

Discharge from the acute hospital: trauma patients' perceptions of care

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Abstract

Objective. The involvement of orthopaedic trauma patients in the decision-making regarding discharge destination from the acute hospital and their perceptions of the care following discharge are poorly understood. The aim of the present study was to investigate orthopaedic trauma patient experiences of discharge from the acute hospital and transition back into the community.

Methods. The present qualitative study performed in-depth interviews, between October 2012 and November 2013, with patients aged 18–64 years with lower limb trauma. Thematic analysis was used to derive important themes.

Results. Ninety-four patients were interviewed, including 35 discharged to in-patient rehabilitation. Key themes that emerged include variable involvement in decision-making regarding discharge, lack of information and follow-up care on discharge and varying opinions regarding in-patient rehabilitation. Readiness for discharge from in-patient rehabilitation also differed widely among patients, with patients often reporting being ready for discharge before the planned discharge date and feeling frustration at the need to stay in in-patient care. There was also a difference in patients' perception of the factors leading to recovery, with patients discharged to rehabilitation more commonly reporting external factors, such as rehabilitation providers and physiotherapy.

Conclusion. The insights provided by the participants in the present study will help us improve our discharge practice, especially the need to address the concerns of inadequate information provision regarding discharge and the role of in-patient rehabilitation.

What is known about the topic? There is no current literature describing trauma patient involvement in decision-making regarding discharge from the acute hospital and the perception of how this decision (and destination choice; e.g. home or in-patient rehabilitation) affects their outcome.

What does this paper add? The present large qualitative study provides information on patients' opinion of discharge from the acute hospital following trauma and how this could be improved from their perception. Patients are especially concerned with the lack of information provided to them on discharge, their lack of involvement and understanding of the choices made with regard to their discharge and describe concerns regarding their follow-up care. There is also a feeling from the patients that they are ready to leave rehabilitation before their actual planned discharge date, a concept that needs further investigation.

What are the implications for practitioners? The patient insights gained by the present study will lead to a change in discharge practice, including increased involvement of the patient in the decision-making in terms of discharge from both the acute and rehabilitation hospitals and a raised awareness of the need to provide written information and follow-up telephone calls to patients following discharge. Further research into many aspects of patient discharge from the acute hospital should be considered, including the use of rehabilitation prediction tools to ensure patient involvement in decision-making and a discharge and/or follow-up coordinator to ensure patients are aware of how to access information after discharge.

Additional keywords: discharge destination, patient perception, qualitative, rehabilitation, trauma.

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Introduction

Following management of the trauma patient in the acute hospital, discharge to community living may occur directly or after a period of in-patient rehabilitation. The literature suggests up to 39% of all trauma cases^{1–3} and approximately 20% of patients with isolated lower limb fractures managed at an adult Level 1 trauma centre in Victoria are discharged to in-patient rehabilitation.⁴ The primary predictors for this discharge are funding rather than injury severity, with compensable patients having 10-fold higher odds of discharge to in-patient rehabilitation than those who are uninsured.⁴ Recommended guidelines in terms of who would benefit from in-patient rehabilitation rather than discharge directly home are not currently available^{5,6} and research suggests that patient selection is variable and often influenced by bed availability and system pressures.⁶

Patient involvement in discharge decision-making appears to be the most significant factor in determining discharge disposition in the elective orthopaedic population,⁷ and patient involvement in decision-making is shown to lead to greater satisfaction following acute hospital care.⁸ There are no studies on patient perspectives of discharge destination decision-making following orthopaedic trauma. Following acute care, patients have, in general, expressed concern with the lack of information regarding discharge^{9,10} and lack of participation in the discharge process.^{11,12} There is a clear need for a deeper understanding of the decision-making, processes and patient involvement in discharge disposition for patients following trauma.

Whether discharge destination can be clearly linked to outcome is unknown. Other studies report that factors such as optimism and low post-traumatic stress lead to improved quality of life following trauma,¹³ with personality traits such as an internal locus of control also being shown to contribute to positive outcomes after various fracture types.^{14,15} The factors that patients believe most assisted in their recovery were investigated in the present study.

The aim of the present study was to investigate orthopaedic trauma patient experiences of discharge from the acute hospital and transition back into the community. Understanding the

patients' perceptions of their hospital stay, discharge planning and post-discharge care may assist in optimising the care of the trauma patient following acute hospital stay.

Methods

Study design

A qualitative study was undertaken of patients' perceptions of their care and involvement in discharge decisions after orthopaedic trauma, using in-depth semi-structured interviews.

The study was conducted in the state of Victoria, Australia, which has a population of 5.8 million (25% of the Australian population). In Victoria, an inclusive trauma system was established in 1999,¹⁶ with the aim of timely transport of injured patients to a level of hospital most appropriate for their care needs. Two adult major trauma services (Level 1 trauma centre equivalent) service the state. Victoria has multiple schemes for funding following injury, including a universal publicly funded healthcare system (Medicare), optional private health insurance and no-fault schemes, including the Transport Accident Commission (TAC) and WorkSafe for work-related injuries. The TAC, which is government owned and funded through car registration, actively campaigns to reduce road trauma and pays for treatment and support services for people injured in transport accidents, thereby allowing for timely access to in-patient rehabilitation. WorkSafe is funded through mandatory insurance payments made by employers, and funds health and related support for individuals following workplace injury. The trauma system is monitored through multiple means, one of which is the Victorian Orthopaedic Trauma Outcomes Registry (VOTOR).¹⁷ Patients are enrolled in this registry on hospital admission with an opt-off consent process. The registry collects information for all patients with orthopaedic injuries admitted for >24 h to one of four hospitals, two major trauma services (MTS) and two other hospitals designated as representative lower-level trauma centres.

Ethics approval for the study was gained from the human research ethics committees of Alfred Health, Melbourne Health, Barwon Health and Northern Health.

Box 1. Topic guide

Can you describe to me how your injury happened and what injuries you sustained?

Experiences with health care providers:

- How do you feel about the treatment you have received for your injury/injuries?
- Can you describe your discharge from the (*insert hospital name*) hospital after your injury?
- Were you or your family involved in the decision about where you would go after leaving (*insert hospital name*)?
- How do you feel about your discharge from (*insert hospital name*) after your injury?
- Is there anything you feel could have been done differently in terms of your discharge from hospital that could have helped your recovery?

For those who went to in-patient rehabilitation:

- What do you think about the rehabilitation that you received after hospital discharge?

For those who went directly home:

- What do you think about your readiness for discharge home?

Overall, what do you feel has helped your recovery?

Are there any other points you would like to make?

Participants

Participants were identified from the VOTOR database and invited to participate when completing their 6-month VOTOR follow-up telephone interview. The time to follow-up in VOTOR is the time from injury and is unrelated to time from discharge. Verbal consent was obtained during the interview. Patients were chosen at this time point because most of these individuals were likely to have been discharged from hospital and in-patient rehabilitation, and had sufficient experience with their post-discharge path to reflect on their experiences. Patients aged 18–64 years with lower limb trauma sustained between October 2012 and November 2013 were included in the study. This patient population was chosen to exclude traumatic brain injury and geriatric rehabilitation services from the analysis because the decision-making for these groups varies considerably from that for the orthopaedic rehabilitation population.

Data collection: interviews

Individual interviews were used to enable an in-depth exploration of patient involvement in discharge destination decision making and patients' opinions regarding their care and experiences following acute hospital discharge. These semi-structured interviews were performed by telephone¹⁸ by three trained interviewers with health-related experience from the VOTOR group. Demographic and hospital data were collected from the VOTOR database for each patient interviewed. The interview used open-ended questions designed to allow participants to discuss key issues and factors relating to discharge disposition. No specific health-related quality of life tools or questions were used. Topic guides were developed by experienced clinicians and researchers and were given to the interviewers (Box 1). Each interview was recorded using a digital voice recorder with a telephone adaptor and transcribed verbatim.

The aim was to sample up to 30 patients from the two MTS and 15 patients from the other two trauma centres. A purposive

sampling frame¹⁹ was used to ensure equal representation of patients discharged to home and to in-patient rehabilitation. Recruitment ceased when saturation of themes was achieved.

Data analysis

Thematic analysis was used to identify important thematic groupings.²⁰ Two investigators not involved in the interviews (LAK, a trained physiotherapist and PhD candidate, and MH, a VOTOR manager and trained nurse) coded the transcripts and interviews using NVivo version 9.0 (QSR International, Melbourne, Vic., Australia), a software program specifically designed for the analysis of qualitative data, including interviews. Themes were then discussed and compared drawing attention to similarities and differences in each dataset. Clusters of themes emerged and discussions continued until consensus was reached.

Results

One hundred and sixty-two patients who completed the 6-month VOTOR interview were screened for participation in the present qualitative study. Thirty-four patients declined, with a further 34 being unable to undertake the qualitative interview because of cognitive issues, language barrier or reporting being medically unwell. Ninety-four orthopaedic trauma patients participated in the study (response rate 58%). Sixty-one patients were managed at an MTS and, of these, 31 were discharged directly home. From the non-MTS-managed patients, 33 participated, five of whom were discharged to in-patient rehabilitation. Table 1 shows the demographic data and hospital length of stay for the participants. The average length of time for the interviews was 14 min and 35 s (range 5 min and 30 s–33 min and 56 s). A summary of the key themes to emerge and participant quotes supporting these themes are given in Table 2.

Table 1. Patient demographics

Unless indicated otherwise, data show the number of participants in each group, with percentages in parentheses. MTS, Major Trauma Service; TC, representative trauma centre; IQR, interquartile range; TAC, Transport Accident Commission; WC, WorkCover; LOS, length of stay

	In-patient rehabilitation (n = 36)	Discharge home (n = 58)	Total (n = 94)
Hospital			
MTS	31 (86)	30 (52)	61 (64.9)
TC	5 (14)	28 (48)	33 (35.1)
Median (IQR) age (years)	43.2 (29.0–55.1)	42.0 (29.0–52.2)	42.2 (29–54.6)
No. men (%)	18 (50)	36 (62)	54 (57.4)
Pre-injury disability ^A			
None	32 (91.4)	51 (89.5)	83 (90.2)
Mild	2 (5.7)	2 (3.5)	4 (4.3)
Moderate–severe	1 (2.9)	4 (7.0)	5 (5.4)
Fund source			
TAC	21 (58.3)	11 (19.0)	32 (34.0)
WC	1 (2.8)	0 (0)	1 (1.1)
Public	11 (30.6)	31 (53.4)	42 (44.7)
Private	3 (8.3)	16 (27.5)	19 (20.2)
Level of education ^B			
Postgraduate	6 (17.6)	10 (18.2)	16 (18.0)
Year 12 or equivalent	9 (26.5)	6 (10.9)	15 (16.9)
Diploma or certificate	10 (29.4)	18 (32.7)	28 (31.5)
Year 9–11	8 (23.5)	10 (18.2)	18 (20.2)
Less than Year 9	0 (0)	3 (5.5)	3 (3.4)
Still at school	1 (2.9)	8 (14.5)	9 (10.1)
Working before injury	32 (88.9)	50 (86.2)	82 (87.2)
Median (IQR) LOS in acute hospital (days)	10.6 (6.5, 18.6)	3.7 (2.7, 8.7)	6.5 (3.6, 13.5)

^AData missing for two patients.

^BData missing for five patients.

Key themes

Discharge from the acute hospital

Patient experiences varied regardless of hospital or discharge destination, although compensable patients consistently reported that referral to in-patient rehabilitation appeared automatic. Some participants reported they had no input into the discharge destination decision, whereas others described being an integral part of the decision-making process. Most participants felt support at home, whether this was family or friends, of utmost importance in facilitating a smooth transition back to home from the acute hospital. Those without support at home more commonly reported the need for in-patient rehabilitation.

Some participants discharged to in-patient rehabilitation reported discussions with staff about which centre they would be sent to, but not about the rationale for selecting in-patient rehabilitation rather than home discharge. Participants living in rural Victoria often described a desire to go to a rural centre and being told that the wait was too long or that there was not a rural facility suitable for their needs.

Information provided on acute hospital discharge

Participants reported the advice provided on hospital discharge was suboptimal, with a lack of written information a common theme. They frequently reported that they may have

been provided with adequate verbal information but because of the amount of pain relief they had taken or the stress they were under, they were unable to retain the information provided. Many perceived that insights regarding their injuries or time frames for healing were only provided following direct patient request for information.

Themes specific to participants discharged to in-patient rehabilitation

Participants' perceptions regarding their in-patient rehabilitation stay were variable, with several questioning why they were there and reporting that they received minimal therapeutic input. Others described having the utmost respect for the therapists and an overwhelmingly positive response to everything that the rehabilitation centre offered. These themes varied according to the specific rehabilitation centre as well as the participant's perceived need for the in-patient rehabilitation being offered.

Commonly, participants reported that they felt ready for discharge home at the end of their rehabilitation stay, with many compensable participants also stating that they self-discharged or insisted on leaving before the hospital staff had felt they were ready to do so. Less commonly, participants reported that discharge from the rehabilitation centre was premature and they had no choice in the process.

Table 2. Summary of key themes and relevant participant quotes
MTS, major trauma service; rehab, in-patient rehabilitation; LOS, length of stay

Key emerging themes	Subthemes	Participant quotes
Involvement in decision-making regarding discharge	Variation in discharge processes, regardless of hospital or discharge destination	Yeah. I was put into this stream and just told this is how things work, this is what we do. (Male, 30 years old, MTS, compensable, rehab)
	Many compensable patients felt discharge to rehab 'automatic'	I guess for me the thing that was confusing about discharge is questions have been raised as to whether I would need to go to rehab, or whether I could go straight home, and over the course of a couple of days I continued to receive basically conflicting advice. . . (Male, 31 years old, MTS, non-compensable, home)
	Lack of access to rural rehab centres	They just pretty much said to me that I was going to that other place for rehab. I just wanted to go somewhere closer to home, but they said there wasn't anything else. (Female, 52 years old, MTS, compensable, rehab)
Information on discharge	Limited written information	. . .and they will say all of this information, and they go 'you understand'. And you sort of sit there and like 'yeah' but, in reality, you're so foggy and stuff from everything, from all the drugs and that, that you don't really understand. (Female, 25 years old, non-MTS, non-compensable, home)
	Effect of trauma and/or medication on ability to digest information	Doctors were very vague. If you didn't sort of ask questions, I wouldn't have been told anything. (Male, 46 years old, non-MTS, compensable, home)
	Poor insight into timeframes and/or prognosis	
Opinions regarding rehab	No awareness of who to contact to ask questions	
	Negative experiences	Nothing but praise. I wouldn't be where I am now if it wasn't for them. Simple as that. (Male, 54 years old, MTS, non-compensable, rehab)
Readiness for discharge from rehab	Overwhelmingly positive experiences	In all honesty, it's next to nothing. For 23 hours of the day you are in bed, for 40 minutes you are doing physio. . . (Male, 19 years old, MTS, compensable, rehab)
	Compensable patients often felt LOS too long and report choosing to self-discharge	I was very lucky. I did feel ready I think. I definitely was not pushed out when I didn't want to be. (Male, 30 years old, MTS, compensable, rehab)
Follow-up care		I just self-discharged because they didn't think I was ready. (Male, 19 years old, MTS, compensable, rehab)
	Lack of single contact point	I was happy with the treatment in the hospital, but I was upset that there was no after-care; there was no being told what I needed to do after I went home. (Male, 24 years old, non-MTS, non-compensable, home)
	Home discharge often led to more negative feelings regarding lack of follow-up	As soon as I got home I went down and bought a wheelchair. Maybe I should have had a wheelchair from the start, because it was my arm and leg. I had no balance at all. (Male, 42 years old, MTS, compensable, home)
Factors leading to recovery		I wouldn't know who to ring. I wouldn't know which department to ring. (Male, 24 years old, non-MTS, non-compensable, home)
	Patients discharged to rehab appear more dependent on others (e.g. external locus of control) than those discharged home (who appear to rely more on self-motivation)	. . .the main things are definitely rehab, just frequent rehab; just keep going there and doing the exercises they put out for you and just pushing the limit, pushing yourself to do it. (Male, 27 years old, MTS, compensable, rehab)
		Probably mind. Making sure I kept mobile. Probably your own mindset really. (Female, 62 years old, non-MTS, non-compensable, home)

Follow-up provided after discharge

Participants discharged from in-patient rehabilitation centres more commonly reported that their follow-up physiotherapy was organised well, they received follow-up telephone calls and that all necessary equipment was provided. Participants discharged directly home from the acute hospital more commonly reported a lack of physiotherapy follow-up and the need to source their own equipment, such as wheelchairs, which they felt added to their burden at a difficult time.

A few participants also reported that they did not know who to contact if they had questions, and that they often tried and failed to get answers when ringing the acute hospital for information after discharge. The follow-up out-patient clinics were also described by some participants as being problematic, leading

to frustrations, particularly for those patients living outside the metropolitan area or those who had multiple clinics to attend on different days. Several patients also described refusing to return to the hospital clinic and seeking care in the private system because of the delays and inconsistency in the information provided.

Aspects that helped most in recovery

In the group discharged directly home, self-motivation was commonly reported as helpful for recovery, with no obvious reliance on external elements. The in-patient rehabilitation group commonly reported rehabilitation and physiotherapy (a more external focus) as the most helpful aspect.

Discussion

The present study is the first to provide a detailed narrative of patient experiences of discharge and follow-up care following orthopaedic trauma. The common themes described by the participants include inconsistent involvement in the discharge planning process, poor follow-up care and lack of useful information about their injuries and recovery. This is similar to findings reported in other studies in both acute care and in an older cohort.^{8,12} Themes not described before in the literature but present in this cohort are participants reporting variable attitudes towards their in-patient rehabilitation stay and readiness for discharge, including a desire to leave the in-patient rehabilitation facility before completion of formal discharge processes.

Provision of information and organisation of follow-up care was a source of frustration for many participants, especially those discharged home from the acute hospital. The lack of written information was a common theme, with participants reporting not being in a fit state to comprehend the information provided to them, mainly because of medication and the stress associated with the trauma and hospital admission. This has been highlighted in other studies,^{21–23} with suggestions including the need to develop different ways to inform people with poor ability to comprehend information,²¹ the importance of removing medical jargon from discussions with family²³ and the use of simple written information or leaflets.^{24,25}

For the patients, the challenges of recovery did not end at hospital discharge, and care pathways need to consider this. Participants commonly reported dissatisfaction regarding arrangements of equipment, follow-up care and physiotherapy, especially those who went directly home. In-patient rehabilitation appeared to provide patients with a greater feeling of support on discharge, whereas both the inpatient rehabilitation and home discharge groups reported a lack of communication from the acute hospital and poor awareness of who to contact should adverse events or issues arise. This was also highlighted in a previous qualitative study,⁹ with suggestions to rectify the issue including telemedicine or a central contact point to coordinate postoperative care.

Few studies have reported the aspects that patients perceive to be the most helpful during recovery from fracture. Health-related quality of life following trauma has been shown to be predicted by optimism and low levels of depression and post-traumatic stress.¹³ Schiller *et al.* interviewed patients following hip fracture who described seeking support, moving more and preserving perspective as the fundamental factors in improving outcome,²⁶ whereas other studies reported that psychological health was considered by patients as an important marker of recovery.^{27,28} Although we did not specifically target questions to determine quality of life factors or personality traits, interestingly, in this population, those discharged home commonly reported that family support and their own strength of mind and determination were the major factors in achieving their goals, whereas those discharged to in-patient rehabilitation seemed to focus on the importance of others in their recovery, often claiming that it was the rehabilitation staff who were the reason for their positive outcome. Locus of control appears to be an individual trait that does not change with different situations, especially with regard to health-related matters.^{29,30} Previous studies have shown that

an internal locus of control is related to improved outcomes, including less physical disability following lower limb fracture¹⁴ and faster recovery after a wrist fracture.¹⁵ Satisfaction in care is also influenced by locus of control. Coulton *et al.*¹¹ found that patients who exhibited an internal locus of control displayed higher psychological distress when they perceived to have a lack of control over the discharge decision. Whether patients discharged home are more likely to have an internal locus of control than those referred to in-patient rehabilitation is not known, but further research into this area may provide important information that could help guide discharge destination decision-making and rehabilitation program development in order to optimise patient outcomes.

For those participants who attended in-patient rehabilitation, there was wide variability in their interpretation of the effectiveness of the program. Some were overwhelmingly grateful for the experience, whereas others felt that it lacked the intensity of therapy they required and questioned their need to remain in the facility. There appeared to be no trend in terms of age group for this perspective. Commonly, participants reported being ready to leave before the rehabilitation providers felt they should do so, with some stating that they left against the rehabilitation team's advice. A recent study³¹ reported that 16% of patients had a barrier to discharge from in-patient rehabilitation, with patients with lower limb fractures frequently experiencing issues such as waiting for home modifications and an inability to weight bear on a lower limb, limiting safe discharge options. One further study³² has found that older patients with comorbidities have prolonged hospital stays, which should not be an influencing factor in the present study given the age range of 18–64 years. Patients discharged to in-patient rehabilitation may be more likely to engage in the process and complete the recommended rehabilitation program if they have greater ownership of the discharge process from both the acute and rehabilitation hospitals and better understanding of the barriers that may restrict their ability to go home.

Despite the importance of patient opinion in the discharge choice,⁷ the participants in the present study regularly reported being disengaged from the decision-making process, being unaware of how or why plans were made and being sent to facilities that were far from their homes. Conversely, some participants felt completely engaged in the process and felt like the decision was their own. No patient mentioned the use of evidence-based tools such as the simplified Trauma Rehabilitation and Prediction Tool (sTRaPT)³³ or the Activity Measure for Post Acute Care (AM-PAC) '6-Clicks' functional assessment tool³⁴ in decision-making. Previous literature has shown that non-injury-related considerations, such as funding arrangements and compensation status, are significant factors relating to patient discharge to in-patient rehabilitation after an acute hospital stay,^{4,35} but patients in this cohort seemed unaware of the significance of their funding arrangements in terms of discharge choices. This seemingly inconsistent response does not appear to relate to a specific hospital or patient type and is similar to that found in other studies,^{8,9,11,12} with the sense of urgency regarding the decision making,⁹ combined with the stress of an injury and acute hospital stay, perhaps leading to the feelings of lack of control over decisions.¹¹ The use of bedside tools to guide decision-making in orthopaedic trauma, such as the sTRaPT,³³

may assist in increasing patient involvement and understanding of the process and aims of hospital discharge.

The strengths of the present study include the involvement of participants from two MTS as well as two other designated trauma hospitals. Most participants discharged to in-patient rehabilitation were compensable and from an MTS. Although this resulted in systematic differences between the groups, this is representative of usual discharge practices of the various hospitals in our cohort and saturation was reached in each group analysed. The no-fault transport accident compensation system in Victoria may limit the generalisability of the results of the present study, but important factors have been raised that are relevant to all health services, especially the need to address the concerns of inadequate information provision regarding discharge and the role of rehabilitation, as well as the importance of organised follow-up care. Other study limitations include those inherent in many studies reliant on patient information, including recall bias and selection bias. Whether patients were re-admitted to hospital or had any specific complications was not specifically sought in the interview process and may have influenced experiences and responses. The present study is also limited to a small subset of trauma patients, namely those of working age and sustaining an orthopaedic injury, and the cohort was grouped based on discharge destination rather than other demographic data or outcomes because these were the subgroups of interest in the present study. It is anticipated that the information gleaned from these patients will help inform the trauma system as a whole. The experiences of different subsets from this population (e.g. compensable and non-compensable patients) may have differed, although, given the large proportion of compensable patients that went to in-patient rehabilitation (a known confounder to discharge destination), we are unable to differentiate this when analysing the transcripts.

Conclusion

The present large qualitative study provides important insights into the factors that orthopaedic trauma patients feel most affect their discharge from the acute hospital and post-discharge care. The information provided by the participants in the present study may help reform discharge practice, including further patient involvement in discharge destination decision-making and improved patient information regarding discharge and predicted rehabilitation goals and length of stay. Future research into the benefits for the trauma population of written discharge information, a specific discharge coordinator in the acute hospital and the use of prediction tools in acute care to determine discharge destination in consultation with the patient should be considered. In addition, investigation of the effects of locus on control on discharge destination following trauma and long-term outcomes may also prove useful.

Competing interests

None declared.

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