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# 'I didn't want to go home' patient-identified modifiable risk factors associated with hospital readmission: a qualitative study

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## ABSTRACT

**Background:** Hospital readmissions are costly for patients, their families and healthcare systems. Identifying and addressing risk factors can reduce the number of people who experience readmission. Few studies have explored modifiable risk factors such as health beliefs from patients' perspective to explore the complexity of risk factors for readmission. This study aimed to identify modifiable readmission risk factors from the perspectives of patients who have experienced readmission and their families.

**Methods:** Adults (≥18 years) readmitted within 30 days of discharge to a general medical or surgical ward at a large urban hospital in New Zealand were invited to participate in a semi-structured interview to explore their readmission experience. Interviews were conducted during the readmission and were analysed using inductive thematic analysis.

**Results:** A total of 30 participants were interviewed. Six themes relating to readmission were identified: inadequate communication between health professionals and patients, misalignment between patient illness perceptions and treatment, unclear or missing information, poor health literacy, poor medication mismanagement, and health system factors.

**Conclusions:** These findings highlight the importance of considering patient experiences, such as their expectations, illness and treatment beliefs, to reduce readmissions. Ensuring communication is patient centred and quality professional-patient relationships could reduce readmissions.

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Hospital readmissions; health beliefs; medication adherence; health literacy; hospital discharge

## Background

Hospital readmissions (i.e. returning to hospital after discharge) have detrimental effects on patient well-being and quality of life (Candlish et al., 1998; Desai & Reau, 2016)

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and places their family under significant stress (Molloy et al., 2005). Globally, approximately 27% of people discharged from hospitals experience readmission (Soeken et al., 1991), burdening already strained healthcare systems (Kwok et al., 2018). In New Zealand (NZ), 13.1% of adults experience a readmission (Ministry of Health, 2022), with Māori (indigenous people of NZ) having a 16 times greater risk (Rumball-Smith et al., 2013). Readmissions can be planned, where the healthcare team has a plan for the patient to return to the hospital for further care, or unplanned, where the patient re-presents to the hospital outside the treatment plan (Haflon et al., 2002; Kossovsky et al., 1999). Of these unplanned readmissions, approximately one-third are thought to be preventable (Auerbach et al., 2016; Van Walraven et al., 2011).

Reducing preventable readmissions is essential due to the health and economic burden on individuals and society. A strategy to reduce readmissions is to allocate healthcare resources based on risk so people with the greatest risk of readmission are given the most intensive resources, ideally tailored to their need (Burke & Coleman, 2013). To effectively stratify the risk of readmission, it is important to identify who and why they are at risk (Burke & Coleman, 2013). Several risk factors for readmission have been established in the literature including the demographic characteristics of the patient (Picker et al., 2015; Soh et al., 2020), clinical factors related to treatment (Picker et al., 2015), factors related to the health condition, and patient psychosocial factors (Calvillo-King et al., 2012). These risk factors have often been identified through data available in routinely collected hospital datasets, which often comprise information related to health conditions, medical treatments and demographics and do not consider patients' experience and health beliefs.

Considering health beliefs is important, as people's health beliefs shape their response to health threats and, subsequently, their well-being (Leventhal et al., 2016). People form beliefs about their illness called illness perceptions (Leventhal et al., 2016), which have been associated with medication adherence (Broadbent et al., 2011), help-seeking and coping (Dempster et al., 2015). Despite patient beliefs likely being important, only a few studies have explored the role of beliefs in hospital readmission. Readmitted patients often report being anxious about symptoms (Considine et al., 2020; Iles-Smith et al., 2017), have poorer perceptions of their health (Wong et al., 2021), believe they have lost control of their health (Rubin et al., 2014), or that they have not been treated correctly during the index admission (Considine et al., 2020). Likewise, patients who believed that their medication was not necessary were more likely to be readmitted (Turrise, 2016). Therefore, the beliefs that patients hold about their health and treatment could be associated with readmission. Conversely, readmissions may shape peoples beliefs, with readmissions due to heart failure leaving patients feeling as though they have lost control over their illness (Turrise et al., 2023).

Along with patients' beliefs, several other modifiable risk factors for readmission are emerging through exploring patient experiences including readiness for discharge (Auerbach et al., 2016; van Galen et al., 2017), health literacy (Rayan-Gharra et al., 2019; Rubin et al., 2014), social factors (Calvillo-King et al., 2012), inadequate communication or being unheard by health professionals (Considine et al., 2020), poor medication adherence (Picker et al., 2015; Rosen et al., 2017), and complexity of medication regimens (Alves-Conceição et al., 2020). To date, readmission studies typically explore one modifiable risk factor or a readmission risk of a specific patient group and do not explore the complex interaction of these factors. Although patients are well positioned to identify risk factors for readmission based on their personal experiences, few studies have qualitatively explored readmitted patient experiences (Considine et al., 2020; Dilworth et al., 2012; Rubin et al., 2014). Of these studies that have qualitatively explored readmitted patient experiences only one study focused on identifying risk factors for readmissions (Rubin et al., 2014). Also, these studies only explore readmission for patients with one health condition (Rubin et al., 2014), despite comorbidities being a risk factor for readmission (Calvillo-King et al., 2012) and more patients experiencing co-morbidities, therefore, they may not capture the complexity of risk factors for readmission. Exploring risk factors form the patient's perspective is important as they may identify previously unknown risk factors. This study aimed to explore readmission experiences and identify modifiable risk factors for patients who had experienced a preventable readmission within 30 days of discharge from the hospital.

## Method

### *Design*

This exploratory qualitative study used semi-structured interviews to identify modifiable risk factors. Ethics was approved by the Southern Health and Disability Ethics Committee (20/STH/239) on 25 March 2021.

### *Participants*

Eligible participants were adults aged 18 years and over who had been readmitted to a general medical or general surgical ward within 30 d of discharge from Te Toka Tumai (Auckland Hospital, New Zealand). Te Toka Tumai is one of the largest urban hospitals in NZ, and of those living in the catchment area, 8% are Māori, 11% are Pacific People, and just under half are born outside of NZ (Auckland District Health Board, 2021). Participants were included if their readmission was deemed preventable by the research team. Preventable readmissions were defined from prior literature as when the patient was readmitted for a health condition related to their index admission, and the readmission was unplanned, e.g. not scheduled (Haflon et al., 2002; Kossovsky et al., 1999). Patients were excluded if they had a documented cognitive impairment, were receiving end-of-life care, or had a health condition that required numerous planned readmissions, including oncology, haemodialysis, or pregnancy. Participants were purposefully recruited based on ethnicity, age and gender to obtain a representative sample of the adult patients readmitted to Te Toka Tumai (Auckland District Health Board, 2021).

Potential participants were identified by screening lists of readmitted patients provided by the hospital's business intelligence team. Patient lists contained the patient unique health identifier, basic demographic (e.g. ethnicity, gender) and hospitalisation information (e.g. date of readmission, reason for admission, admitted location, length of stay). The researchers screened patient lists to identify eligible participants and reviewed clinical notes to ensure they met the inclusion criteria and that the length of the readmission hospital stay allowed time for informed consent and the interview to be conducted.

## *Procedure*

The researcher (HW) approached eligible patients at their bedside during their hospital stay to explain the purpose of the study, determine if participants were interested, gain written consent, and arrange a time for the interview. The researcher has experience conducting qualitative interviews and was independent of the patient's healthcare team. Interviews were conducted during the patient's inpatient stay, with a family member present if the patient wanted this. A semi-structured interview guide (Appendix A) developed from previous literature on patient experiences of readmission (Kripalani et al., 2014; Leppin et al., 2014; Navathe et al., 2018; Rubin et al., 2014) and with input from a multidisciplinary research team was used to guide the interview. Using semi-structured interviews enables participants to discuss their readmission experience and an in-depth exploration of their views on risk factors. Participants provided demographic information, including age, gender, ethnicity, first language, living situation and employment, and health information, such as long-term condition(s), medication, and ability to manage their health.

The interview guide explored patients' perceptions of their readmission, including contributing factors, preventability, and how they believed the readmission could be prevented. Participants were also asked to complete the validated Medication Adherence Report Scale questionnaire (MARS-5: Chan et al., 2020; Horne & Weinman, 1999) which measures medication adherence, and the Brief Illness Perception Questionnaire (BIPQ; Broadbent et al., 2006) measuring illness perceptions, to generate an understanding of participants' self-reported adherence and beliefs. Individual scores on the MARS-5 (5 items, scored 1–5, producing an overall score of 0–25 with higher scores indicating better adherence) and BIPQ (9 items, scored from 0 to 10, producing an overall score of 0–90 with higher scores indicating more significant psychological burden) were summed for each participant. Additional healthcare information, including current medications, was obtained from the patient's clinical notes. Each participant was offered a NZ$20 supermarket voucher as a token of appreciation for their participation.

Forty-six patients were approached to participate over five months. Of these, 16 patients did not participate (nine declined due to feeling unwell, and seven were lost to follow-up after providing initial consent). One interview was not completed as the patient became unwell and requested that the interview be terminated. Their data was still included up to the point of the interview stopping with their consent. Therefore, 30 interview transcripts were generated, each interview lasted between 20 and 60 minutes.

## *Data analysis*

Interviews were recorded in audio ($n = 27$) or written ($n = 3$) based on the participant's preference. Audio-recorded interviews were transcribed verbatim and analysed for themes using NVivo 11 using inductive thematic analysis (Braun & Clarke, 2012).

Inductive thematic analysis was used as this study aimed to explore the experiences of patients to identify modifiable risk factors and the lack of existing framework around modifiable risk factors of hospital readmissions. The inductive thematic analysis followed the six step inductive analysis approach of Braun and Clarke (2012). The first step is familiarisation of the data set, one author (HW) conducted, transcribed, and read the transcripts for familiarity. After familiarisation, codes are generated from the transcripts, two authors (HW, AHYC) independently coded five interviews (17%) to create a coding framework, one author (HW) coded the remaining interviews into the coding framework. Using the coding framework and codes, common themes were identified, by grouping together common codes and themes. The next step in the analysis is to review the themes. The research team (HW, LD, JH, AHYC) then discussed the identified themes, and any disagreements were resolved by consensus discussion. After, the entire team agreed on the themes, each theme and subtheme were defined, named and summarised, by one researcher (HW). The final themes were distributed amongst the entire research team. Throughout data collection and analysis, the research team had several regular meetings for reflexivity, and multiple researchers were involved in the analysis for triangulation. To maintain transferability purposive sampling was used and data collection continued until the researchers were certain data saturation occurred, where previous data was being repeated and no new data to address the research question was being provided (Rahimi & Khatooni, 2024).

## Results

A total of 30 patients (age range: 27–84) took part in an interview (Table 1 for demographics). Five participants had support people present during their interviews. Length of stay during index admission varied (range 1–10 d), and participants were readmitted from 1 to 28 days. Participants were discharged with a range of medications from 0 to 10. Participants reported having good medication adherence on the MARS-5 (Mean = 22.8, *SD* = 4.1) and an average BIPQ score of 53.2 (*SD* = 10.0). Participants found their readmissions distressing for their families and themselves. Each participants felt that several factors contributed to their readmission experience, these factors were distinct but often related. Therefore, six interrelated themes relating to modifiable risk factors reported by participants from their readmission experience were identified. These were: (1) inadequate communication between healthcare professionals and patients, (2) misalignment between illness perceptions and treatment received, (3) unclear or missing information, (4) health literacy, (5) poor medication adherence, and (6) health system factors (Figure 1). These themes tell participants story of readmission and how each risk factor identified contributes to readmission risk, from the perspectives of patients.

### *Theme 1: 'If they had actually listened to me…': inadequate communication between health professionals and patients*

Participants felt that communication with healthcare professionals, particularly physicians, was inaccessible due to the language used and the way information was provided. Participants often reported that several health professionals would visit

**Table 1.** Demographics of included participants.

| | | Number (%) of patients interviewed |
|---|---|---|
| Ethnicity (participants could select more than one) | | |
| | NZ European/Pākehā[1] | 12 (40) |
| | Māori | 5 (16.7) |
| | Pacific | 6 (20) |
| | Middle Eastern, Latin American and African (MELAA) | 3 (10) |
| | Other | 2 (6.7) |
| | Asian | 3 (10) |
| Gender | | |
| | Female | 16 (53) |
| | Male | 14 (47) |
| Readmission ward | | |
| | General medical | 10 (33) |
| | General surgical | 20 (67) |
| English first language | | |
| | Yes | 23 (77) |
| | No | 7 (23) |
| Education | | |
| | None | 0 (0) |
| | Secondary School | 8 (27) |
| | University (Undergraduate) | 13 (43) |
| | University (Postgraduate) | 5 (17) |
| | Other (apprenticeship) | 2 (7) |
| | Prefer not to say | 2 (7) |

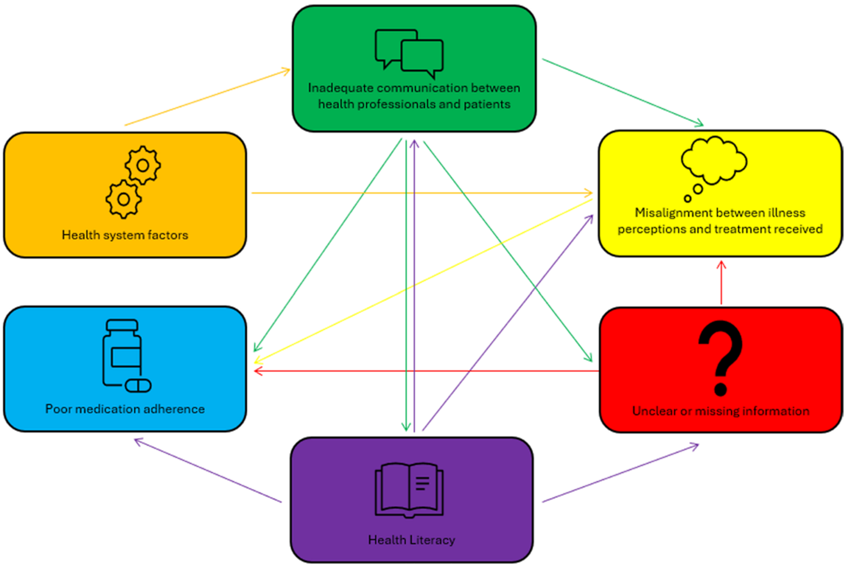

**Figure 1.** Modifiable risk factors for readmission identified by participants.

their bedside briefly and provide differing information. This style of fragmented communication left participants with little time to express concerns and feeling there was no time for adequate information to be provided, *'the morning walk around is, like, quick and fast sort of process, they [doctors], they just come around and tell you either you are staying or going' (30, Male, Pacific)*. They often found it difficult to recall questions for clinicians, *'well, if that one little question pops up, that's quite* *an important one, and just as [health care professionals] have left the room, that opportunity is gone' (59, Male, NZ European/Pākehā).* Often, healthcare professionals used medical jargon that most participants did not understand—with one participant expressing that they wanted *'someone to just try and talk to me about this [health condition] without having to Google and freak myself out like even more' (33, Female, Pacific)*. Communication was mainly spoken which was difficult for some participants to comprehend in the moment and recall later, and many felt written resources would have been helpful.

Participants often believed healthcare professionals did not adequately understand, acknowledge, or address their concerns or questions, leaving them concerned about their health. One participant expressed, *'if they had actually listened to me, somethings wrong!' (40, Female, NZ European/Pākehā).* This miscommunication often meant that patients perceived that they did not receive the help and support they believed they needed or requested. Most participants wanted to be informed and have collaborative discussions with their healthcare teams about diagnosis and treatment plans, but this was not often their experience, leaving participants wanting *'more of a calm collaborative approach and a forum to hear me and my family's concerns like maybe a meeting a whānau [family] meeting' (52, Female, NZ European/Pākehā).*

Many participants reported receiving conflicting medical information about diagnosis and/or treatment from different health professionals and sometimes from the same health professional. Participants reported that these inconsistencies left them confused, concerned, and struggling to adhere to unclear information *'they were going to do that [medical procedure] the next day, and then I was getting prepped and all, and then all of a sudden someone said, 'No, you won't be doing it!'. So, one people one side was saying 'getting ready for the prep', and the other side came in and said, 'no, you are going home!" (61, Male, NZ European/Pākehā).*

Participants differed in their perspectives and confidence to express their concerns and advocate for their health. Some expressed that it was their right to be informed about their health and had no issues asking questions or expressing concerns to healthcare professionals. In contrast, some participants felt they needed to maintain the relationship with health professionals by not challenging health professionals, and thus did not want to burden professionals with their questions or felt they trusted the health professionals' expertise, so were hesitant to ask questions or express concerns, *'I thought, 'Oh! What can you do?' The doctors said 'You go home! You go home!'. You know, I just take that risk!' (61, Female, Pacific).* These participants were often discharged despite feeling that they did not understand their illness or treatment.

## Theme 2: 'They didn't treat me last time': misalignment between illness perceptions and treatment received

Several participants felt their health concern was not addressed during their index admission; therefore, they had to return to the hospital for treatment. Participants believed that the treatment they received during their index admission consisted of incorrect medical specialties, procedures or medication or a lack of focus on the 'correct' health issue. Often, participants were left feeling they had not been treated, and, for some participants, they felt anxiety about being discharged, *'it wasn't really,* *it wasn't addressed the first time I came in… There was no options so or treatments given to me at the time' (69, Female, Pacific).* Some highlighted that they felt they had been discharged home too soon to allow for the proper care or treatment or had been discharged due to pressure on the healthcare system. *'I got discharged. I just felt like it was a little bit too soon because I wasn't exactly 100% [well]. I would say that I was probably like 40% and I think just could have been avoidable if they didn't let me go in the first place' (27, Female, Pacific).*

Some participants expressed that at the time of discharge, they were not provided with a clear diagnosis and were unclear about the treatment plan and timeline for the health problem. Some participants felt they needed to return to the hospital to receive a diagnosis, which they didn't receive during their index admission, where *'they never told me what was actually wrong, like, when I was here' (30, Male, MELAA).* Participants discussed that they felt they had little control over their illness, and some felt that healthcare professionals had greater control over their illness than they did. *'I can only change what I can change, most of it I can't. I'm just along for the ride' (62, Male, NZ European/Pākehā).* Some felt that their readmissions were necessary as they had not received adequate treatment during their admission.

Some participants described how they chose to self-discharge against medical advice during their index admission, as they felt they were not receiving treatment. Of those who self-discharged, most felt that the treatment they received was inconsistent with the treatment they thought they needed, and as such, felt they were not receiving any treatment, *'I discharged myself. I just asked like, oh, I think, coz I originally thought that I was going to get an MRI because I have been asking for one for physio's and whatever, so I thought I was going to get one so cause this injury happened to me before' (30, Male, MELAA).*

### Theme 3: 'I never really got good instructions': unclear or missing information

Information about diagnosis and treatment options was often missed during the index admission, despite patients' wanting to be informed. Some participants were unsure about their diagnosis and the symptoms they were experiencing, as participants felt that healthcare professionals had not communicated this information. Likewise, information was often missing on treatment options and duration, leaving participants feeling confused about their treatment *'[Physicians] don't know [diagnosis]. Even doctors don't know' (60, Male, Asian).*

At discharge, participants perceived they did not receive information about management at home and potential complications. Participants who did not understand their diagnosis or treatment plan during admission were confused and concerned about their health and treatment at discharge. Perceived missing information commonly identified by participants included information on potential complications, side effects, surgical wound care, medical devices, and when to seek future healthcare: *'So, I never really got good instructions about how to make the [medical device] experience less irritating, awkward and painful' (66, Male, NZ European/Pākehā).* Participants felt that information on how to manage their health and activity once home would have been useful, often wanting information about how to manage work and family life, specifically on physical activity, diet, mobility, ability to care for their children or applying for time off work: *'just not quite sure what [activity] limits I should because, I, we're a one income family, so I'm not wanting to take too much time out and … sort of like trying to think of ahead a little bit I tend to worry about that side of it quite a bit' (59, Male, NZ European/Pākehā)*. Therefore, participants felt unprepared for discharge and did not have accurate expectations and subsequent behaviour upon returning home. For some, they felt that the perceived missing information contributed to their readmission as they returned to the hospital when unexpected complications or symptoms arose or they engaged in activities that exacerbated their health concern.

After discharge, participants felt they lacked clear information about seeking further healthcare, especially when, where and how. During discharge, some participants were given a contact phone number to discuss concerns, which they found helpful in seeking reassurance and providing advice. Those who did not receive phone contact information reported that it would have been helpful to support them at home as they could have easily raised concerns with a trusted health professional. *'In here [support is] great, when you're in here it's great but when you're gone [home] it's all gone' (59, Male, NZ European/Pākehā)*. Many participants had difficulty deciding to return to the hospital, which was exacerbated by the perception of a lack of clear information about symptoms and where to seek help if issues or concerns arose.

## *Theme 4: 'They didn't help me understand': health literacy and the ability to navigate the health system*

Several participants spoke about a lack of support from healthcare professionals with helping them to understand and interpret the health information provided. Health professionals were considered vital in helping participants understand information, but this support was often missing *'just helping me understand, cause, you know, I want to learn' (33, Female, Pacific)*. Participants wanted easy-to-understand language and information that could be used to guide their behaviour after discharge, *'they didn't help me understand! Like, it wasn't a layman's way of understanding, when and where I needed to take my medication, and what for' (45, Female, Māori)*. Some participants thought their difficulty interpreting health information could have contributed to their readmission.

Participants discussed their difficulties with accessing healthcare after discharge. Deciding when to seek healthcare was difficult for some participants, as they were unsure about the symptoms they were experiencing and when to seek help for these symptoms. After deciding to seek help, participants found it challenging to determine where to return, often returning immediately to hospital rather than seeking healthcare in the community when concerns arose, *'I could have rung my doctor if I needed it, but the point I was making earlier there wasn't an easy path to someone to contact, so I mean I ended up doing the logical thing what seemed to me the most logical thing of coming back' (62, Male, NZ European/Pākehā)*.

Several participants had been referred to health services after discharge. To access this care, participants often spoke of needing to advocate with community providers to access support in a timely manner. Most participants successfully navigated this support, but it required effort and advocacy, which, for some, was distressing due to challenges communicating with services and was often after significant perceived delays. Some felt these delays contributed to them returning to the hospital as their health continued to deteriorate: *'if a patient is discharged due to, you know, with a plan in place for an urgent MRI the patient shouldn't have to wait two weeks' (40, Female, Māori).*

Health literacy was related to participants' confidence to express their concerns and discuss these with health professionals. Those who self-identified as having good health literacy found it easy to express their concerns during index admission, access healthcare and manage their symptoms at home following discharge, *'I am in a position where I am lucky enough to have, like, health literacy as well to be able to know and what to do and how to access things' (28, Female, NZ Pakeha)*. Others felt they had difficulty accessing healthcare and expressing their concerns during their hospital experience due to being unwell despite having self-reported good health literacy.

Several participants cited the importance of involving family during admission and for support after discharge. Social support was critical for advocacy with and prompting conversations with healthcare professionals during the index admission. After discharge, social support was key in providing practical and emotional support, including managing treatment regimens when patients felt overwhelmed *'my husband took over all medication [management]' (46, Female, MELLA)*. For some participants, concerns of family members about worsening health caused people to return to the hospital, '*her [family member] advocacy was really important; otherwise, I would have had to just go back home again, but actually, I would have become very unwell' (46, Māori, Female).*

## Theme 5: 'I don't always forget to take them': poor medication management after discharge

Participants self-reported a range of medication management strategies following discharge from the index admission; some had good adherence, while others experienced intentional or non-intentional medication non-adherence. Some participants discussed their adherence throughout the interview, whereas others shared this when asked to complete the MARS-5 adherence questionnaire. Some participants reported that they found adhering to their prescribed medication regimen easy after discharge. Those with long-term medication regimens often had existing medication management systems, such as blister packs. Participants with simple medication regimens, typically one or two medications once a day, found it easy to adhere to their medication and did not feel their medication contributed to their readmission, *'oh, it was easy, just one tablet in the morning and one tablet in the afternoon' (33, Female, Pacific).*

Just under half of the participants reported not consistently adhering to their medication regimen, often accidentally forgetting to take medication, being unsure if they had taken it correctly or misunderstanding their medication regimen due to inconsistent information. Those discharged with a new complex medication regimen reported being unfamiliar with and overwhelmed by the regimen. Participants who experienced side effects or symptoms of their illness, such as difficulty concentrating or feeling drowsy, found it challenging to manage their medication due to their side effects. They believed this could have contributed to their return to the hospital. Those who were not adequately informed of medication changes or medication regimen often did not follow their regimen as they were unsure of the prescribed regimen *'like, on the [medication] bottle it states when required you take it but [the doctor] said, stay on top of the pain' (30, Male, Pacific).*

Just under half of the participants reported they chose to alter their medication regimen post-discharge, by taking too much, too little or none of their prescribed medication. Participants reported altering their regimen due to concerns about side effects, the safety of others and concerns about medication dependency, particularly pain medication. Participants would often return to the hospital due to ongoing pain after discharge. Other participants reported changing their regimen due to beliefs that they were not on the correct medication, did not need the medication, or believed they had not been given the correct medication dosage; some reported they came back into the hospital to receive the correct medication, *'the painkiller one… I cause, I don't know, it's just me seeing a lot of people addicted to pain killers it kind of liked freaked me out hence the reason why my pain killers survived more than my antibiotics did' (33, Female, Pacific).*

### Theme 6: 'You need to vacate this bed': health system factors

Participants believed that being unable to access the healthcare they required, as recommended by healthcare professionals, promptly resulted in worsening health and readmission to the hospital. Delays in accessing appropriate treatment, surgical services, or medical specialists contributed to ongoing poor health and was perceived to be the reason why some participants returned to the hospital, *'one hundred percent, hundred percent. I think the longer that I wait, the more I am going to be in and out' (28, Female, NZ European/Pākehā).* Other participants experienced delays in accessing follow-up healthcare services after discharge, including district nurses, medical imaging, and specialist appointments. These delays resulted in worsening health, which participants felt contributed to their return to the hospital, '*I just checked myself back in here [hospital], and I am kind of glad I did because I would have been suffering at home while also having to wait for the results of the MRI before knowing what was wrong' (40, Female, Māori).* Some participants believed that they had been discharged too early due to limited hospital beds and resources, *'they [HCP] said to me oh you need to vacate this bed we got a patient' (60, Male, Asian).*

Participants felt unsupported after discharge from the hospital and found it challenging to access support in primary healthcare, so they returned to the hospital. Some participants were discharged with concerns and feeling anxious about their health status: '*I was scared to go home then Sunday, very scared.' (61, Female, Pacific)*. Some participants expressed these concerns to health professionals but were still discharged home. In contrast, due to their beliefs, such as being powerless in medical decision-making, others did not express these concerns to medical staff before discharge, *'To be honest, I didn't want to go home' (61, Female, Pacific).* These participants discussed how they were alert to symptoms after discharge and returned due to experiencing symptoms.

## Discussion

This study is the first to explore the experiences of patients who have been readmitted to hospital with the aim of identifying modifiable risk factors for readmission in a general medical population within NZ. Exploring patient experiences enables the entire patient experience to be considered when examining the factors influencing readmission and identify the complex interaction of several risk factors. Risk factors that have not previously been reported were identified and explored in this study. Many participants felt the communication and information they perceived was inadequate, leaving participants feeling uniformed, confused and that their concerns were often overlooked or minimised. Participants often experienced difficulties returning home, particularly in managing their ongoing health needs and medication, negotiating a decision and then actually seeking healthcare. In addition, many patients felt that health system factors contributed to their readmission risk, such as delays in accessing care post-discharge. Participants' readmission experiences were complex, multifaceted and distressing, and the beliefs patients formed about their illness, medication and readiness to return home appeared to be associated with readmission.

This study highlights the complexity of the role of patient beliefs in readmissions. Patient beliefs and illness perceptions guide their coping and behaviour in response to a health threat (Broadbent et al., 2011; Dempster et al., 2015; Leventhal et al., 2016; Petrie & Weinman, 2006). Yet the role of beliefs in readmission remains largely unexplored. In our study, participants' illness perceptions were identified as possible modifable risk factor for readmission, the beliefs were shaped by the information received and how it was communicated. Several of the readmitted patients had incomplete understandings of the illness, particularly, the identity, timeline, treatment and consequences beliefs, which often lead participants to return to hospital. One study that explored the experiences with discharge process and experience of readmitted patients and found that patients are often discharged without a clear understanding of their illness (Considine et al., 2020). However, how patients perceive information and then assimilate it into their illness perceptions will likely affect the beliefs they form. Likewise, participants' illness perceptions informed their expected treatment, and when the treatment they received did not align with their expected treatment, they were left feeling as though they had not received treatment and therefore were readmitted. Consistent with the common sense model of self-regulation (Leventhal et al., 2016) as peoples beliefs shape their behaviour. Therefore, illness perceptions may be a key factor for patients, therefore, further research is warranted.

Similar to their illness beliefs, patients' formed beliefs about their medication which may be a risk factor for readmission, our study provides a detailed exploration of patients' beliefs and experiences with their medicines. As many as 1 in 5 readmissions have been identified to have medication-related contributing factors (El Morabet et al., 2018), such as medication adherence (El Morabet et al., 2018; Rosen et al., 2017), medication errors (Uitvlugt et al., 2021) and polypharmacy (Schönenberger & Meyer-Massetti, 2023; Sehgal et al., 2013). Patient experiences in our study are largely consistent as people found medication adherence difficult, particularly those with new complex regimens. Also, patients who held concerns about taking a medication or did not believe they had the right medication were more likely to be non-adherent and felt there medication may have contributed to their readmission. This is consistent with a study showing that patients who believed that their medication was not necessary were more likely to have be readmitted (Turrise, 2016) and the necessity-concern framework of adherence (Foot et al., 2015). Therefore, people's beliefs about their illness, medicines and treatment, and the alignment of these beliefs that people form with the reality of their illness are important for clinicians to consider in the discharge process to address preventable readmissions.

Patients sense of readiness to return home has been associated with hospital readmissions (Dietrich et al., 2019; Howard-Anderson et al., 2016; Kaya et al., 2018; Mixon et al., 2016; Smeraglio et al., 2019). Ensuring hospital discharges are responsive to patient needs, prepare people for what to expect, and explain how to deal with unexpected concerns could be important for readmissions. Several factors contribute to patients feeling unprepared for discharge including ongoing symptoms and pain (Howard-Anderson et al., 2016; Iles-Smith et al., 2017), lack of understanding of discharge information (Howard-Anderson et al., 2016), lack of discharge planning and support (Considine et al., 2020; Dilworth et al., 2012), and concerns about self-efficacy to manage at home (Dietrich et al., 2019; Howard-Anderson et al., 2016; Kangovi et al., 2013). Patients experience in our study are largely consistent with previous literature as participants who believed there was information missing, about the health, treatment and how to safely return home, or had unaddressed concerns, felt unprepared for discharge. Once they were home, they found it challenging to access healthcare and obtain reassurance about ongoing symptoms. Some believed that the health professionals had not provided realistic expectations on what to expect when home and lacked discharge planning, consistent with previous literature (Considine et al., 2020; Dilworth et al., 2012; Kangovi et al., 2013). Therefore, to address readmission it is vital to prepare patients and their family to return home, particularly their ongoing return to their prehospital health and how to navigate any particular symptoms or complications that arise.

Readiness for discharge may also influence patients' awareness and response to symptoms. Patients who were readmitted following percutaneous coronary intervention were found to be anxious about experiencing ongoing symptoms and, upon returning to hospital were fearful they were having a heart attack (Iles-Smith et al., 2017). Likewise, participants in this study who were discharged with health concerns and were anxious about ongoing symptoms felt this contributed to their readmission. Upon returning home, when participants noticed these symptoms, they quickly returned to the hospital, therefore readiness for discharge may impact patients awareness of symptoms and response after discharge. Post-discharge phone calls from a health professional within 72 h of discharge can reduce readmission rates (Harrison et al., 2014; Harrison et al., 2011). These phone calls allow patients and their families to raise any concerns and health professionals to reinforce information and behaviours (Harrison et al., 2014). Therefore, allowing patients to seek health advice and discuss any issues that arise from an individual familiar to them after discharge might reduce readmission risk.

Patients' health literacy after discharge may be a risk factor for readmission. Patients with heart failure or cardiovascular disease and poor health literacy are more likely to utilise healthcare after discharge, including emergency room visits (Shahid et al., 2022), experience readmissions (Bailey et al., 2015; Mitchell et al., 2012) and mortality (Kanejima et al., 2022). Readmitted patients often struggle to understand their diagnosis, treatment plan, and discharge information (Considine et al., 2020; Rubin et al., 2014). After discharge, those with poor health literacy can have difficulty promptly accessing outpatient support to address health concerns (Dilworth et al., 2012; Rubin et al., 2014). Our study supports the role of health literacy during admission, but participants also provided insight into the role of health literacy after discharge. People had difficulty understanding and then following discharge information. If health concerns or symptoms arose, it was not easy to decide if, when, and where to seek help. Additionally, accessing care after the hospital required self-advocacy and an ability to communicate their health needs to professionals to access support clearly. Considering patients' health literacy, their understanding of their illness and treatment, and their ability to successfully access healthcare in the community after discharge, are key areas for health professionals to focus on when patients are discharged home from the hospital.

Communication with professionals was central to the modifable risk factors identified in this study. For patients, communication from professionals shaped the information they had about their health and wellbeing. Also, patients reported that communication from professionals shaped their illness perceptions and their beliefs about medicines, these beliefs in turned shaped behaviour and medication adherence. Despite, communication being related to several of these risk factors, patients felt that information was either not communicated, or poorly communicated by professionals. Patients have reported inadequate communication from professionals and professionals not hearing and addressing their concerns at discharge (Considine et al., 2020). Issues with communication arise due to different views of patients and professionals on the purpose of health consultations and communication styles (Borg Xuereb et al., 2016; Pryce et al., 2018). Optimal communication with patients should be patient centered, focusing on the lived experience of patients and with professionals skilled in effective communication (Borg Xuereb et al., 2016; Pryce et al., 2018). The issues of poor patient-physician communication could potentially be a risk factor for hospital readmission highlighting the importance of ensuring that communication is patient centred during hospital admissions.

Whilst this study was the first to explore patient experiences of hospital readmissions and identify modifiable risk factors, several limitations must be considered. Although participants were recruited from the largest hospital in NZ, they were all from the same hospital. Therefore, the risk factors identified may not be the same for patients living in other geographical areas of NZ, particularly those living rurally who may experience additional access and accessibility barriers. The factors were identified by exploring the experiences of a group of patients; further research in a larger cohort study is warranted to confirm the key risk factors associated with readmission. Nevertheless, our study recruited a diverse sample of participants, using purposive sampling based on age, gender, ethnicity, readmission time frame and readmission ward to achieve a sample representative of the demographics of people readmitted to the study hospital's general medical and surgical wards. The large sample size aligns with recommendations to ensure a rich data set and data saturation (Morse, 2000). This study also oversampled Māori and Pacific participants, who are more likely to experience readmission in NZ (Rumball-Smith et al., 2013); 37% of participants ($n = 11$) identified as Māori or Pacific, higher than the 8% and 11% of patients within the hospital catchment (Auckland District Health Board, 2021). Several steps were taken to ensure the reliability of the study. The researcher conducting the interviews was trained, experienced and well-supported by senior researchers, including pharmacists and a health psychologist.

As with any qualitative research, participants may have reported their description of their readmission experience in a particular way due to social desirability bias (Bergen & Labonté, 2020), but as the interviewer was independent of the participants' medical team, and participants were informed about the interviewer's position and interest in this topic, the risk is likely to be minimal. Likewise, participants were informed that any information they disclosed would be kept confidential within the research team, would not be shared with their medical team, or would not affect the healthcare they received in any way to reduce the effects of social desirability bias.

## Conclusions

This is the first study to identify modifiable readmission risk factors by exploring the experiences of patients who had experienced an unplanned readmission in NZ. Through in-depth exploratory interviews six modifable risk factors were identified. Communication between health professionals and patients is often poor, due to how information is provided in the hospital setting. The beliefs that patients formed about their illness, their hospital stay and their readiness to go home, could be risk factors for readmission. To support patients and their families to safely return home, these factors must be considered in the discharge process, ensuring that information is communicated clearly, aligns with important information the patient needs and considers the beliefs that patients hold. Healthcare in hospital needs to be patient centred and responsive to patients needs and concerns.

## Note

1. New Zealander of European decent.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Data availability statement

The datasets generated and/or analysed during the current study are not publicly available because they contain identifiable information that would enable participants to be identified from their transcripts. Data is not available on request due to ethical requirements.

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## Appendix A

### *Semi structured interview guide*

1. What are some of the reasons why you think you might be back in hospital this time?
2. How avoidable/preventable do you think this hospital admission is?
    a. What could have been done differently you think to avoid this?

3. How important is it to you for a family member(s) or a support person to be involved in your care?

    a. What help did you receive post discharge from family or support people? Was this support helpful?
    b. How may they have helped?
    c. How could we have facilitated this?

4. Sometimes people tell us cultural factors may play a role in their readmission, do you think this was anything from your experience at all?

    a. Would it have been useful to have a cultural interface?

5. Is there anything else you'd like to share about your experiences around reducing the risk of having to come back into hospital after discharge?