (27%)	7 (47%)
Declined consent	**13**			
Inconvenient time	6	1	2	3
Reluctant – too much going on	2	-	-	2
Perceived as Australian research	1	-	-	1
Declined – no reason given	4	2	1	1
Approached, indicated interest but left the ward before interview	**1**	1	-	-
Judged as not meeting purposive sampling requirements*	**1**		1	

NZE - New Zealand European; *N*=number; * Admission details stated Pacific ethnicity but recent English ethnicity immigrant to Cook Islands.

Reporting checklist for qualitative study.

Title: Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care

		Reporting Item	Page Number
Title			
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	4
Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	2
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	3
Purpose or research question	#4	Purpose of the study and specific objectives or questions	4
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or	3-4

		technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	5,6
Context	#7	Setting / site and salient contextual factors; rationale	4,5
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	5,29
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	7
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	5, 29
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	5, Supplementary File 1

Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	6, Supplementary File 2
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	4-6
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	6
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	5-6; 29
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	7-26
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Table 1- 4
Discussion			
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	27- 30
Limitations	#19	Trustworthiness and limitations of findings	29
Other			

Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	30
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Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care in inpatient settings

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Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care in inpatient settings

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ABSTRACT

Objective: To develop a multidimensional framework representing patients' perspectives on comfort to guide practice and quality initiatives aimed at improving patients' experiences of care.

Design: Two-stage qualitative descriptive study design. Findings from a previously published synthesis of 62 studies (Stage one) informed data collection and analysis of 25 semi-structured interviews (Stage two) exploring patients' perspectives of comfort in an acute care setting.

Setting: Cardiac surgical unit in New Zealand.

Participants: Culturally diverse patients in hospital undergoing heart surgery.

Main Outcomes: A definition of comfort. The Comfort ALways Matters (CALM) framework describing factors influencing comfort.

Results: Comfort is transient and multidimensional, and, as defined by patients, incorporates more than the absence of pain. Factors influencing comfort were synthesised into 10 themes within four interrelated layers: patients' personal (often private) strategies; the unique role of family; staff actions and behaviours; and factors within the clinical environment.

Conclusions: These findings provide new insights into what comfort means to patients, the care required to promote their comfort, and the reasons for which doing so is important. We have developed a definition of comfort and the Comfort ALways Matters (CALM) framework, which can be used by healthcare leaders and clinicians to guide practice and quality initiatives aimed at maximising comfort and minimising distress. These findings appear applicable to a range of inpatient populations. A focus on comfort by individuals is crucial but leadership will be essential for driving the changes needed to reduce unwarranted variability in care that affects comfort.

ARTICLE SUMMARY

Strengths and limitations of this study

- A comprehensive conceptual framework developed from an integrative review of 62 studies (14 theoretical and 48 qualitative) focused the exploration of patients' perspectives on comfort in an acute care setting.
- The definition of comfort (the state) and description of influencing factors (processes of care) were developed using qualitative methods aimed at understanding how comfort and comforting is perceived and experienced by patients.

- The study reported on here is the first that has set out to explore a cultural dimension of comfort via purposive sampling of culturally diverse patients.
- Peer debriefing, Māori and Pacific consultation, prolonged engagement, negative case analysis and triangulation promote credibility.
- The two-stage approach enabled development (Stage one) and then refinement (Stage two) of themes and operational definitions that capture the broad influences on comfort in one unifying framework. However, identifying context-specific detail is required for application.

INTRODUCTION

Championing patients' need for comfort was central to the origins of person-centred care organisations such as the Picker Institute[1] and Planetree[2]. Within the executive summary of the Institute of Medicine's landmark report "To Err is Human" is stated, "it is not acceptable for patients to be harmed by the health care system that is supposed to offer healing and comfort"[3, p3]. Hippocrates' quote "To cure sometimes, to relieve often, to comfort always" is familiar to many. More recently, the 2012 NICE Patient Experience Guideline identified "comfort" as one of seven outcomes of a good patient experience[4]. Informed by the work of Gerteis and colleagues[5], promoting physical comfort became a core aspect of person-centred care frameworks[4, 6, 7]. Comfort is also regarded as holistic and multidimensional[8-12], associated with concepts that are hallmarks of a caring and humane society such as dignity, empathy, kindness and compassion[13-15]. This notion of comfort fits with evidence provided by patients and family during the Mid-Staffordshire Inquiry[16] where good - and bad - care was described in terms of comfort, discomfort, comforting, or feeling/looking uncomfortable. As such, comfort, or lack of it, is not only a defining aspect of patients' experiences but an indication of the overall quality and safety of care. A service that fails to provide high-quality care that includes the promotion of comfort, or recognise avoidable suffering as a source of harm, means that patients and their family have been let down by those who are meant to care for them[3, 16-22]. Overall, reducing unwarranted variability in care important for comfort is a crucial aspect of quality person-centred care in contemporary healthcare settings.

But what is comfort, and what care matters to patients? Differing definitions[8, 10, 11, 23]and perspectives on comfort depicted in person-centred frameworks[6, 7] and concept analyses[8-12] highlight that this concept is poorly defined for practice and quality improvement. In particular, the absence of a framework incorporating all that is relevant from patients' perspectives[24] risks provider-centric improvement that fails to deliver the care that matters. The purpose of this research was to develop a multidimensional framework representing patients' perspectives on comfort that can be applied in a range of healthcare settings to guide practice and quality improvement initiatives aimed at improving patients' experiences of care.

METHOD

A two-stage qualitative descriptive study design[25] was used to explore patients' perspectives on comfort and its influencing factors. This design is known for producing "findings closer to the data"[25, p 78] and was considered appropriate for generating findings that could be translated into practice. In Stage one, data from 62 studies exploring the concept of comfort in healthcare settings were synthesised into a conceptual framework representing patients' perspectives on comfort[24]. Integrative review methods facilitated identification of multiple dimensions of comfort that appeared relevant. This framework informed the study reported here, which explored the concept of comfort in patients undergoing heart surgery. Heart surgery can be physically and emotionally distressing,[26] therefore exploring patients' perspectives on comfort and comforting care in a cardiac surgical setting was ideal. In summary, our two-stage approach enabled development (Stage one) and then refinement (Stage two) of a framework representing patients' perspectives on factors influencing comfort.

Patient and Public Involvement

We used an exploratory method of data collection to better understand patients' perspectives and experiences of care. Questions were informed by a conceptual framework developed from studies also exploring patients' perspectives. Patients were not directly involved in the design of this research. However, cultural advisors provided advice that facilitated Māori and Pacific recruitment, led to refinements of the interview procedure and supported accurate representation of Māori and Pacific worldviews. The acceptability of the interview process and questions were tested in five pilot interviews involving patients of Māori, Pacific and New Zealand European ethnicity. As part of the informed consent process, participating patients were offered the opportunity to review their interview transcript and feedback on its accuracy via a pre-paid postage return of the hard copy or follow-up phone call. Presentations of the findings have been made in order for our results to benefit future patients and to guide research aimed at improving patient experience.

Site and setting

The study was conducted in a 47-bed cardiac surgical unit in a publicly funded hospital in Auckland, New Zealand.

Participant selection

Purposive sampling was used to access and invite participation from culturally diverse patients. Sampling aimed for one third each of Māori (the *tangata whenua* or indigenous people of Aotearoa/New Zealand), New Zealand European (NZE) and Pacific people (people who migrated from, or who identify with, the Pacific Islands) to enable exploration of a cultural dimension of comfort. Inclusion criteria were: postoperative day four or five after operations classified as Coronary Artery Bypass Graft or Valve Replacement/Repair; age 16 years or older; English speaking; transferred from the Intensive Care Unit postoperative day one; an expectation of discharge at or before eight postoperative days; sedation score of 0 (awake, alert) or 1 (mild sedation, easy to rouse), and ability to provide consent. Participants were identified in consultation with a senior nurse and then invited to participate by one researcher (CW) who emphasised her non-employee status. Informed consent was obtained. One experienced researcher (CW) conducted all interviews. Data saturation was sought regarding understanding how perspectives on comfort differed by ethnicity.

Data collection:

Semi-structured patient interviews explored (1) what comfort meant to patients from which a definition of comfort was to be developed and, (2) factors within the care setting that influenced comfort, i.e. what care mattered to patients. Questions exploring influencing factors were informed by the conceptual framework[24] (see Supplementary File 1- Patient Interview Guide). Patients were not asked directly if the broad influences identified *a priori* were important for comfort. Pilot testing indicated this approach risked bias towards affirmative responses and less nuanced data. Rather, patients were asked about aspects of care related to conceptual framework themes, and responses were probed to determine the influences on comfort. Negative case analysis (searching for disconfirming evidence) was used throughout data collection and analysis[27]. The final interview question gave participants the opportunity to describe influences on comfort that may have been missed. Interview settings were patients' single rooms (n = 7), a quiet room on the ward (n=13), or patients' four-bedded room (n = 5); the latter being participants' preference. Interview durations were between 23 and 66 minutes (average 43 minutes) and similar between ethnicities (see Supplementary File 2 - Characteristics of patients). Audio recorded interviews were transcribed verbatim. Participants were sent a copy of their interview transcript and given the opportunity to comment on accuracy and content.

Data Analysis

Analysis was sequential. General inductive method[28] was used to analyse data contributing to a definition of comfort. Inductive analysis gave some assurance that the definition of comfort was data-derived and developed without undue researcher influence[28, 29]. Analysis involved: close reading of the transcribed text; creation of specific and then general (higher level) categories from patients' description of comfort or derivatives of the word comfort (comforting, comfortable, uncomfortable, discomfort); and revision and refinement until four overall categories capturing the essence of what comfort feels like to patients were identified. Categories were summarised into a definition of comfort.

Thematic analysis[29] and Framework method[30] were used to analyse data related to influences on comfort using both deductive and inductive analysis. Deductive analysis tested the relevance of the conceptual framework to patients' perspectives. Inductive analysis was important for enabling us to identify any new themes[29, 30] within patient interview data. The steps involved were:

- Familiarisation with the transcribed texts. The definition of comfort was used to identify and begin coding patient interview data relevant to influences on comfort. Familiarisation involved careful consideration of the overall "fit" of that data to the conceptual framework themes[24].
- Constructing an initial thematic framework from the conceptual framework headings[24] building in themes and subthemes identified within the coded data. Some codes were derived from the *a priori* theme definitions[24], other codes developed inductively from the data.
- Indexing and sorting, in which data were systematically sorted into the thematic framework.
- Reviewing data extracts, checking for coherence between codes and refining the thematic framework accordingly.
- Data summary and display; matrices of distilled coded text were developed for each subtheme to enable data to be easily compared between participants and between ethnic groups.
- Abstraction and interpretation of the data; multiple and interrelated factors influencing patient comfort were identified. A careful comparison between Stage one[24] and Stage two findings was made to determine transferability beyond the cardiac surgical setting[31].

Data were managed using NVivo Version 10 software. One researcher (CW) coded all data. Coding decisions were discussed at regularly scheduled meetings (MB, AM, CW). Peer debriefing[27] occurred throughout all stages of data analysis. Discussion and refinement of themes and subthemes occurred until consensus was reached. Consultation with Māori and Pacific healthcare staff ensured that the recruitment process, interview procedure and data analysis promoted participation of Māori and Pacific patients and accurate representation of their worldview. We used the SRQR checklist when writing our report[32].

Ethical Considerations

Ethics approval was gained from Deakin University Human Research Ethics Committee (2013-180), the New Zealand Health and Disability Ethics Committee (13/CEN/95) and the institution at which recruitment and interviewing occurred (A+ 5824).

RESULTS

Twenty-five participants were interviewed on either day four (72%) or day five (28%) after surgery. Eight patients self-identified as Māori, seven as Pacific people, and 10 as NZE. Median age was 63 years (range 30 to 85) and 64% were men. Fourteen patients underwent Coronary Artery Bypass Graft, 10 underwent Valve Replacement/Repair (n = 10) and one patient underwent both (Supplementary File 2). Fifteen patients declined participation for reasons outlined in Supplementary File 3.

Comfort - a universal concept

Perspectives on comfort reported by patients in primary studies[24] were similar to those held by patients undergoing heart surgery. As such, comfort is regarded as having universal relevance and the findings presented here appear applicable to a range of inpatient populations.

Patients’ perspectives on comfort

Patients’ perspectives on comfort are summarised in the following definition:

Comfort is a transient and dynamic state characterised not only by ease from pain, emotional and physical distress but an emerging sense of positivity, safety, strength and acceptance of one’s situation that is both underpinned and sustained by feeling valued, cared for, confident and accepting treatment by choice. Total comfort is elusive; rather, patients seek to be as comfortable as they can be under the circumstances of their healthcare interaction.

Underpinning our definition are the following four senses of comfort that were identified in the patient interview data:

- “Relief (ease) from pain, emotional and physical distress”
- “Feeling positive, safe and stronger”
- “Feeling confident, in control, accepting treatment and care by choice”
- “Feeling cared for, valued; connecting positively to people and place”.

When is comforting care important?

Patients’ need for comforting care varied between individuals and could occur at any stage of the healthcare interaction. Common triggers were: the uncertainty and fear of treatment and planned procedures; pain, emotional and physical distress; feeling vulnerable, dependent and weak from functional loss and the accumulative effect of multiple symptoms; being in an unfamiliar environment; and missing home and family.

Factors influencing patients' comfort

Factors influencing comfort were complex but underpinned by 10 themes, as depicted in the conceptual framework that we had named the Comfort ALways Matters (CALM) framework[24] (See Figure 1). Themes occurred within four integrated layers: patients' personal strategies; the role of family; staff actions and behaviours; and factors within the clinical environment. The broad themes identified in Stage one were consistent with those identified by patients undergoing heart surgery. Most theme names were retained. However, patient interview data led to a deeper, more nuanced understanding of these themes. Accordingly, the theme definitions presented here have been refined to better reflect (1) the care that matters to patients, (2) the integrated nature of that care, and (3) aspects of culturally responsive care that had not been previously identified. The theme related to family influences was renamed to reflect important ethnocultural differences in the way family comfort. The essence of each theme and their unified influence on patients' sense of comfort is portrayed in Figure 1. Operational definitions, subthemes and illustrative quotes for all themes are provided in Tables 1- 4. Themes within each layer are now discussed.

The first (inner) layer of the CALM framework relates to patients' use of personal (often private) strategies to promote comfort and ease distress (see Table 1). Three themes were identified, the first describes patients use of "Self-comforting strategies" during times of distress and uncertainty. Strategies were categorised under four subthemes, which were maintaining positivity; looking for reassuring signs of safety through surveillance of self and others; easing distress using distraction or self-care routines; and developing acceptance of one's situation by, for example, getting informed, planning, and learning to trust (see Table 1, Self-comforting strategies). The second theme was about comfort arising from feeling "Culturally connected", which related to seeking cultural familiarity, and feeling that one's cultural norms and values were understood and respected by others (see Table 1, Culturally connected). The third theme described comfort gained from feeling "Spiritually connected". For some patients, connecting to a higher power through personally significant spiritual or religious practices was comforting (see Table 1, Spiritually connected). In all three themes, actions and behaviour of family, staff, and factors within the clinical environment moderated the success of these strategies.

Table 1 Patients personal (often private) strategies

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Self-comforting strategies	During times of distress and uncertainty, patients work to maintain a sense of comfort using personal strategies that include positive thinking, looking for reassuring signs of safety and normality through surveillance of self and others, self-care routines, getting informed, planning and learning to trust. The success of these strategies is moderated by patient characteristics and influences from family, staff, other patients and the clinical environment. Some patients may use withdrawal (disengagement from staff, service), or at least thoughts of doing so, as a strategy to promote short-term but potentially self-harming relief from discomfort and distress.	The operational definition for the theme "Self-comforting strategies" was generated from data coded to four subthemes: **"Maintaining positivity and strength"** Positive thinking helped patients stay positive and mentally strong when faced with fear and uncertainty of personally challenging treatment and care. Examples include celebrating small milestones during postoperative recovery and focusing on the benefits of surgery rather than the risks. *"I just kept on saying to myself I'm part of the majority* [who survive], *that kept me going because I was going to walk straight out." (P5)* **"Safety through surveillance of self and others"** Patients sought to reassure themselves of their safety through surveillance of their own symptoms and surveillance of staff. Not being able to rationalise symptoms as "normal" (NZE8) could cause significant distress. Conversely, patients drew comfort from the knowledge that symptoms or odd sensations were to be expected under the circumstances. *"I just told myself it was something from the surgery you know I knew exactly what it was." (NZE7)* Observing that staff were watchful and checking on them "when they're supposed to" (NZE7) also provided reassurance of safety. *"They'll pop their head in when it's not their time to see how you are. I know, I keep an eye on their schedules"* (M1). **"Strategies to develop a sense of ease"** Distraction (watching TV, listening to music, seeking out people to chat with) eased emotional discomfort by helping patients take their mind off unpleasant or unsettling events. *"I didn't like being in a separate room, I didn't like that … I felt quite isolated. I mean I'm a bit of a chatty person, not everybody likes to talk but you know you like to know the people around." (NZE4)* Self-care routines (mindfulness, meditation), pulling curtains for privacy, making the effort to connect with one's roommates temporarily eased discomfort associated with disturbing factors within the hospital environment (such as noise, room sharing with strangers). *"I'll just go into the room and I tend to pull the curtains across, I've got an iPod there, I usually listen to a bit of music" (NZE2)* Some patients used withdrawal and disengagement to ease discomfort and distress. Examples included withdrawing from interactions with staff, with other patients, contemplating not going through with the surgery, or self (early) discharge after surgery. *"I was a bit emotional before the operation … I was crying, I want to go home, I want to go home."* (NZE6)

		"They say oh I'll be back in five minutes and they're gone. And then ring the bell, ring the bell, that's why I said to my daughter I'm ready to go home" (P1). **"Strategies promoting acceptance"** Underpinning a sense of comfort was developing acceptance of one's situation using strategies that included use of humour, getting informed (reading, asking questions), developing some sort of plan or way forward for situations causing concern, and focusing on the necessity of unpleasant treatments, surgery, lifestyle changes and so forth. *"[I was] quite chirpy and cheeky to the [theatre] nurses just to try and keep myself cool, you know, just to cool myself down and get ready to accept the inevitable, you know."* (M8) Patients also gained comfort by developing a sense of trust in either the process or the people around them. Trust was integral to feeling able to accept care and treatment by choice. *"I don't ask much because I haven't been concerned about anything really. I trust them. My first operation really gave me the trust you know, people that trained years to be there, you've got to trust them." (M7).*
Culturally connected	Patients find it hard to be fully comfortable in hospital because they miss home, family and invariably encounter cultural norms, values and practices that may be different to their own. Comfort is enhanced in an environment that patients perceive to be welcoming to them and their family, culturally familiar, and there is the sense that others (staff, other patients) understand and respect their cultural norms and values. These perceptions help patients develop a sense of comfort related to connecting positively with people and place without tension or the need to repress personally important values, beliefs and preferences for care.	The operational definition for the theme "Culturally connected" was generated from data coded to three subthemes. The first two subthemes provide the context for a cultural dimension of comfort, the third indicates the importance of staff competence in culturally safe care. **"Missing home and family - hospital as a culturally unfamiliar environment"** Patients described the discomfort of needing to live - albeit temporarily - in an environment patients variously described as "alien", "foreign" and very "different" to home. Different things were missed by different people but, overall, unfamiliar routines, certain expectations of behaviour and missing home life exacerbated patients' sense of unease associated with being in the healthcare setting. *"…I've had my brother in law and his children come up and his kids are like my grandkids you know, full of life. The doctors say keep quiet, and I keep quiet and let them make the noise. I love the children …" (M4)* *"…I just couldn't go anywhere and feel that you were finally away in your own private little area that you could just chill out in with your family and things like that. So that's pretty hard, you're just trapped". (NZE2)* *"I miss my kids and my husband and my grandchildren. It's the love that you have at home. It's your privacy your own privacy at home. (P1)* **"Culturally important values and care preferences"** All patients held important values and care preferences related to, for example, meaning of family (who should visit and expected visitor behaviour); room sharing; communication styles, deference to hospital rules; attitudes around treatment regimens, putting up with pain, body modesty; expectations of caring

		(notion of service, being treated like family), food preferences, and spiritual beliefs (use of prayer/karakia). Underlying tensions associated with cultural differences were evident. For example, perspectives may differ between patients, staff, other visiting families about who should visit and acceptable visitor behaviour. *"It's what Pacific Islanders do. We all have the same sort of morals…They [visitors] just come to show their support, respect and love, yeah." (P7)* **"Feeling welcome, connecting positively with others amidst cultural differences"** Crucial to comfort (feeling at ease, safe, positive connections) was patients' sense of welcome and that others (staff, other patients) understood and accepted culturally important values and care preferences. Patients sought signs of welcome, of respect, of cultural acceptance. Examples include observing culturally diverse staff working as a team, the quality of communication between staff and other patients ("no racism here" M4), family being able to visit or share karakia outside of visiting hours, availability of cultural support staff and culturally diverse décor. *…it was a lot easier within our room because we were Māori, we understood. Like one whanau [family] came in first and I said kei te pai [good, that's fine] you fellows have your time … They felt like they were taking up too much space." (M3)* Attitudes, treatment regimens, rules and routines not congruent with one's personal values (for example, differing interpretations of body modesty, expectations of service and care) or based on a stereotypical understanding of cultural preferences undermined patients' sense of welcome and could distress. *"sometimes they leave you there naked* [under a sheet] *you know, and you can't do anything." (P1)*
Spiritually connected	Some patients gain a sense of comfort from feeling connected to a higher power and sustaining that connection through personally significant spiritual or religious practices. Patients' need for spiritual comfort may be intensely private and not always related to strongly held religious or spiritual beliefs. The need for spiritual comfort is dynamic, intensifying during times of distress or uncertainty.	The operational definition for the theme "Spiritually connected" was generated from data summarised in two subthemes: **"In God's Hands"** During times of uncertainty, some patients gained a sense of comfort (feeling safe, strengthened, at ease) through their trust in God, believing that "God would do the right thing" (NZE6) and events were "part of God's plan…no doubt, no fear" (M4). *"I pray for them [staff], when I went in to the operation and the nurses going to take care of me in there. …When you put your trust in the Lord He will come then, show them the way." (P1).* To those of no spiritual or religious affiliations, the idea of putting one's faith in a higher power neither provided nor detracted from their comfort. *"…I can understand people being of faith probably being comforted by the fact that they think someone's out there looking after them but I've never gone with that… "(NZE2)* **"Sustaining spiritually important practices, connecting with God"**

	Staying connected to (sometimes re-establishing) one's faith provided comfort during times of distress. *"…all the time I feel pain God helped me…I am very close to God when I'm sick, when I'm okay I run around and do everything I want and I forgot. I only remember Him when I'm sick…"* (P4) Not being able to sustain important spiritual values and practice could be distressing, for example, if food options or treatment regimens conflicted with spiritual beliefs, or if there was no space for sharing prayer (karakia) with family. Family, Kaumātua (Māori elder held in high esteem) and chaplains helped sustain spiritually important connections. *"I asked for a Kaumātua … could he say something* [a karakia before surgery] *for me. And I was happy. I was happy what he said to me, what he did to me. I'm happy about it". (M6)*

[1] Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview.

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

The second layer of the CALM framework related to the theme “Family’s unique ability to comfort” (see Table 2, Family’s unique ability to comfort). Exploring family comforting in a culturally diverse sample identified that family’s unique connection with patients was pivotal to their ability to comfort. Differences in the way families comforted (whether by shared prayer/karakia, bringing food in, encouraging trust) and who comforted (immediate or extended family) were identified between ethnicities. A shared culture and understanding appeared to underpin the differences in family-initiated comforting observed.

Overall, family were an important buffer to the unfamiliar clinical environment. Additionally, for most patients, having loved ones near, connecting with those who know them best and whom they trust promoted positivity and acceptance of care. Family-initiated comforting activities also included providing holistic care and practical support. However, family could also distress. Patients expressed concern for the safety and wellbeing of family members and worried about being a burden. Conflict between staff and family could undermine confidence in treatment and care. Positive family-staff relationships and family-friendly facilities are the most comforting scenario for patients. These examples demonstrate the integration between family- staff- clinical environment layers that was better understood through Stage two patient enquiry.

Table 2 Family influences on comfort

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Family's unique ability to comfort	Familiarity gives family the unique ability to comfort that complements care provided by staff. From most patients' perspectives, having loved ones near, connecting with those who know them best and whom they trust, promotes positivity, acceptance of care and provides an important buffer to the unfamiliarity and uncertainty of the clinical environment. Family also comfort through the provision of holistic care and practical support. Patients do not readily relinquish their family role and responsibilities even when facing personal health challenges. Under these circumstances, family-friendly facilities and positive family-staff relationships offset patients' sense of discomfort about the impact their situation may be having on others. These factors also facilitate family's ability to comfort. Conflicting views between family and clinical staff can exacerbate doubt in treatment and care amongst those already feeling vulnerable or uncertain; the most comforting scenario for patients is that family and staff views align. How family is defined, and the nature of comforting activities needs to be seen in the context of what is culturally important for patients and their family.	The operational definition for the theme "Unique ability to comfort" was generated from data summarised in three subthemes: **"You always want to see your family - comfort from someone who knows you"** The unique relationship between patient and family underpins family's ability to comfort. Loved ones can be a buffer to the unfamiliar healthcare setting and a constant comforting presence during times of illness and uncertainty. Patients spoke of hospital life as "100% worse without your partner" (NZE2), the comfort of having someone "hold my hand" (NZE4) and someone "to touch" (M7). *"…it doesn't matter how good the nurses, or the doctors are I always want to see my wife or my daughter…I know you give us a lot of helping hands but, in your mind, you always want to see your family." (P4).* Family also help patients feel safer and more confident about treatment and care decisions. *"My uncle came and just had a good word to me and sort of put me on track, he sort of made me feel better too you know …he was just more positive you know, like you're going to be better, have a better life, you're going to have a longer life …if I didn't have no family I would have taken off."* (P7) **"Comfort through practical support and care"** Family provide holistic and practical care that promoted comfort. Examples include back and shoulder rubs, bringing in culturally preferred food, helping with and advocating for care promoting physical comfort (position changes, pain relief). Family also provided practical support that eased patients' concerns over impending discharge, lifestyle changes and how they would manage at home. *"I've noticed the doctors and nurses take the time to explain things to her* [wife] *as well as to me which is good. They can probably see I look really spaced out its better to talk to her" (NZE5).* **"Discomfort, unease related to family"** Even during personal distress, patients did not relinquish family roles and responsibilities (as grandmother, mother, father, partner, husband, daughter, family matriarch and so forth) were not readily relinquished. Patients' concern for their family's safety and wellbeing, worry over being a 'burden' or "scaring" family sometimes meant denying themselves the comfort of family visits.

	"… My daughter, she's got her three little children and I don't want her to take them around, I don't want them to get in the car accident, it's too far for them …I told them not to come back …I'd rather they were safe at home…" (P2). Strained family relationships or family who did not understand patients' needs added a layer of distress additional to that arising from their clinical condition. Similarly, differing views between family and staff could undermine patients' confidence in treatment and care and may require them to make an uncomfortable choice between family and clinical staff recommendations. *"I don't want to deal with her [wife]. I want to concentrate on the nurses and the doctors... "(*P6)

[1] Patient interviews were coded by ethnicity and order of interview, i.e. M1 is the code for first Māori interview, P1 for the first Pacific interview and NZE1 for the first NZE interview.

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery

The third layer of the CALM framework relates to the way staff actions and behaviour influence comfort. Five distinct but integrated themes were identified (see Table 3). The first theme was effective "Symptom Management", which was essential for all symptoms including but not limited to pain. Distressing symptoms varied considerably even in a relatively homogeneous group of patients therefore individualised management was important (see Table 3, Symptom Management).

The second theme, “Holistic Care and Assistance” acknowledges the significant physical and emotional discomfort that can arise from the accumulative effect of symptoms, treatment side effects, unpleasant procedures and loss of functional ability. Holistic care involving multiple, non-pharmacological interventions was essential and complemented pharmacological symptom management. Help with personal care and basic tasks was crucial for a sense of comfort related to feeling cared for and safe (see Table 3, Holistic Care and Assistance). Comfort from holistic care and assistance was enhanced when delivered by staff with qualities described in the third theme, “Engagement and Commitment”. This theme relates to a sense of comfort arising from patients’ perceptions that staff were engaged in, and committed to, their welfare. Staff presence was important, which encompassed: the perception of 24-hour nursing presence; contact with doctors via ward rounds; and knowing that staff were available should they be needed. Comforting staff qualities included making an effort to connect, providing reassurance, encouragement and responding to patients’ discomfort or distress using therapeutic strategies tailored to individual need (see Table 3, Engagement and Commitment).

The fourth theme related to staff influence was “Information and Participation”, which influenced comfort in complex ways. When delivered well, information influenced comfort by enabling patients to feel prepared, reassured or, at least, accept the need for treatment and care. In addition, information and participation opportunities moderated patients’ ability to personalise many aspects of care important for their comfort. For example, patients were more likely to seek help, disclose concerns, or report symptoms when clearly informed about when, why and how to do so. Personalising care in this way also seemed more likely when patients felt comfortable with staff (refer Engagement and Commitment”). Preferences for participation varied but feeling overlooked, or unable to participate in care decisions could distress (see Table 3, Information and Participation).

The fifth theme was “Perceived and Actual Competence”. Perception of staff competence was comforting in the sense that patients felt at ease and confident in the care provided. Actual competence in all influences was crucial. Interview data indicated that all staff can influence comfort by being competent in their role whilst mindful that patients’ need for comfort is individual and may occur at any stage of their healthcare experience (see Table 3, Perceived and Actual Competence).

Table 3 Staff influences on comfort

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Symptom Management	Patients experience a range of distressing symptoms for which effective and sustained relief is crucial for their comfort. Symptom trajectories vary between patients therefore individualised assessment and treatment is essential. From patients' perspectives, staff actions that promote effective symptom management include routinely asking about symptoms, taking patients' symptoms seriously, pre-emptive or prompt treatment and working with patients to understand barriers to reporting symptoms and accepting treatment. When there are few effective pharmacological options, patient comfort becomes more dependent on other influencing factors such as holistic care and assistance.	The operational definition for the theme "Symptom Management" summarises the findings from two underlying subthemes: **"Variation in experience of common postoperative symptoms"** Patients' symptom experience varied in terms of symptom presence, severity and trajectory. Physical and associated emotional discomfort commonly arose from pain. *"I was in a lot of pain. I couldn't move. I was really in agony. I couldn't put my legs flat so I remember clearly having my legs up and if I got them up to a certain point it was just very slightly less painful than anywhere else. You know I remember just lying like that holding my knees because it was the best I could do." (NZE5*) Other distressing symptoms were postoperative nausea (..it's killing me…(P2)), fatigue, inability to sleep, loss of appetite, shortness of breath, constipation, low mood, or depression, dreams, hallucinations and visual disturbance, taste disturbance, palpitations, and fluid retention. *"It's a very simple thing but it was upsetting, my fingers they were swollen twice the size …it was horrible." (NZE4* **"Complexity of effective symptom management":** Complex patient and contextual barriers to effective symptom management were identified. Barriers related to patients' motivation for reporting symptoms, patients' beliefs and preferences for treatment regimens, staff competence, underlying attitudes of staff and patients (such as to opioids, sleeping tablets), conflicting opinions on effective treatment, clinical jargon, and the ability to personalise care. Patients emphasised the importance of participation in symptom management decisions, and of feeling heard. Not feeling listened to, or believed about the extent of symptom distress, prolonged physical distress and was emotionally upsetting. *"I think because I'm big you know I don't show the full soreness of my body …maybe they think I might be lying or something …I think they thought they were giving me too much painkillers …they were just saying we're giving as much as we can …they were trying to find the best one for me but weren't actually asking me which one was the best you know…" (P7)* Regular and competent symptom assessment followed by titrated symptom relief was essential for the duration of the admission. Pre-emptive symptom management and regularly offering analgesics were also important. Overall, symptom management depended not only on competent application of evidence-based symptom management protocols but on staff working with patients to understand and address barriers to reporting symptoms and accepting treatment (refer Engagement and Commitment", "Information and Participation").

		Other comforting actions become crucial when there were few effective strategies to combat distressing symptoms. These included support from family, empathetic and holistic care, reassurance about 'normality' and expected trajectory (refer Family's Unique Ability to Comfort, Holistic Care and Assistance, Information and Participation).
Holistic Care and Assistance	Patients experience significant physical and emotional discomfort from the accumulative effect of symptoms, treatment side effects, unpleasant procedures and loss of functional ability. Holistic care involving multiple, non-pharmacological interventions for relieving physical and emotional discomfort is essential and complements efforts to promote comfort through pharmacological symptom management. Assistance provided willingly reduces the substantial emotional and physical impact of loss of function and is an essential aspect of comforting.	The operational definition for the theme "Holistic Care and Assistance" summarises the findings from three underlying subthemes, the first of which provides context for this theme. **"Physical and emotional discomfort and distress"** Adding to patients' symptom distress was an accumulation of factors that included treatment side effects (such as dry mouth, itchy skin), unpleasant treatments and procedures (a "cocktail" of pills, venepuncture, echocardiogram, intravenous lines, oxygen therapy, blood pressure monitoring) and restricted mobility (from surgery, from being attached to equipment). *"I had two days of pure hell, I just felt like I'd been run over by a truck. But there was no pain from the actual surgery it was all of the drugs that they had pumped through me, yeah, I had no energy to get up, no life. There was no life to push to get up."* (M3) Patients had limited ability to self-care, needing assistance getting out of bed, to the toilet, with hygiene, after vomiting or if they "made a mess in the toilet"; even pouring a drink of water could not be done without help. *"I've felt like, [I have] been being run over by a bus and then backed over again, I feel terrible. You can't even take your hands off the table to butter some bread. You just are so out of it, it's such an awful feeling." (M2)* Worry about finances, returning to work, managing after discharge also contributed to emotional distress. **"Treating the whole person, not discrete symptoms"**: Complementing pharmacological symptom management was holistic assessment and care. *"[the nurse] asked me really nicely and politely how I was, was this happening or is this happening, have I got any of this … you felt that somebody cared for sure which was, the other guys were saying that too." (NZE7)* Holistic interventions specific to heart surgery included being taught to use a "cough pillow" and providing larger patients with a chest binder to prevent strain on the chest wound. Other interventions were a cooling fan, ice to suck, swift removal of drains, urinary catheters and intravenous lines, shower for itchy skin and positioning. *"…when the nurse came in I told her it was getting a bit sore around the back and shoulder blade and she says, get your bum back in that bed, she gets my pillow and straightens them up and, "lie there now" so I lay back down and oh yeah she knows what she's talking about alright. It felt a hell of a lot better". (M8)*

		“Getting the help needed” Getting help with personal care and basic tasks was crucial for a sense of comfort (feeling cared for, safe). However, patients felt unprepared for how reliant they would be on nursing staff. Adjusting to dependency was difficult and some were reluctant to ask for help for reasons that included worry about being “demanding” (NZE4) and feeling uncomfortable asking for help with “basic bodily things” (NZE9). Observing staff readily and “graciously” (NZE10) providing help relieved a sense of unease about asking for, and accepting, the help needed. *“…I didn’t realise that we’d have to be dependent on the nurses as much. I think I thought I could just get up and go, no it was far from it …they’ve been tremendous you know …it’s an eye opener” (NZE10)* Overall, comfort from holistic care and assistance was enhanced when delivered by staff with comforting staff qualities (refer ‘Engagement and Commitment’). Experiencing such care set the tone for positive patient-staff relationships and satisfaction with the service. *“I trust them. That’s their work to give life back to people that’s their work. Very hard work, but they never turn their back they try to do their work thoroughly. That’s how I believe them” (P4).* *“…people going to hospital, they always talk about the nurses and I basically said it was absolutely true. You know they’re the front-line staff and the ones you deal with every day and they’re all amazing.” (NZE2).* Conversely, a failure of staff to appear caring, helpful and responsive to one’s needs harboured resentment and made patients wary of future engagement with that staff member. *“She didn’t seem to be caring enough, yeah. I woke up having a bad dream and asked her to get me a flannel, which they don’t even ask, can I?, I didn’t have any bedclothes on because I was so hot but they don’t even ask if they can put bedclothes on you know and so it’s little things like that, you know.* [How does that affect you]. *I think it affects me in the way that when I ring the bell I hope she doesn’t come you know. She was on nights and I was thinking gosh I hope that lady don’t come again.” (M2)*
Staff Engagement and Commitment	Knowing that staff (all roles) are watchful and available when needed is fundamental to a sense of comfort. Patients’ comfort is also enhanced when staff make an effort to connect (are welcoming, friendly), when they promote positivity through reassurance and encouragement, are considerate and responsive to patients’ needs, and when they demonstrate understanding of patients’	The operational definition for the theme “Engagement and Commitment” summarises the findings from three underlying subthemes. **“Comforting staff presence – layers of surveillance and availability”** Patients’ perceptions that staff are present and available to them promotes emotional comfort associated with feeling safe and cared for. A comforting staff presence consisted of three layers: perception of 24-hour nursing presence; contact with doctors via ward or pain rounds, even if brief; and, knowing that staff were available should they be needed. *“…she [primary nurse] might be attending another person but if she is normally it’s – “can you wait?” but you know they’re going to come.” (NZE8)*

	discomfort (distress, uncertainty, vulnerability) using therapeutic strategies tailored to individual need. Strategies include empathetic listening, taking time to explain, comforting touch, careful use of humour/chit chat, maintaining privacy, dignity, and a respectful and caring manner during interactions. Being cared for in this way is foundational to a positive patient experience and appears to have therapeutic importance by promoting positive patient-staff relationships and a willingness to engage with staff, the service and health promoting behaviour in general.	**“Comforting staff qualities”** Staff qualities described as comforting were summarised as: • Making an effort to connect (welcoming, friendly, smiling) • Reassuring, encouraging - promoting positivity • Caring and considerate, responding to patients’ needs (committed) • Empathetic, warm *“I thought the girl from Melbourne up in the surgery …I thought she had a very comforting and empathetic manner… That’s probably the biggest time where you’re starting to get a bit nervous anyway when you’re in the holding pen to go into the, yeah* [became emotional]. *And I found she was very good … she just sort of says you’ll be okay and give your arm a pat or something like that”. (NZE1)* **“Therapeutic comforting strategies tailored to patients’ individual needs”** Comforting staff were those who combined comforting qualities with individualised strategies in a way that was foundational to a positive patient experience and promoted good will towards the staff (and service) that has supported them through a physically and emotionally challenging time. *“I think they have done all, their faces, smiling faces, that will do. There’s a good treatment, here” (P4).* Comforting staff behaviour also had therapeutic importance by promoting patients’ willingness to disclose concerns, participation in care and treatment and positive patient-staff relationships. Conversely, patients disengaged from staff with whom they did not connect, some even considering (early) self-discharge when they felt uncared for or disregarded. Comforting strategies tailored to patient’s unique needs included: • Taking the time to explain, possible even in rapidly changing clinical situations to promote confidence and acceptance of care • Maintaining patient’s privacy, dignity, being respectful during personal care, or bed-side discussions between staff • Supporting patients through unpleasant procedures/mobilisation (emphasising the necessity of the procedure while providing reassurance, empathy, a caring manner, boosting confidence) • Use of humour and chit chat, although judgment was needed • Giving patients the chance to talk about concerns; empathetic listening • Using touch to convey empathy, concern, connection. *“…she took that little bit of time with me and put her arm around me to make me strong and to say listen you can tell me…when I was really bad I just needed someone to put their arm around me and I told her a little bit …” (NZE6)*

Information and Participation	Information promotes comfort by reducing the distress of uncertainty and enables patients to prepare for and accept what lies ahead. Information also comforts by promoting trust and confidence in staff and the care provided. However, informing patients is an art and science; to comfort (and not distress), information needs to be provided by staff knowledgeable in the topic and sensitive to patients' situation and personal preference for detail. Individualised care is essential for patients' emotional and physical comfort. Patients who are accurately informed about when, why and how to report symptoms, who feel comfortable with staff and perceive them to be concerned for their welfare are more inclined to seek help, report symptoms, ask for clarification, and participate in care and treatment decisions. Feeling disempowered, or unable to participate in care decisions, can distress.	The operational definition for the theme "Information and Participation" summarises the findings from three underlying subthemes: **"Importance of personalised care, personalised information"** Underpinning the operational definition of this theme is the importance of personalising symptom management and holistic care. As such, patients needed to feel empowered to initiate non-standardised care and participate in treatment decisions. *"I had a bit of nausea but as soon as I mentioned it people tried to help me with it."* (M4) Similarly, the right 'dose' of information was crucial to patients' sense of comfort because information could either comfort or frighten and distress. Patients' information needs were variable and personal. *"I came to see the anaesthetist and the only question I asked him was you just make sure I wake up … that's the only thing that really frightened me"* M2) **"When delivered well, information underpins comfort (feeling prepared, reassured, accepting; can personalised care)"** Patients gained a sense of comfort from understanding what is currently happening and what is likely to happen. This information helps them prepare for and accept what lies ahead. *"…the surgeon has been very comforting. He came along and explained, nice warm eyes you know" (M2)* Information about what, when and how to report symptoms or other causes of discomfort supported patient's ability to personalise care, including safe self-triage, which was common. *"I never ring the bell straightaway. No, I just hang on* [and think] *whether why this pain comes in, why the pain, why I got a pain? …I try to play fair and square."* (P4). Information was also important for addressing attitudinal barriers to symptom management. *"they did say, however little your pain is it's good to let them know. Don't be a tough boy and handle the pain you know which is what I would probably do."* (M8) Information also comforted by reassuring patients their symptoms and side effects they were experiencing was normal, and likely to pass. However, sometimes information does not (and indeed cannot) comfort. Under these circumstances, staff experienced in the art and science of informing are pivotal. Balancing information about risk with positivity was important, as was being believable. For one patient, this meant staff being "confident but not cocky" (NZE5). *"there was one nurse [who] was just very, very good at just calming me down in general and just saying the right things to make me just feel a little bit more comfortable. Others have been very good at explaining the technical side of things…" (NZE5)* **"Feeling comfortable with staff – the subtle factor influencing personalised care, patient participation"**

		Feeling comfortable with staff underpinned patients' willingness and ability to personalise care. For example, patients could be reluctant to ask questions, disclose concerns, or use the call bell between times of staff-initiated contact for reasons that included expectations of an unfavourable reaction from staff, not wanting to "annoy" staff, a reluctance to question the "experts" or take up valuable time. *"I just sort of you know let them do what they've got to do. I just want them to do their job yep. And just say nothing to them like I'm alright".* (M6) Staff who demonstrated comforting qualities (refer Engagement and Commitment) helped to minimise these barriers. *"They'll show you, there's the buzzer if you need me, when you need me, just push the buzzer don't be worried about what time it is."* (M1) However, patients' preferences for participation varied and there was a level of comfort to be gained from having confidence in staff to step back from decision making. Patients tended to seek greater involvement when symptoms were poorly controlled, when they were anxious to avoid complications or worried about their safety. At these times, feeling unable to participate in care decisions placed patients in an uncomfortable situation of reluctant (rather than willing) acceptance of care and treatment. This was not only emotionally distressing but delayed effective symptom management. As such, comfort and participation are inextricably linked. "[Discussing pain management] *It could be better I think but who am I you know? These guys are professionals. They know what they're talking about…" (P5)*
Perceived and Actual Competence	The perception of clinical competency promotes a sense of comfort (safety and ease) because patients feel confident in the care provided. However, all staff - clinical and ancillary - have the potential to be comforting by being competent in their role whilst mindful of patients' comfort needs.	The operational definition for the theme "Perceived and Actual Competence" summarises the findings from two underlying subthemes: **"Perception of competence"** Perceiving that staff were competent was comforting in the sense that patients felt at ease and confident in the care provided. *"…the doctors and the nurses they're very confident in how they attend you.* [How does that make you feel?] *Relaxed. And in good care." (M7)* **"Actual competence - expert comforters"** Staff competence related to each influence is essential. Staff whom patients particularly remembered for their comforting qualities were those that seemed to blend competence and commitment with comforting qualities. In some cases, care was not protocol driven; indeed, some staff had deviated from protocols to make a difference, such as ancillary staff enabling family to visit outside of visiting times, or a nurse letting a sleep-deprived patient sleep in a spare room. Other examples were the surgeon who expertly managed a patients' pain, the sonographer who described to one patient how well her new heart valve was working and the kaumātua who had knowledge of tikanga (the Māori way of doing things). *"…he said to me oh you from [place]? I said yeah. And he's been up there too and that's where I'm from. That's my marae. … I identified with him for being from the same place as he is, somebody from home … being Māori and him coming to talk to me it's good, made a big difference … [It was] uplifting…" (M5)*

[1] Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

The outer layer of the CALM framework relates to the theme “Physical Facilities and Ambience”, which summarises factors within the clinical environment that influence comfort (see Table 4, Physical Facilities and Ambience). Amongst the factors important here were an ambience of caring and positivity, observing that staff had time for all patients’ needs, having control over one’s personal space (lights, noise) and facilities that were clean, well-equipped and family-friendly.

Table 4 Influences on comfort within the Clinical Environment

Influence	Operational Definition	Subthemes and supporting evidence[1,2]
Physical Facilities and Ambience	Patients feel comfortable (at ease, positive, safe) in a clinical environment in which staff are positive, helpful, have time for all patients' needs and work as a cohesive team (all roles, all ethnicities) to relieve discomfort and distress. Being away from home, feeling confined, sharing personal space, can be difficult therefore supporting patients' personal preferences for privacy, companionship, quiet and sleep is crucial. Additionally, facilities should be clean, well equipped, physically comfortable (temperature, beds, chairs, fresh air) and support self-comforting strategies such as faith-based activity, distraction (TV, Wi-Fi) and a sense that one's culture is respected. Family's unique comforting role is facilitated by staff who acknowledge, welcome and keep family informed; family-friendly space and flexible visiting times are essential.	The operational definition for the theme "Physical Facilities and Ambience" summarises the findings from four underlying subthemes: **"I've never once felt I didn't want to be here"** Contributing to comfort was an ambience of caring, positivity (staff are friendly, encouraging) and support, irrespective of who was on duty. "[What makes you feel cared for]... *It's quite subtle, [but] you soon pick it up… really caring you know. I feel comfortable here type of thing… I've never once felt I didn't want to be here, if I had to be somewhere doing what I'm doing you know this will do me." (NZE7)* *"Even the people that are bringing breakfast for us and the cleaners, they're all good, good people." (M5)* Being able to rest/sleep without constant interruptions or disturbance from lights and noise was crucial. Also important was observing staff working as a cohesive team. Perceiving that there were enough staff to meet all patients' care needs (not just their own) was important. Patients did not like seeing busy, overworked staff, or other patients not getting prompt attention. *"…I get a bit stressed because I think the nurse in there now she's amazing …[but] she's the only one and she's doing the best job she can …I find it a bit hard because everyone's demanding things off her … she hasn't had her break and everybody else you know gets on top of her. I find that really hard to watch" (NZE6)* **"Facilitating family's comforting role"** Important here was that family felt welcome, supported and able to be involved through staff actions and behaviour that included making an effort to connect with family, acknowledging and validating family's situation, supporting advocacy, keeping them informed, and through flexible visiting hours. *"…my husband's come in every day and that's been good and hard for him. I'll be pleased to get home to make it easier for him to be quite honest. He's a bit naughty he sort of sits there beside me over the hour* [when ward is closed to visitors] *but then he doesn't talk. He just sits there and holds my hand." (NZE4)* **"Physical facilities are clean, well equipped and facilitate all other influences on comfort"** Physical facilities important for comfort include those that support privacy, rest and sleep (quiet, comfortable beds), are clean and essential equipment is readily available.

> *"…the top-up of the hand gloves, the towel, it's very good. You know they don't wait until they run out …*[How does that make you feel when you see that?] *I feel comfortable, yes. Yeah I feel comfortable you know…I get used to seeing the nurses wear the gloves, so I always feel good. That's hygienic to me wearing the gloves." (P6)*

Also important are family friendly facilities, family space and facilities that help patients sustain spiritual (place for prayer/ karakia) and cultural connectedness (such as culturally diverse décor). This is what a tapa cloth wall hanging signified to one Pacific patient:

> *"... our island is respected by here, our culture and everything like that".* (P4)

"Control over personal space"

The inability to control one's personal space with respect to lights, noise disturbances, roommates and other patients' visitors could be very distressing.

> *"…when you want to go to sleep their lights are on and they won't turn the lights off and that's happened here all this week, which is 100% worse when you're feeling awful … I like everything to be right and you can't have it right when you're in hospital. This is not your place; you're a guest here. So my tendency is to not sleep because of that." (NZE2)*

Patients appreciated staff-initiated efforts to reduce environmental stressors as they were reluctant to ask roommates, family or staff to curtail activities.

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[1] Patient interviews were coded by ethnicity and interview order, i.e. M1 is the first Māori interview, P1 for the first Pacific interview and NZE1 is the first NZE interview

[2] Examples are from Stage 2 semi-structured interviews of patients undergoing heart surgery.

DISCUSSION

Through a two-stage process commencing with an integrative review involving 62 studies[24] followed by semi-structured patient interviews we have (1) defined patients' perspectives on comfort and (2) developed a multidimensional framework representing patients' perspectives on important comfort-related care. Operational definitions for each theme reflect the essence of care that matters to patients and the integrated nature of this care.

Our definition of comfort broadly aligns with others[8, 10, 11] in the sense that comfort is defined as a dynamic and multidimensional state. Similarly, nurse theorists[8, 33-37], multiple qualitative studies[24] and concept analyses[9, 10, 12, 23, 38-40] have consistently described the holistic dimensions of comfort, and the art of comforting that we believe are captured in our findings. However, the CALM framework differs from most comfort frameworks/models[21, 41-48] in that patients' perspectives of all influencing factors are captured in one unifying framework. Differentiating the definition of comfort (the state) from the process of comforting (influencing factors) meant that findings are presented as a more "tangible product" considered essential for implementing qualitative findings into practice[49, p765]. Operational definitions are generated from rich, in-depth data using methods explicitly exploring patients' perspectives. We believe these definitions provide a clearer direction for practice and quality improvement in comparison to other published frameworks[21, 41-48, 50].

Implications for practice and quality improvement

Improving patients' experiences of care is core to healthcare quality. Patient experience is defined as "the sum of all interactions, shaped by an organization's culture, that influence patient perceptions across the continuum of care"[51, p10]. Improving patient experience, therefore, requires an understanding of what matters to patients during their interactions with healthcare staff. Work in this area has resulted in a range of frameworks and guiding principles[6, 52, 53]. Comfort-related care incorporates many factors considered important for patient experience[54] including compassionate care[55, 56]; compassion most simply described as "the recognition of and response to the distress and suffering of others"[56,p310].

One could assume that initiatives aimed at improving patient experience will also improve comfort. However, all patients interviewed had experienced distressing events even though patient experience indicators at the research site suggested a high-level of person-centred care. Similarly, examples of missed nursing care, also known as errors of omission or care rationing[19, 22, 57-60] relate to care patients described as important for comfort, such as position changes, patient surveillance, comforting/talking with patients, pain management, patient teaching and feeling prepared for discharge.

These similarities highlight the inextricable link between care promoting comfort and that inherent in high-quality, safe care.

However, improvement targeting causes of missed nursing care is not the only consideration when aiming to maximise patients' comfort. First, important care is not specific to the actions of any discipline, or indeed clinical staff. Second, staff (any role) may not be able to provide the care they wish to provide because of factors beyond their control (for example, lack of equipment, unsupportive ward culture, absence of evidence-based symptom protocols). Therefore, the breadth and depth of all that matters indicates that maximising patients' comfort requires an informed and systematic approach aimed at supporting staff to provide the person-centred care they most likely wish to provide. We therefore ask that healthcare leaders consider how the CALM framework may be used to drive a culture of care that maximises patient comfort, beginning with the message that comfort-related care is essential work[19, 57-61] encompassing a caring, compassionate response to human distress[54-56] for which healthcare leaders have accountability to promote, monitor and address omissions.

Three principles underpin application of the CALM framework. The first is appreciating the context-specific nature of comfort, meaning that the detail of care underlying each of the broad influences may differ by condition, ethnicity and age. For example, effective symptom management is crucial for comfort, but distressing symptoms may fluctuate by type and stage of a condition. Similarly, family influenced the comfort of patients of all ethnicities but how patients define family, and comforting activities differs by ethnicity, age and stage of condition[31]. The second is that individualised care underpins all operational definitions. Efforts to reduce unwarranted variability through standardised care must not be at the expense of the intuitive art of comforting. The third is that all staff can comfort (or distress). Therefore, consider actions of clinical and ancillary staff when applying the framework. Operational definitions can be used to guide conversations with patients, family and staff about their perception of important care for each influence, with identified gaps providing a basis for improvement work.

Transferability

Triggers for comfort-related care summarised in the comfort definition were consistent with those identified in other settings[24]. Similarly, the definition of comfort and the CALM framework appear applicable to a range of inpatient populations. Transferability is suggested on the basis that patients of different clinical conditions, age, ethnicity, from a range of inpatient settings within fifteen countries[24] held similar perspectives on the meaning of comfort and the care that influenced it.

Strengths and limitations

A comprehensive conceptual framework[24] focused the exploration of patients' perspectives in a clinical setting. Definitions are data derived and represent patients' perspectives. Our method enabled categorisation of concept characteristics in a way that promotes translation into practice; upwards of 60 attributes of comfort and comforting have been previously identified[10]. This is the first study that has set out to explore a cultural dimension of comfort. Findings collectively represent perspectives held by Māori, Pacific and NZE participants, suggesting that the CALM framework encompasses culturally responsive care. Importantly, within the CALM framework, the patient determines the extent to which culturally safe care is being provided through their sense of feeling "Culturally connected" i.e. they and their family feel welcome; actions and behaviours of others indicate understanding and respect for one's cultural norms and values. This emphasis is consistent with the notion of unsafe cultural practice as "any action which diminishes, demeans or disempowers the cultural identity and wellbeing of an individual"[62].

Recruitment stopped when we reached an understanding of how perspectives on comfort broadly differ by ethnicity. However, more can be learned of the underlying detail for each influencing factor, such as preferences for comforting staff behaviour, attitudes to pain management or body modesty. In accordance with Morse's view[63], data saturation on all possible context-specific or individual details was not our intent. Peer debriefing by experienced qualitative researchers throughout all stages of the analysis, Māori and Pacific consultation, prolonged engagement (1082 minutes of interview), negative case analysis and triangulation methods[27] promote credibility of the findings. Triangulation - using multiple data sources to produce understanding - was used in both stages of this research. Stage one compared findings generated from theoretical and qualitative research (methods triangulation) and involving people from a range of healthcare settings, ages and ethnicities spanning decades of healthcare (triangulation of sources)[27]. Further triangulation occurred in Stage two when patient interview data were contrasted with findings from the integrative review and included studies[31]. Concept clarification was sought during all interviews[27]. However, a limitation is that participants were not asked to comment on the findings.

Implications for research

Replication of this research may lead to further refinements of operational definitions, evaluate claims of transferability, and build an evidence base of context-specific care. Exploring staff perspectives on comfort and determinants of comfort-related care in healthcare settings will inform implementation strategies. Research is also required to identify how the art of comforting can be taught and modelled in clinical practice and educational curricula.

The influence of comfort on patients' outcomes may go beyond patients' experiences of care (see Figure 2). Our interview data indicate that a sense of comfort during one's healthcare interaction is associated with positive patient-staff relationships, a willingness to disclose concerns, to seek help and to participate in care and treatment, rather than disengage or withdraw. Other qualitative studies exploring comfort have proposed similar outcomes[24, 64]. An informed, systematic approach to maximising patients' comfort may, therefore, improve not only patients' experiences but also population health, particularly in vulnerable sections of the population. These potential benefits warrant further evaluation. Clinically relevant metrics for quantifying comfort and monitoring important aspects of care are also needed.

Conclusion

This research provides new insights into what comfort means to patients, the care required to promote their comfort, and the reasons for which doing so is important. We have developed a definition of comfort and the Comfort Always Matters (CALM) framework, which can be used by healthcare leaders and clinicians to guide practice and quality initiatives aimed at maximising comfort and minimising distress in a range of inpatient populations. A focus on comfort by individuals is crucial but leadership will be essential for driving the changes needed to reduce unwarranted variability in care that affects comfort.

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Contributor statement

CW Contributed to conceptualisation of the project, research design, undertook data collection, analysis, wrote the first draft of the manuscript, and coordinated its multiple revisions.

MB Contributed to conceptualisation of the project, research design, analysis and interpretation of the data and critical revision of the manuscript.

AM Contributed to research design, analysis and interpretation of the data, and critical revision of the manuscript.

AFM Contributed to conceptualisation of the project, research design, interpretation of Stage 1 data and critical revision of the manuscript.

Competing Interests:

None

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Data sharing statement:

Consistent with our institution's ethics approval, additional data generated in this study can not be made available.

Figure 1 Patients' perspectives on comfort and influencing factors; the Comfort ALways Matters (CALM) framework

Figure 2 Influences, attributes and outcomes of comfort

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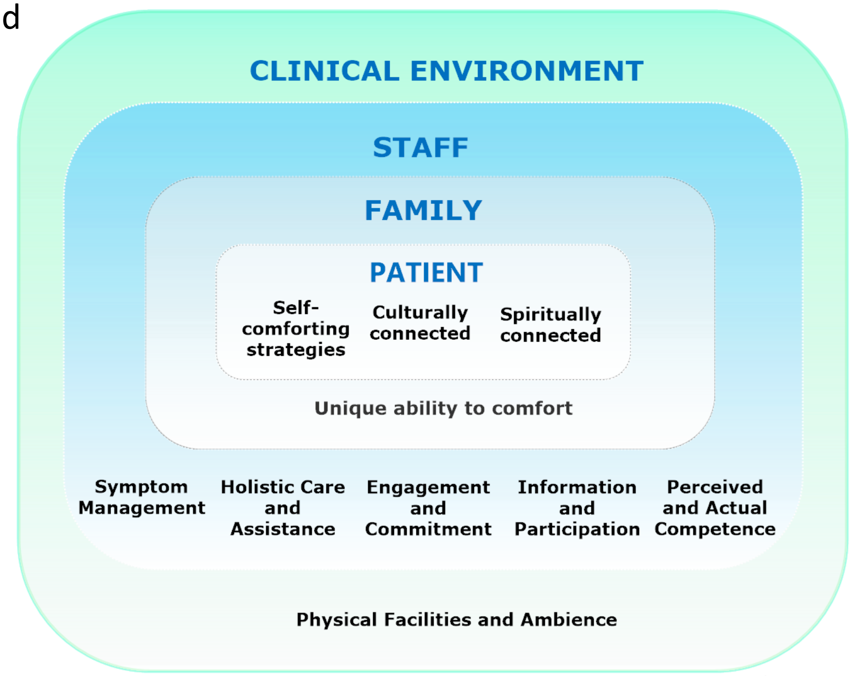
Comfort

Comfort is a transient and dynamic state characterised not only by ease from pain, emotional and physical distress but an emerging sense of positivity, safety, strength and acceptance of one's situation that is both underpinned and sustained by feeling valued, cared for, confident and accepting treatment by choice.

Total comfort is elusive; patients seek to be as comfortable as they can be under the circumstances of their healthcare interaction.

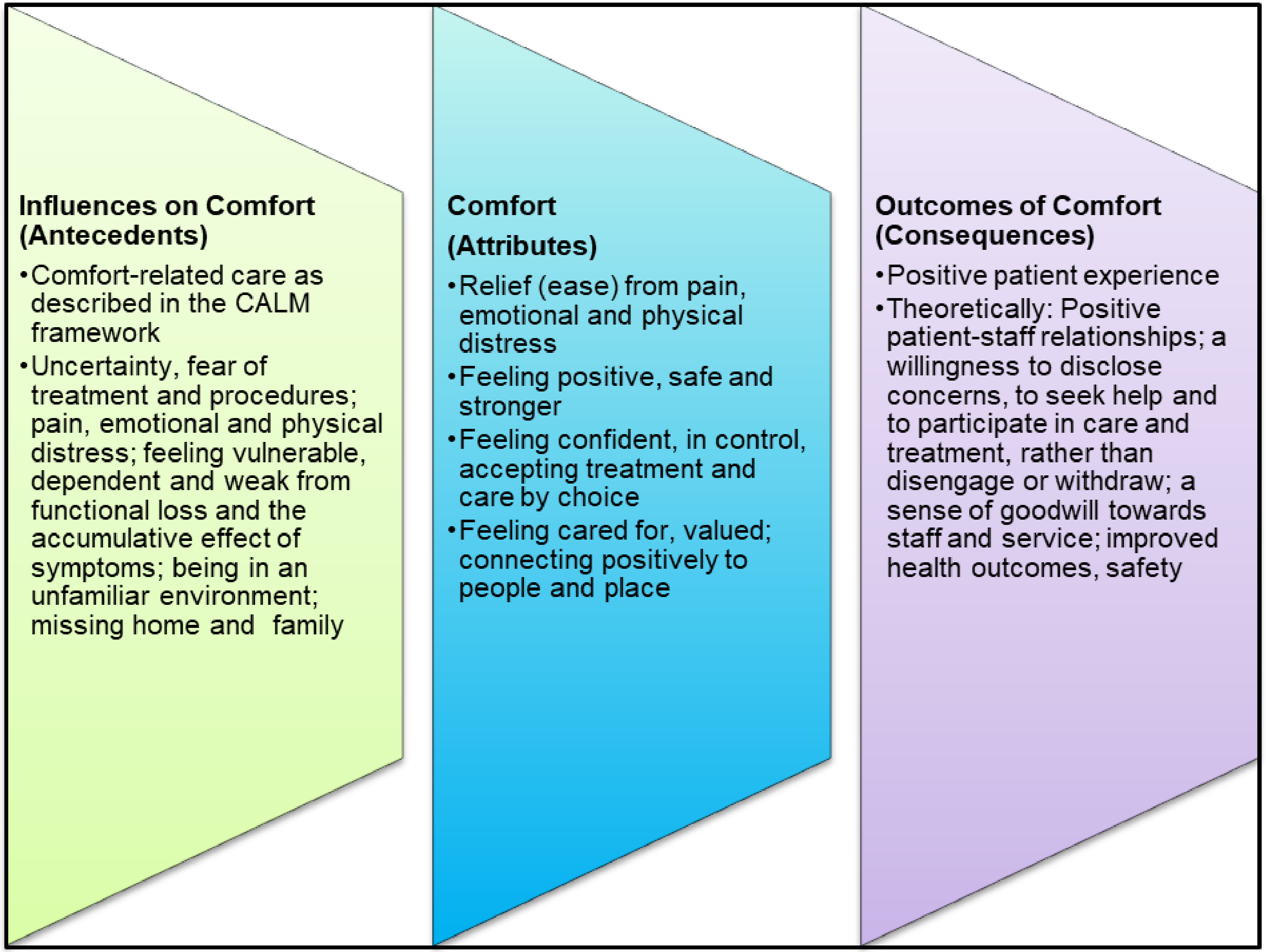
Influences on comfort

- ✓ Self-comforting strategies; positive thinking, seeking signs of safety and normality, use of self-care routines, developing acceptance (getting informed, planning, learning to trust)
- ✓ Feeling culturally connected; sense of cultural familiarity, cultural norms and values are understood and respected
- ✓ Feeling spiritually connected; able to sustain important spiritual or religious practices
- ✓ Family's unique ability to comfort arising from a shared culture and understanding
- ✓ Effective, individualised symptom management
- ✓ Holistic care and assistance provided willingly
- ✓ Engaged and committed staff
- ✓ Accurate information that is sensitively provided, patients can prepare for what lies ahead. Opportunities to participate in, and personalise, care.
- ✓ Staff competence; perceived and actual
- ✓ Physical facilities are clean, well-equipped and family-friendly. Patients have control over their personal space (lights, noise). An ambience of positivity and caring. Staff work as a cohesive team and have time for ALL patients' needs.



Comfort ALways Matters (CALM) framework

Figure 1 Patients' perspectives on comfort and influencing factors; the Comfort ALways Matters (CALM) framework



Influences on Comfort (Antecedents)

- Comfort-related care as described in the CALM framework
- Uncertainty, fear of treatment and procedures; pain, emotional and physical distress; feeling vulnerable, dependent and weak from functional loss and the accumulative effect of symptoms; being in an unfamiliar environment; missing home and family

Comfort (Attributes)

- Relief (ease) from pain, emotional and physical distress
- Feeling positive, safe and stronger
- Feeling confident, in control, accepting treatment and care by choice
- Feeling cared for, valued; connecting positively to people and place

Outcomes of Comfort (Consequences)

- Positive patient experience
- Theoretically: Positive patient-staff relationships; a willingness to disclose concerns, to seek help and to participate in care and treatment, rather than disengage or withdraw; a sense of goodwill towards staff and service; improved health outcomes, safety

Figure 2 Influences, attributes and outcomes of comfort

Supplementary File 1

Interview Guide

Interview questions covered eleven topics and were designed to explore patients' perceptions and experiences of comfort from the time they were notified they needed heart surgery through to the time they were preparing for discharge. Questions evoked responses that covered multiple topics and so participant burden was not as great as it appears. A one-page concept map summarising the interview topics enabled the researcher to keep track of the topics covered and note down key points to return to. Open-ended, probing questions were used to obtain rich, meaningful data [1,2]. Probing questions sought concept clarification when it was uncertain that patients were talking about their experience of comfort. Patients were also asked to score their comfort, and then their pain, on an 11-point Numeric Rating Scale (NRS) to further explore the meaning of comfort and conceptual similarity to absence of pain.

RQ = Research Question

Opening question

- I would like to begin by asking you about your overall experience of having surgery in this hospital. You have been in hospital a few days now after major surgery, what has your experience been like so far?

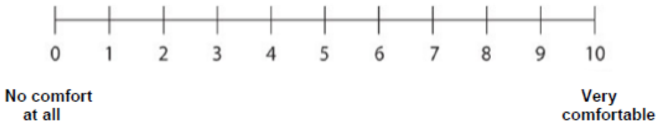
Topic 1 Meaning of comfort

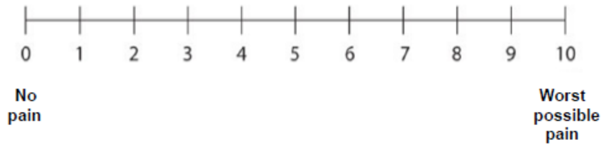
RQ: What does "comfort" mean to patients who have been recovering from cardiac surgery for at least four days?

- You've been in hospital recovering from surgery for 4/5 days now. I am interested to know how comfortable you feel right now. What does being comfortable mean to you?
- Can you please look at this comfort scale? It is a scale that goes from 0 to 10; a score of 0 would mean you are extremely uncomfortable - no comfort at all - and a score of 10 would mean you are extremely comfortable. Taking all your feelings and symptoms into consideration can you give a number from 0 to 10 that describes your level of comfort right now?
- What does that score mean to you? *Probe - what does a score of x feel like?*
- What would take you to get up 10?
- What would you most like staff to know about how to help patients feel comfortable in hospital after heart surgery?

RQ: Do patients perceive pain and comfort differently?

- On the other side of this paper is a scale you will be familiar with it is a pain scale also measured pain from 0 to 10. How much pain are you in right now on this scale of 0 to 10 where 0 is no pain and 10 is worst pain imaginable.





RQ: What does "discomfort" mean to patients who have been recovering from heart surgery for at least four days – understanding discomfort helps understand comfort

- Let's talk now about the lower end of the comfort scale, were you ever down closer to the bottom of the scale? What was that like?
- Let's talk about any discomfort you have experienced after surgery. Probe symptoms spontaneously mentioned. Ask about symptoms generally experienced such as pain, nausea, constipation, anxiety, worries or concerns. How did that make you feel?

Topic 2 Pre-operative preparation and expectations, influences on comfort at that time

RQ: How do pre-operative events influence pre and postoperative comfort?

- Let's talk a little about the events before surgery. What was it like for you when you realised that you needed heart surgery?
- During the time waiting for surgery what helped with those thoughts and feelings?

Topic 3 Self-comforting strategies

RQ: What strategies do patients use to promote their sense of comfort when undergoing heart surgery?

- Probe what helped/didn't help with an unpleasant/distressing situation/event.
- Have you felt safe? Probe confidence in staff, able to ask for help? Did staff check up on you? *Probe: Influence on comfort*
- Have you been chatting to other patients? Staff? *Probe: Influence on comfort*

Topic 4 Cultural Dimension of comfort

RQ: In what way does feeling culturally connected influence the comfort of patients when they are in hospital recovering from heart surgery?

- Let's talk now about what it is like for you in general being in hospital. Can you remember when you first came into the ward for your surgery? Did you feel welcome? *Probe What was welcoming/not welcoming i.e. greetings, environment, staff; How important was that initial welcome?*
- What have you missed from your home life?
- Have you any values, preferences related to health and illness that are important to you? *Probe: impact on comfort in context of care experienced.*

RQ: How does an acute care environment support cultural connectedness?

- Were staff aware and respectful of your cultural values, preferences? *Prompt: For e.g. return of body parts, cultural support such as visiting kaumātua*

Topic 5 Spiritual Dimension of comfort

RQ: In what way does spiritual connectedness influence the comfort of patients when they are in hospital recovering from heart surgery?

- Many patients can experience a feeling of uncertainty during the days before and after surgery. Some people find that spirituality, a faith or a belief, karakia, prayer can help them over this time. Is that something that occurred to you?
- Is there something else, some other sense of a higher power or meditation for example, that that has helped you at this time?
- Were there times when connecting with your faith or beliefs was comforting?

RQ: How does an acute care environment support spiritual connectedness?

- Was spiritual support offered and available?
- Do you feel that staff respected your spiritual needs?
- Has there been times in hospital when you have felt unsupported or restricted in your spiritual beliefs or faith? Prompt I am thinking of things that staff might have said or done? Was your time for karakia/ prayer respected? Quiet place for prayer?

Topic 6 Family/Whānau

RQ: How is family/whānau presence important to patient comfort?

- Have you missed your family/whānau since you have been in hospital?
- How important have family/whānau been for you at this time?
- Where there tines when you didn't want visitors?

RQ: In what way might staff-family/whānau relationships contribute to patient comfort?

- Did staff make your family/whānau feel welcome? How was that important to you?

RQ: If shown to be important, how does an acute care environment a) support family/whānau presence b) include family/whānau in care?

- Have family/whānau been able to visit or keep in contact as much as you needed them to be?
- How have your family been involved in your care? *Prompt: Have there been times when family/whānau have intervened on your behalf in ways that improved your comfort?*

Topic 7 Staff Influences - Engagement and Commitment

RQ: How do staff interactions influence the emotional and physical comfort of patients in hospital for heart surgery, including willingness to participate in care?

- Were doctors comforting? Were nurses comforting? *Or, ask in response to spontaneous description of a distressing situation.*
- What qualities did you want the nurses who look after you to have? Were there any staff that you felt you particularly related to or able to confide in? *Probe What was it about that person that made you feel that way? Why was that important?*
- In your experience of care in this hospital have staff had time for your needs? *Probe How/why this was important.*
- Were you comfortable using the call bell for help? *Probe Why was that?*
- Did you experience (or see) any care that disturbed you? *Probe What happened?*

RQ: *How do staff in acute care environments respond to individual patient's comfort needs?*

- Can you recall a time since your surgery when someone went out of his or her way to help you feel more comfortable? What difference did that make?

Topic 8 Staff Influences - Information and Participation

RQ: How does information influence patient comfort when undergoing heart surgery?

- Did anything happen in your recovery that you weren't prepared for?
- Did you know what your plan of care was for each day? How was this/would this have been helpful?
- Let's talk about going home and what life will be like for you in the first few weeks. Do you have any concerns about how you will manage? What have you been told about going home? *Probe impact on comfort*

RQ: How does patient participation (such as opportunities to personalise care by reporting symptoms, negotiating care) influence patients' physical comfort after heart surgery?

- Were you encouraged to report your pain? Other symptoms?
- Who made decisions about the pain relief you were given? Can you recall a time when you were given options about what strength pain relief you had? *Probe management of other physical symptoms of significance to the participant*
- Did you ever put up with any pain or symptoms? *Probe why*

RQ: How do opportunities for participation promote emotional comfort?

- Were you involved in treatment and care decision as much as you would have liked to be? *Probe preference for involvement in treatment decisions when asking about symptom management, or aspects of care described as distressing/improve comfort*
- How did you feel about taking the pills? Were there any medications that you refused to take? *Probe – or were reluctant to take? Why was this?*

RQ: How is patient participation influenced by the quality of staff interactions, specifically patients' sense of engaged and committed staff?

- *Refer Engagement and Commitment questions*

Topic 9 Staff Influences - Holistic Care and Assistance,

RQ: How is patient comfort assessed in the first four / five days after cardiac surgery?

- Let's talk about the care you needed to help you feel more comfortable. Did nurses ask you about your pain? What else did they ask you about? What did doctors seem concerned about? *Probe - Aware of patients' specific symptoms or causes of discomfort identified in other responses.*
- Were you able to do the things that were expected of you each day? *Probe - I am thinking of being able to get out of bed, walk to the toilet? What about sleep and rest?*
- Did you get the care you needed? *Probe how this affects comfort and who provided necessary help*

Topic 10 Staff Influences - Symptom Management

RQ: How effective and consistent is the care provided for patients' symptoms or generalised discomfort in the first four / five days after surgery?

- Can you remember any delays in getting relief for your symptoms? Explore symptoms previously mentioned.
- What about non-medicine methods (non-pharmacological) or non-western methods of healing or rongoa (Māori methods of healing)

Topic 11 Physical Facilities and Ambience

RQ: How does the ambience of an acute care environment affect people's comfort?

- Was the general ward environment comfortable? I am thinking about chairs, beds, smells, noise, lights, cleanliness, sharing a room, bright pictures, access to TV/radio, family space?

Closing Question

- Is there anything else you would like to add about your experience of comfort or discomfort during your time in hospital for heart surgery?

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Supplementary File 2

Table: Characteristics of patients

Participant characteristics	NZE (n = 10)	Māori (n = 8)	Pacific (n = 7)
Procedure			
CABG	6	3	5
Valves	4	4	2
CABG + Valve	-	1	-
Male (%)	6 (60)	5 (62)	5 (71)
Median Age Years (range)	63 (48-85)	64 (41-75)	58 (30-75)
Mode of admission			
Booked admission (n=12)	4	5	3
Transferred from a referring hospital after an acute, unplanned admission (n = 13)	6	3	4
Surgery postponed (n = 7)	4	2	1[#]
Interviewed POD 4 (n = 18) (remainder interviewed POD 5)	7 (70%)	6 (75%)	5 (71%)
Average interview duration in minutes (range)	40 minutes (23 to 62)	48 minutes (25 to 66)	42 minutes (26 to 58)
Family/whānau present at the interview	1	3	3

CABG - *Coronary Artery Bypass Grafts*; Valves - *Valve Replacement or Repair*; # - because of infection; POD – *postoperative day*

Supplementary File 3

Table: Reasons for non-participation in those approached

	Number of patients	Ethnicity of non-participants (N, %)		
		Maori	**Pacific**	**NZE**
Total number approached but did not participate	**15**	4 (27%)	4 (27%)	7 (47%)
Declined consent	**13**			
Inconvenient time	6	1	2	3
Reluctant – too much going on	2	-	-	2
Perceived as Australian research	1	-	-	1
Declined – no reason given	4	2	1	1
Approached, indicated interest but left the ward before interview	**1**	1	-	-
Judged as not meeting purposive sampling requirements*	**1**		1	

NZE - New Zealand European; *N*=number; * Admission details stated Pacific ethnicity but recent English ethnicity immigrant to Cook Islands.

Reporting checklist for qualitative study.

Title: Maximising comfort - how do patients describe the care that matters? A two-stage qualitative descriptive study to develop a quality improvement framework for comfort-related care

		Reporting Item	Page Number
Title			
	#1	Concise description of the nature and topic of the study identifying the study as qualitative or indicating the approach (e.g. ethnography, grounded theory) or data collection methods (e.g. interview, focus group) is recommended	4
Abstract			
	#2	Summary of the key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results and conclusions	2
Introduction			
Problem formulation	#3	Description and signifcance of the problem / phenomenon studied: review of relevant theory and empirical work; problem statement	3
Purpose or research question	#4	Purpose of the study and specific objectives or questions	4
Methods			
Qualitative approach and research paradigm	#5	Qualitative approach (e.g. ethnography, grounded theory, case study, phenomenolgy, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g. postpositivist, constructivist / interpretivist) is also recommended; rationale. The rationale should briefly discuss the justification for choosing that theory, approach, method or	3-4

		technique rather than other options available; the assumptions and limitations implicit in those choices and how those choices influence study conclusions and transferability. As appropriate the rationale for several items might be discussed together.	
Researcher characteristics and reflexivity	#6	Researchers' characteristics that may influence the research, including personal attributes, qualifications / experience, relationship with participants, assumptions and / or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results and / or transferability	5,6
Context	#7	Setting / site and salient contextual factors; rationale	4,5
Sampling strategy	#8	How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g. sampling saturation); rationale	5,29
Ethical issues pertaining to human subjects	#9	Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	7
Data collection methods	#10	Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources / methods, and modification of procedures in response to evolving study findings; rationale	5, 29
Data collection instruments and technologies	#11	Description of instruments (e.g. interview guides, questionnaires) and devices (e.g. audio recorders) used for data collection; if / how the instruments(s) changed over the course of the study	5, Supplementary File 1

Units of study	#12	Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	6, Supplementary File 2
Data processing	#13	Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymisation / deidentification of excerpts	4-6
Data analysis	#14	Process by which inferences, themes, etc. were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale	6
Techniques to enhance trustworthiness	#15	Techniques to enhance trustworthiness and credibility of data analysis (e.g. member checking, audit trail, triangulation); rationale	5-6; 29
Results/findings			
Syntheses and interpretation	#16	Main findings (e.g. interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	7-26
Links to empirical data	#17	Evidence (e.g. quotes, field notes, text excerpts, photographs) to substantiate analytic findings	Table 1- 4
Discussion			
Intergration with prior work, implications, transferability and contribution(s) to the field	#18	Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application / generalizability; identification of unique contributions(s) to scholarship in a discipline or field	27- 30
Limitations	#19	Trustworthiness and limitations of findings	29
Other			

Conflicts of interest	#20	Potential sources of influence of perceived influence on study conduct and conclusions; how these were managed	30
Funding	#21	Sources of funding and other support; role of funders in data collection, interpretation and reporting	30

Notes:

This checklist was completed on 25. July 2019 using https://www.goodreports.org/, a tool made by the EQUATOR Network in collaboration with Penelope.ai