# A qualitative study of older adult trauma survivors' experiences in acute care and early recovery: views from the intersection of injury and aging

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## Authors' contributions

LGC, ABN, DCS, KV, CW, BH contributed to study design. LGC collected data. LGC and BH analyzed data. LGC wrote the main manuscript text and tables. LGC, ABN, DCS, KV, CW, BH contributed to the final interpretation of study results. All authors reviewed and approved the manuscript.

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**Background**: Older adults (≥65yrs) account for more than 30% of all hospitalizations for severe injury yet little is known about their care experiences and views regarding care outcomes. This study sought to characterize older adult trauma survivors' acute care and early recovery experiences to identify patient-centered process and outcome measures in geriatric trauma.

**Methods:** We conducted a qualitative study using semi-structured interviews with a purposive sample of older adults who were discharged from two level 1 trauma centers in Ontario, Canada. Using an interpretive, inductive thematic analysis, we drew on social science theories of illness and aging for data interpretation. Data were analyzed to the point of theoretical saturation.

**Results**: Twenty-five trauma survivors aged 65 to 88 were interviewed. Participants disliked being viewed as senior or as needing senior-specific care ("*I don't feel like a senior*"). They perceived ageist assumptions and treatment were present in acute care processes (*"Don't bother telling him anything")*. Most participants emphasized their active lifestyles and functional recovery as goals of care, although they did not recall discussing this in hospital (*"Getting back to normal")*. Significant social and personal losses after injury were described, which were closely tied to participants' experiences and adaptations to aging generally (*"I have lost control of my life").*

**Interpretation:** This study highlights the social complexity of recovery for injured older adults and underscores how implicit age bias may impede care experiences and outcomes. These findings can inform improvements in injury care and guide providers in the selection of patient-centered outcome measures.

## INTRODUCTION

Over the last decade there has been significant increase in the incidence of physical injury among older adults (≥65yrs) [1-3]. Otherwise known as geriatric trauma, this unintentional serious injury is most often caused by a fall (either from height or at same level), or motor vehicle collisions (as drivers, passengers, pedestrians or cyclists)[4, 5]. The increase in older adult injury is attributable to more than just demographic changes, as older adults are living and working longer, and are leading very active lifestyles [6-8]. The development of organized trauma systems, including trauma centres, has improved injury care such that most seriously injured adults will survive their injuries [9]. However, many survivors will live with diminished health status, including chronic pain, emotional and psychological distress, and cognitive and physical impairments [10-13]. Injured older adults will experience these even more profoundly due to their existing comorbidities and limited physiologic reserve. Among older adults, short-term mortality and morbidity following severe injury is significantly higher than among younger individuals, even after adjusting for injury severity [14-16].

Since trauma systems and care were originally developed for a younger population of injured adults, targeted strategies have aimed to address the acute care needs of older patients [17-23]. However, we currently know little about how these patients experience such care and have limited understanding of the variability and complexity of their long-term outcomes. Considering prevailing cultural attitudes towards older people and advanced age, the post-injury experiences of older adults may be quite disparate from those of younger patients [24-26]. Presently, we do not know what older adults consider to be high quality trauma care or what they consider to be the most valued outcomes. This makes it challenging to evaluate and improve trauma care for injured older adults. In this study, we explored older adult trauma survivors' experiences up to

six months in their recovery, to identify the care processes and outcomes they view to be of greatest value.

## METHODS

We conducted qualitative interviews with older adults recruited from two level 1 trauma centres in Ontario, Canada. Drawing from the interpretivist paradigm, our approach focused on the meanings associated with participants' lived experience of trauma care and short-term injury recovery [27]. Qualitative research has been strongly endorsed for capturing and understanding patient-centred outcomes and care experiences [28].

Adults ≥ 65yrs admitted to the trauma service at the study sites within the prior six months were eligible for study inclusion. Through purposive sampling and a maximum variation sampling approach, individuals were recruited either on the ward prior to discharge or in follow-up clinic [29]. The study was described to participants as exploring the impact of injury on seniors ≥65 years. We excluded individuals who were unable to communicate in English and who had cognitive impairment or hearing loss that precluded informed consent or a lengthy telephone conversation.

Semi-structured telephone interviews were conducted by LGC, a female medical anthropologist and trauma health services researcher who holds expertise in qualitative research and was not known to participants. After two pilot interviews, the interviews were completed from June 2018 to September 2019; they were audio-recorded and transcribed. We used open-ended questions to elicit participants' experiences of injury, hospitalization, and post-discharge care. Probes were used to explore the specific care processes and outcomes that participants valued and participants' perspectives on locally implemented strategies to tailor hospital care for

older adults, termed the Senior Friendly Care (SFC) framework [30]. This framework provides Ontario hospitals with guiding principles to optimize outcomes for older adults across five domains: organizational support; processes of care; emotional and behavioural environment; ethics in clinical care and research; and physical environment. In our centre, adults ≥70 years receive an automatic referral for geriatric trauma consultation whereby a geriatrician performs a comprehensive assessment and plans for management and follow-up.

**Data analysis**

Data were analyzed iteratively and inductively by LGC and BH. BH is a trauma surgeon and intensivist with expertise in older adult trauma care and prior experience in qualitative research. Transcripts were read and coded on an ongoing basis within and across interviews using principles of inductive thematic analysis [31]. Through frequent discussion we established meaningful categories and themes that were derived from the data. Once major themes were identified, anthropological and sociological theories of illness and aging were introduced to interpret the study findings and broaden our understanding of participants' experiences [27]. Data were collected and analyzed to the point of theoretical saturation [32]. Nvivo11 was used for data management.

**Ethics approval**

Research ethics approval was obtained from participating institutions.

**RESULTS**

Twenty-five trauma survivors aged 65 to 88 were interviewed. Most participants were either 65-74yrs (n=12) or 75-84yrs (n=11). Thirteen were male, and more than half were injured in a fall (Table 1). All participants were living independently at home prior to injury and nine were working for income when injured. Injury Severity Scores (ISS), a tool for describing the seriousness of injuries, ranged from 2 to 34, with a mean of 15.6 [33]. Interviews lasted on average 36 minutes.

Consistent with qualitative methodology, we present our findings narratively in four themes combining both description and interpretation of participants' experiences and views. ISS are presented in a range to prevent re-identification.



TABLE 1.
Participant Characteristics (n=25)

| | |
|---|---|
| **Sex** | |
| Male | 13 |
| Female | 12 |
| **Age** | |
| 65-74 | 12 |
| 75-84 | 11 |
| ≥ 85 | 2 |
| **Injury Mechanism** | |
| Fall | 14 |
| MVC | 4 |
| Pedestrian | 2 |
| Assault | 2 |
| Other | 3 |
| **Co-morbidities** | |
| 0 | 11 |
| 1 | 2 |
| 2 | 2 |
| ≥ 3 | 10 |
| **Hospital Care** | |
| Surgery | 8 |
| Intensive care | 13 |
| Ventilation | 1 |
| **Hospital Length of Stay (days)** | |

| | |
|---|---|
| ≤ 3 | 7 |
| 4-10 | 8 |
| 11-19 | 7 |
| ≥ 20 | 3 |
| | |
| Median LOS | 8 |
| Range LOS | 1-25 |
| **Injury Severity Score** | |
| ≤ 8 | 3 |
| 9-15 | 10 |
| 16-24 | 9 |
| ≥25 | 3 |
| **Discharge Disposition** | |
| Home | 16 |
| Rehabilitation | 6 |
| Other hospital | 3 |

***"I don't feel like a senior"***

We found an overwhelming tendency among participants to dissociate with labels suggesting they were 'senior'. In doing so, participants were quite explicit in making a negative association between being 'senior' and being 'old'. In our interviews, we did not give any operational definition of SFC, beyond its inclusion of patients who were ≥65 years. Still, many participants did not see themselves as suitable for SFC beyond their chronological age; they rejected any assumptions about what being senior implied. For example, one participant, a 76-year-old business owner, expressed offense to our study title – Patient-centred outcomes in geriatric trauma – because, as was explained, "*I don't act as though I'm old*." This was a common sentiment. Several participants, when told their care was delivered as part of a SFC strategy, responded similarly (Box 1).

Participants in the youngest cohort of the study (65-74yrs), drew comparisons between themselves and persons in their eighties to further explain how they were 'not old'. They

highlighted their relative youth, physical strength, and high level of cognitive functioning (Box 2).

**Box 1.**

"I'm not going there; I'm not going to be old! I am age-wise but I'm not elderly in my mind. I have to admit, I am 73 years old, so I guess I do fit into that category. I just don't feel like it that's all, which is a good thing." [73yo, ISS 9-15, fall]

"Well, I don't feel like a senior. I feel, like, you know, I don't know - 50." [78yo, ISS 9-15, fall]

"I don't particularly need a senior friendly strategy." [86yo, ISS 9-15, fall]

**Box 2.**

"I shouldn't be considered a senior because it's not the way I see myself. But I doubt that's the way anybody sees themselves . . . because I didn't suffer a head injury and because I'm not senile and because of a bunch of other things, I was perfectly able to integrate whatever doctors were telling me into my world view, if you know what I mean. I'm probably atypical. I'm just as busy now doing what I'm doing as I was 30 years ago." [66yo ISS 9-15, fall]

"I went to the Rolling Stones concert two weeks out. Mick Jagger is 78 years old. I still feel young myself. I don't have a problem with feeling a little older. I just don't see 71 as a senior. I don't particularly like it. I'd rather be going backwards but that's the reality of it. I've always been reasonably healthy. So, I'm reasonably active and fortunate enough to live life in a reasonable, pretty good way." [71yo, ISS ≥25, fall]

"I don't feel like a senior. I understand that I'm 66. I'm glad that there's attention being placed to seniors because in the hospital I had four roommates and the last one I had was 89 years old. I don't consider myself in that group because my brain doesn't function that way. So, I don't act and feel like a senior." [66yo, ISS>25, pedestrian struck]

***"Don't bother telling him anything"***

Several participants described personally degrading experiences in the hospital that they attributed to ageist attitudes. These experiences contributed to participants' sense of being devalued by others as older adults. Some felt ignored by hospital staff and perceived ignoring to be age-related. Along with feeling unheard and unseen, one participant noted ageist assumptions in health record notes, accessible through the patient portal of the hospitals' electronic medical records (Box 3).

**Box 3.**

"Older people don't get listened to." [76yo, ISS 9-15, fall]

"You get to be a certain age and you don't matter." [69yo, ISS 9-15, assault]

"I have gotten to think that that this is the way it was when I was a kid dealing with doctors and nurses. You know, 'I know he's getting better so don't bother telling him anything'." [76yo, ISS 16-25, cyclist]

"We get to be thinking that all old people are slightly demented. I even found it in my notes. No sign of dementia. Like, they were expecting it. And then another one, 'doesn't appear to have false teeth' or something like that. I was just laughing. It's ridiculous." [79yo, ISS 9-15, fall]

***"Getting back to normal"***

When describing their goals of care, "*getting back to normal*" was the prevailing expression. In elaborating, many participants emphasized returning to their active independent lifestyles. All of those who were employed pre-injury valued returning to work as an important outcome, needing to generate income and maintain their livelihoods. That said, only a small minority of participants recalled being asked about goals of care or discussing their daily routines while in hospital. Most had not discussed with providers what 'normal' meant to them in the context of their own lives. In several instances, participants stated that their trauma care

providers were unaware of the level of activity that they had returned to post-injury, either because they had not been asked or had not been advised by providers to modify (Box 4).

**Box 4.**

"All I think about is getting back in the bush. I've been cutting wood since 1974. Never had a problem. Six hours minimum a day. And then the days I'm not cutting my wood, I'm cutting my grass. I've got eight acres of grass here. Yeah. That's my life." [78yo, ISS 9-15, other blunt injury]

"I was fully committed to coming back and stepping right back in, which I have already done. The doctors probably wouldn't be too happy with me . . . I really and truly don't know whether they realize what farmwomen do. I'm driving tractors, driving skid steers, working with cattle and this kind of thing. I don't think they really realize that's what you do on a daily basis." [75yo, ISS 16-24, MVC]

"I couldn't tell you what the goals of care were because like I said, I'd see somebody if it was necessary, and all they did was just talk about was the current problem, you know? 'We're going to send you to x-ray' or 'we're going to do this', but no reason why." [76yo, ISS 9-15, fall]

"Well, except the word, 'rehab' means preparing you to go to live a normal life at home. That's rehab as far as I was concerned. But there wasn't any, "Well, we're glad you're here. Now, we're going to, you know, prepare you for this or that." [83yo, ISS 16-24, fall]

***"I have lost control of my life"***

While participants described a range of functional and cognitive limitations, we also found a predominant narrative of significant social and personal loss associated with their injuries. The experience of becoming completely or moderately homebound after hospital discharge felt like loss of freedom. One participant compared this to living in a cage. Injury-imposed limitations on everyday activities such as shopping and caring for grandchildren, led to frustration and a sense of defeat. The loss of independence that many older adults described was especially significant. For some, this was manifest in total life disruption and expressed

unhappiness about new permanent living or working arrangements, such as work retirement, driving retirement or need for assisted living. Several participants expressed guilt for how their injuries had impacted their caregivers' lives, particularly when they themselves held a caregiving role pre-injury. Many described how injury-imposed limitations permanently impacted their social lives and well-being (Box 5).

**Box 5.**

"My children are more worried about my staying alone. We are actively looking for a condo which might solve some problems, but not all the problems. This is a house; I like to live in the house. I like gardening and that's why I stayed on even after my husband's death. But now I think it may be too much for me. I think they are looking for senior apartments." [76yo, ISS 16-24, fall]

"Well, I've been literally grounded. You lose control. And I have lost control of my life to the point that – I'm mobile because I have friends and I have a spouse – I can get around, but it's a different way and it's making me a beggar." [75yo, ISS ≤ 8, fall]

"I have two grandchildren, 20 months and 7 weeks old, and right now I still can't really hold the 7-week-old with great confidence. I can't go out to the park with my granddaughter, like I did, to you know, give her swing- so my big thing is my independence is by far the most – being able to drive instead of being chauffeured, not having to rely on my husband who's my 24/7 caregiver. Or my son who does all the paperwork. I want to be able to go grocery shopping again. So cook, clean, wash dishes. These are things I'm not doing right now." [66yo, ISS ≥25, pedestrian struck]

"For older people, especially those that were, you know, pretty much totally independent, that's the worst thing is to lose that independence. Like, right now I have to depend on other people to do – well, certainly everything outside for me. And at this point in time, I'm even dependent on family to make sure I get my laundry done, to get my shopping done and any other kind of errand – which I'm hoping, I'm certainly hoping that I get that ability back." [72 yo, ISS 16-25, fall]

"I'm 82. So, just sit back at how much time I did enjoy that and spend time with people...I taught a lot of different classes in the high school which you do get paid a bit for, night classes and things like that. But that wasn't really the reason I did it. It was just that I enjoyed it and I enjoyed the people I worked with." [82yo, ISS ≤8, fall]

## INTERPRETATION

Through qualitative analysis of older adult survivors' experiences, we have identified participant-perceived age bias in trauma centre care and gained insight into valued outcomes that emerge when older adults' experiences of injury and aging intersect. A salient finding was participant-perceived presence of ageism in care. Participants identified provider communication behaviours that they viewed to devalue older adults. Moreover, many expressed discomfort being labelled a senior patient or having SFC on the basis that this reinforced a negative view of older age and assumptions about associated decline [34]. Although strategies such as geriatric consultations are in place to address the unique needs of older adults in trauma [21, 22], we also found ageist stereotypes held by older adults played prominently in how they viewed themselves in relation to this care. Many did not see themselves as meeting criteria for targeted geriatric programs or needing any senior-specific consultation. On the contrary, most participants in our study did not appreciate being described as senior or being viewed as having senior-type needs. They firmly upheld a view of themselves as rather healthy, independent, and autonomous, reflecting a counter ideology of successful aging and emphasizing the continuing importance of these highly valued attributes in their lives [25, 35, 36].

These findings should be considered by providers who talk about and to older adults in trauma care. Unintentionally, language use may act to constrain and limit some older adults' views of, and access to, important age-specific injury care. Geriatric medicine, and the comprehensive geriatric assessment, has been previously critiqued for reinforcing cultural ideology that equates older age with disease, and for upholding a biomedicalization of aging that may alienate well older adults [37, 38]. This critique resonated for survivors in our study for whom SFC was viewed to be rather unnecessary. The finding that older adults hold negative views of

aging is not new, but its implications for accessing important age-related trauma care have not been previously described. Opportunities exist to modify this; for example, replacing terms perceived to be demeaning and value-laden, such as geriatric, with value neutral language that refers to injury care for persons over age 65. In written clinical notes, bias can present in word choice and phrasing to stigmatize or increase negative attitudes towards patients [39]. This too can be mitigated by avoiding notes that stereotype or reinforce ageist assumptions; for example, "no sign of dementia" which reflects implicit and unknowing ageism. These subtle but meaningful changes are important to reforming the treatment experience of older adult trauma survivors, one in which they can see themselves as older with age-specific needs but not less valued [40].

We found that injured older adults who were working for income pre-injury intended to return to work post-injury. Many aimed to return to significant unpaid work post-injury such as caregiving and volunteering. Yet, most participants did not discuss these goals with their acute care teams. This may signal an implicit age-related bias among providers who may be disinclined to ask about pre-injury paid or unpaid work in patients over age 65. Long-term outcome evaluations in the trauma population have shown that older age is a predictor of failed and no return to work after injury; however, these studies may be limited in evaluating these outcomes in working age individuals only, defined as 18-64 years [41, 42]. At present they do not account for return to work as a valued outcome among injured adults over age 65. In our study, one third of participants were working for income at the time of their injury, the oldest of whom was 78 years. Moreover, return to unpaid work in the form of community volunteering and caring for others may be an important outcome measure unique to retired older adults, as was the case for an 82-year-old in our study. These findings suggest that directly asking all injured older adults about their involvement in these activities pre-injury may lead toward a more robust set of

long-term outcome measures. Additional research may explore these specific experiences in-depth and over time to better understand their significance as valued outcomes.

Finally, our data demonstrate that older adult trauma survivors may experience considerable social and personal loss that has the potential to threaten how they view themselves and how they wish to be viewed by others (i.e. their sense of social personhood) [34]. This experience is comparable to what has previously been described among the chronically ill as "loss of self," which is an individual's experience of suffering, vis-à-vis loss of their self-image from a serious illness [43]. Changes in self-image due to illness experience may lead to a diminished self-concept as everyday limitations associated with the illness undermine establishing a new valued self-image. While we found variation in participants' experiences of loss after injury, for some participants loss of self appeared to be an entangled social process related, on the one hand, to the injury experience, and on the other hand, to the experience of aging. These experiences intersected for many participants in our study whereby loss associated with injury also introduced a sense of loss that is typically, and stigmatically, associated with being "old". As a result of these intersecting experiences, and in light of ageist attitudes held by some participants, we found that while some older adults perceived little or no life disruption from their injury, injury had the potential to be a magnifying and totalizing experience of loss for others.

This finding suggests that, in older adults, we must move beyond the medical, disease-oriented model of injury toward an integrated approach that accounts for the subjective and social experiences of both injury and aging [44]. This requires a heightened sensitivity to how injury in older adults threatens the cultural ideals of independence and control, and a meaningful social life, particularly in ways that can lead to social isolation and long-term mental health-

related outcomes [45-47]. Assessment of older adults' self-image and perceived self-worth post-injury and over time may be an important outcome measure to better understand and evaluate their survivorship experiences and concomitant adaptation to aging.

**Limitations**

The views described here reflect a selected sample of participants who were mostly 65-84 years and who appeared to be generally well. The study describes the experiences of trauma survivors who were neither cognitively nor hearing impaired and who were largely independent at baseline. These characteristics reflect 85% of the older adult admissions to our trauma centre.

**Conclusion**

This study demonstrates that older adult trauma survivors value care processes that reflect their independence and autonomy, and outcomes that uphold a sense of social and self-continuity, and control over daily life. Patient-centred approaches to older adult trauma care must consider the variable activities that adults over age 65 value and consider ways to mitigate social and personal loss. To evaluate and improve trauma survivorship, future research should examine the socio-cultural factors that influence variation in survivors' experiences and outcomes over time.

**DATA-SHARING STATEMENT**

Study data are not available for use by other researchers. All study data are bound by confidentiality agreements.

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