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Abrahamson, V. and Jensen, Jan and Springett, Kate and Mohamed, Sakel (2016) Experiences of patients with traumatic brain injury and their carers during transition from in-patient rehabilitation to the community: a qualitative study. Disability and Rehabilitation, 39 (17). pp. 1683-1694. ISSN 0963-8288.

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#### **Disability and Rehabilitation**



## Experiences of patients with traumatic brain injury and their carers during transition from in-patient rehabilitation to the community: a qualitative study

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#### IMPLICATIONS FOR REHABILITATION

- 1. Traumatic Brain Injury (TBI) is a major cause of long-term disability. It can affect all areas of daily life and significantly reduce quality of life for both patient and carer.
- Professionals appear to underestimate the change in abilities and impact on daily life once patients return home. Community services maintain a short-term focus whereas patients and carers want to look further ahead; this dissonance adds to anxiety.
- 3. The study's findings on service fragmentation indicate an urgent need for better integration within health services and across health, social care and voluntary sectors.
- 4. A link person/case manager who oversees the patient journey from admission onwards would help improve integrated care and ensure the patient, and carer, are at the centre of service provision.

Experiences of patients with traumatic brain injury and their carers during transition from in-patient rehabilitation to the community: a qualitative study

#### ABSTRACT

**Purpose:** To explore the experiences of individuals who have had a severe TBI and their carers in the first month post-discharge from in-patient rehabilitation into living in the community.

**Method:** Using a qualitative approach underpinned by critical realism we explored the narratives of ten patients and nine carers using semi-structured interviews approximately one month postdischarge. Thematic analysis was carried out independently by two researchers.

**Results:** Firstly, perceptions of support were mixed but many patients and carers felt unsupported in the inpatient phase, during transitions between units and when preparing for discharge. Secondly, they struggled to accept a new reality of changed abilities, loss of roles and loss of autonomy. Thirdly, early experiences post-discharge exacerbated fears for the future.

**Conclusions:** Most patients and carers struggled to identify a cohesive plan that supported their transition to living in the community. Access to services required much persistence on the part of carers and tended to be short-term and therefore did not meet their long term needs. We propose the need for a case manager to be involved at an early stage of their rehabilitation and act as a key point for information and access to on-going rehabilitation and other support services.

#### 198 words

#### INTRODUCTION

Traumatic Brain Injury (TBI) is a major cause of long-term disability. In 2013-14 there were 162,544 hospital admissions for TBI in the UK, a rate of 254 per 100,000 population [1], similar to a European aggregate of 262 per 100,000 [2]. While high quality prevalence data is scarce [3], secondary sources suggest there are 0.76m [4] to one million [5] adults living with a TBI in the UK. Severe TBI can result in profound long-term disability that affects all areas of daily life with significant repercussions on psychological adjustment, subjective well-being, quality of life, life satisfaction and community integration [6-8].

The transition from hospital to home is a relatively new area of research but an important phase where individuals and their families develop greater awareness of the injury's impact on daily life [9]. It is the point at which responsibility for care shifts from health care services to family caregivers [10]. It often involves a change in social roles and responsibilities for patient and carer [10] and from our own clinical experience appears to be a time when patients and carers feel particularly vulnerable and unsupported by statutory services. To facilitate transition healthcare professionals need to understand the patient, their family and their social context; identify ongoing health and rehabilitation needs; and access and implement required services [11]. This requires effective co-ordination to ensure all services are in place and both patient and carer have been involved in decision making as equal partners [12]. A well-managed transition has the potential to drive the adjustment process and the early stages of community reintegration [13]. However a recent qualitative review of the experience of discharge from hospital to home for patients with acquired brain injury (ABI) which included those with stroke, TBI and dementia found that carers reported a lack of involvement in the discharge process and insufficient communication about the patient's condition and care [11].

Levack et al's [6] comprehensive metasynthesis of qualitative research (1965-2009) identified 23 studies representing the views of 263 people with mild to severe TBI. All studies manifested 'a clear

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expression of deeply felt loss associated with TBI' [6] and three themes were constructed to represent this loss. The first, a disconnect with pre-injury self, represented a loss of connection with who one had been pre-injury which related to memory loss, lack of independence and loss of valued roles. This linked to the second theme, mind/body disconnect, which encapsulated impairments of body structure and function and lack of control over certain functional abilities. The third theme, social disconnect was most pertinent to those with severe injury who found their social world and opportunities for new relationships had shrunk, in part due to stigmatisation. Associated with this were the emotional sequelae including grief, regret, anxiety, powerlessness and low self-esteem [6]. However common outcome measures tend not to measure these concepts and focus instead on functional outcomes [6]. Thus there is likely to be disconnection between what is measured as an indication of successful rehabilitation, the identification of ongoing or unmet need, and the lived experience of patient and carer [14].

From the carer's perspective much of the literature focuses on the burden of caring [15, 16] but few studies focus on factors associated with a positive outcome [17]. For carers of those with TBI such factors included good family functioning, good coping skills and good social support while negative factors included the reverse with associated high levels of emotional distress [17]. However it is unclear what interventions would support carers to maximise their coping skills in the transitional period post-discharge.

#### **Policies**

The policy background includes the National Service Framework for Long-term Conditions [18], the Darzi Report [19], the Health and Social Care Act [20] and the NHS Mandate [21]. All were drivers for change in the care of those with long-term conditions and emphasised high quality and personcentred care, listening to the patient voice, long-term support for patients and carers, and integrated service provision. 'Patient experience' is listed as one of three mandatory targets used to measure

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improvement in the Health and Social Care Act [20], is emphasized strongly in the NHS Mandate [21] and was given the same emphasis as *safety* and *clinical effectiveness* in the Darzi report [19]. The Royal College of Physicians report on rehabilitation medicine [22] was driven by these policy aspirations and the care pathway for TBI, a model of best practice, emphasised long-term support, community reintegration, a single point of contact, integrated care planning and multi-agency care (**Figure 1**).

Many people do not have ongoing access to appropriate services and the patient pathway still demonstrates significant weaknesses [23] despite the emphasis on integrated care. This approach requires whole system working across organisational boundaries to 'improve patient care and experience through improved co-ordination' [24]. There are different models, levels and intensities of integration and no universal approach [25] but the key attributes include strong leadership with strong shared values and goals across services; political and financial alignment between organisations; shared information systems; and the patient and carer at the forefront and engaged in all aspects of care [24].

#### [insert Figure 1 about here]

#### Current Practice

The care pathway up to the discharge point from secondary care is well defined. However, over the past decade there has been little progress in the provision of integrated care and individually tailored long-term services for those with severe TBI in the community [26] despite the research focus on community reintegration [27], continuity of care [28, 29] and integrated care [30, 31]. It is essential to understand the experiences and perceptions of patients and carers during the transitional phase to inform improvements to service delivery to meet their needs [10]. Although there is some relevant literature [9, 10, 32-35] studies often conflate mild, moderate and severe TBI [6, 17, 35-37], use a sample with mixed brain injury diagnoses [11, 17], adhere to quantitative measures [16, 36, 37] or do

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not focus solely on the transition period [6, 15, 16, 36]. Thus there appears to be a gap in understanding what is important and beneficial to patients with severe TBI, and their and carers, in the context of UK healthcare in this transitional phase, and how best to meet these needs.

#### Study Aims and Objectives

Delineating the multitude of discharge destinations within the community, the range of services, interventions and approaches, or lack thereof, formed the starting point in formulating a better community service that ensures continuity of care for this vulnerable client group. We wanted to find out:

- 1. What are the experiences of patients and their carers of the transition back home during the first month post-discharge?
- 2. What gaps and/or difficulties did patients and carers encounter in service provision during this period?
- 3. What did patients and carers find beneficial, and/or think would have been beneficial, in terms of interventions and services, during this transitional phase?

#### METHOD

A qualitative approach was initially identified as best matched to the study aims and objectives. We planned to explore the narratives of patients and their carers from their perspective and to create meaning within the context of their unique experiences [38]. This accords with realism which acknowledges that there can be different yet valid interpretations of a phenomenon based on a particular perspective or outlook [39]. A distinctive feature is the belief that the world is independent of our understanding of it and that 'all knowledge is partial, incomplete and fallible' [39]. Realism accepts that knowledge is provisional and has an interpretative element but this does not equate with an interpretivist acceptance of multiple realities [39]. Critical realism, which arose mainly from the work of Bhaskar [40] and Sayer [41, 42] suggests 'that the world should not be conflated with our

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experience of it' [41]. In other words, critical realism asserts that there is an independent reality 'out there' but our knowledge of that reality is socially constructed. It proposes that social phenomena exist in an open system where structures and mechanisms interact at different 'layers' of reality and are in a constant state of flux [43].

#### Target population and sampling

The recruitment setting was a specialist 19-bed inpatient neurorehabilitation unit in a National Health Service (NHS) teaching hospital in England which caters for patients with neurological conditions including those with severe TBI. We wanted to focus on severe TBI because their (and their carer's) needs are more complex than and differ to those with mild-moderate TBI and much of the literature does not differentiate [17]. Thus our target population was adults aged 18 years and above admitted to the unit with severe TBI as defined when initially assessed: Glasgow Coma Scale score of 8 or less at time of injury; loss of consciousness for more than 24 hours; and post-traumatic amnesia of seven or more days [44]. Those able to communicate and able to consent were invited to participate in the study, with their carers. Carers were defined as relatives/friends who the patient regarded as their main source of practical and/or emotional support; they either lived with the patient or visited regularly. Patients were excluded if they had significant communication and/or cognitive impairment such that they were unable to engage in conversation in a meaningful way or there were any concerns about capacity to consent to interview. No one was excluded due to pre-existing conditions unless they were also unable to communicate and/or consent.

Consecutive eligible patients were identified and recruited by the Consultant two weeks prior to their expected discharge date. Recruitment continued until the sample size was reached. We estimated that ten patients and their carers would be feasible in terms of the number of discharges within the study period; that not all patients would have a partner or close relative who they would consider their carer; and we were not aiming for theoretical saturation given the nature of this study. This

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approach accords with qualitative research that aims to enable analytic, rather than statistical, generalisation so that the findings can be generalised at a conceptual level higher than that of the specific case [45]. Ten patients and nine carers were recruited between May to December 2013 and interviewed between June 2013 and February 2014. During this period there were 111 discharges of whom one-third were severe TBIs. As the Unit is the main centre for brain injury rehabilitation in this geographical area the sample could be regarded as relatively representative of those who sustain a severe TBI in this region. However we are not claiming the sample was statistically representative as this is not relevant to qualitative research [38].

#### Ethics and research governance

Ethical approval was obtained from the London City and East NRES Committee and research governance approval was obtained from the Hospital Trust. We considered the ethics of dyad versus individual interviews. We anticipated that most participants would be married/inter-dependent couples and it would be artificial to isolate patient from carer when the effects of brain injury, acquired or traumatic, so clearly affect the carer and family [11, 36]. We followed the Ethics Committee's recommendation of giving respondents the choice to be interviewed separately or together and seven out of nine dyads opted for the latter.

#### Consent

Alongside discussion of the project the Consultant provided potential participants and carers with an information sheet. Only those with capacity to consent were included; capacity was assessed by a member of the multi-disciplinary team (MDT). Patients were given one week to ask questions and decide whether or not to participate. Ten people invited to participate in the study agreed to take part. An eleventh person agreed but moved out of area and was lost to follow up. Respondents were then asked to consent to their contact details being given to the researcher (VA) to contact them post-discharge. The researcher contacted participants two weeks post-discharge to arrange an interview

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for approximately one month post-discharge. On the day of interview the researcher reviewed the information sheet with participants prior to documenting consent.

#### Data collection

Interviews took place in the participant's own home although an alternative venue was offered. We chose to interview approximately one month post-discharge based on clinical experience that this transitional period is particularly difficult for patients and carers.

The topic guide **(Appendix 1)** was developed through a targeted review of the literature and in consultation with patients and carers through a focus group with the local branch of Headway (eight patients and four carers). Interviews were audio-recorded and transcribed verbatim by an independent transcribing service. A field-guide was kept by the researcher to record observations and ideas during and immediately after each interview and to capture the context of each interview [46]. Participants were asked for basic demographic information including marital status, living arrangements and employment status pre-injury.

#### Data analysis

We chose thematic analysis because it is epistemologically neutral, compatible with a realist approach and its flexibility allowed us to search within a data item and across the dataset 'to find repeated patterns of meaning' using an iterative process [47]. The process was inductive, or data-driven, because we were not trying to fit the data into a pre-existing framework [47]. However, we cannot be entirely free of preconceptions which could influence our interpretation of the data. Therefore analysis was carried out by two researchers (VA and JJ) in order to avoid researcher bias [48]. Each phase was carried out separately before we compared ideas, re-visited the transcripts, and amended after further discussion.

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The initial phase involved familiarisation with the data by listening to the audio-recordings and repeatedly reading transcripts to appreciate the depth and breadth of material. Once familiar with all aspects of the data we each made handwritten notes on the transcripts to assist generating an initial list of ideas for coding. Phase 2 involved the production of initial codes from the data, a code being the most basic element of data. The intention was to identify interesting aspects that might form the basis of repeated patterns throughout the dataset [47]. One researcher (JJ) coded manually while the other researcher (VA) used Nvivo 10. We had a large number of codes which we organised into groups although many data extracts fitted into more than one code. Once in agreement, we updated the codes on Nvivo. At this stage all codes were retained and inconsistencies in the data were documented. Phase 3 involved organising codes into broader potential themes. Data extracts were moved under the appropriate theme and data that did not appear to 'fit' was kept under a 'miscellaneous' category [47]. Again, one researcher (JJ) did this by hand while the other researcher used Nvivo. We used visual representations to categorise codes into themes and discussed until we reached consensus and then amended on Nvivo. Phase 4 involved refining the themes and reviewing material that we had filed under 'miscellaneous'. The first stage involved looking through coded data extracts under each theme and deciding whether or not they fitted with the theme and if they formed a coherent pattern. The second stage involved considering whether the themes accurately reflected the dataset overall. We again did this independently before reaching consensus and amending on Nvivo. In phase 5 themes were named, defined and summarised. Each theme needed to have clear parameters and tell a 'story' as well as fitting into the broader narrative of the entire data. By this stage we were able to see how themes reflected individual experiences and the dataset as a whole. Phase 6 involved writing up our findings to reflect our interpretation of the data [47].

#### RESULTS

Ten patients and nine carers were interviewed (Table 1). Three patients chose separate interviews, six chose joint interviews and one patient on his own. All were interviewed at home. Five respondents

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had been working prior to their TBI and the others were retired. Their ages ranged from 48-89 years (mean 63 years; STD 14 years). Seven respondents owned their own home, two rented privately and one lived in social housing. Carers were a mix of spouse (4), partner (2), son (1) and close friend (2). Respondents lived in a mix of urban or semi-rural areas.

#### [insert Table 1 about here]

Three themes were identified in relation to the research question: perceptions of support; struggling to accept a new reality; and fear for the future. Within each theme sub-themes were identified and these are presented separately. **Table 2** provides a summary.

#### [insert Table 2 about here]

#### Theme 1: Perceptions of support

Inpatient experiences resonated with all patients and carers. The perception of not being sufficiently supported, or supported at all, permeated all interviews and was most pronounced in the early stages of acute inpatient treatment and transfer to other units either within the same hospital or between organisations. Although acute medical treatment was not in itself criticised, and often highly praised, there were instances where patients and carers felt uninformed of their condition and treatment. In addition there were criticisms of clinicians' understanding, level of compassion and experience. This theme is sub-divided into *inpatient experiences, transitions between units* and *preparation for discharge*.

#### Inpatient experiences

Although patients were interviewed one month post-discharge most had spent many months in hospital. The shock of the initial injury and hospital admission was uppermost in patient and carers'

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thoughts when interviewed even after this time. While their loved one was receiving emergency care they had to deal with all practical arrangements and cope with the shock often without support:

I've never cried so much in my...because I just had nobody to turn to (Carer 1, C1)

Carer 2 graphically described the police knocking on her door, rushing to a London hospital, being told her husband was unlikely to survive, barely recognising him due to the severity of his injuries and feeling totally unsupported:

Nobody made me a cup of tea. Nobody asked how the family was coping, how we was. Most of the time, people didn't even inform me of the procedures [husband] was having. There was just that missing link everywhere (C2)

This was compounded by commuting between London and home, looking after their children, the immediate collapse of her husband's business and no one local having been informed.

My world had fallen apart but there was no communication with down here to alert anyone... I rung so many people in that first month and nobody wanted to know because there was nothing official (C2)

Other carers also assumed that their loved one's GP would be informed and therefore able to offer advice and support but this was not the case. All carers wanted support from staff to help make sense of the trauma, manage their emotional response and support their loved one alongside dealing with other demands including long journeys to hospital, family commitments, financial and legal pressures. Instead carers felt they had to battle for information from staff who did not communicate with them, each other, or other departments/specialities. This translated into carers feeling compelled to advocate, at times forcefully, for their loved ones. Patients also describe their frustration at not getting answers from staff:

You'd ask someone one thing and you might not see them again. And they wouldn't tell me anything that was going on. They wouldn't answer my questions, you know? (Patient 5, P5)

They couldn't actually decide which team was overall going to be responsible for him...All the specialisms are there... [but] there's not like that single point of contact (C6)

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Thus negative experiences were focused around poor communication and a perceived lack of compassion from individual staff and this tended to outweigh positive experiences:

The surgeon was amazing. The physios were unbelievably young, with no life experience, and rude, and lacked any compassion (C2)

There was no communication. No. From day one ... I was told nothing (P3)

Lack of rehabilitation while waiting to be transferred to a neuro-unit soured the inpatient phase even when acute medical care had been excellent. Respondents appreciated that they were placed on, for example, an elderly care ward due to bed shortages but still felt aggrieved:

It seemed like 50% of people there were ill and the other 50% of people were waiting to die (P10)

There's no activities. You either sit in your bed or sit in a chair (P3)

I really just laid in bed or sorted myself out (P8)

Despite previous complaints there were many positive comments related to the personal qualities of staff (compassion, patience, positive attitude) and effective team work (good communication, coordination, planning and provision of information):

All the staff from [names of three hospitals] have all been brilliant (P4)

He was very, very confused and every nurse they tried to help him and they've done a very brilliant job (C3)

I think the main positive is hope. Someone gives you vision, like the ... nursing staff (P7)

#### Transitions between units

Several people raised concerns about transfers between units, mainly from London back home and concerns were similar to those raised about inpatient care. Issues identified included poor communication, insufficient planning and/or chaotic transfers with little or no warning and lack of timely information. Long delays in transport and having to wait with no update on the delay exacerbated distress:

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It was just like, is he coming? Is he going? There's a bed. No, you can't go after half-past seven at night because there's not enough doctors on the ward... ... Now we've filled the bed. Now you're back on the waiting list again (C6)

Again, the need to advocate for their loved one was a common theme, with carers resorting to, for example, telephoning their MP, contacting the hospital's Chief Executive and employing private services. In one case the carer tried to negotiate with staff that her husband was not well enough to be discharged straight home but was overruled resulting in admission to a local hospital the following day:

He came home at 8 o'clock by ambulance and it was just the worst night of our life. He couldn't breathe... He was in pain. He was distraught....He'd got pleurisy. He'd got two infected drain sites. His leg had got cellulitis in it and an infection. He needed a hospital bed ... he was already getting a pressure sore on the base of his spine... There was just nothing in place. They literally just threw him out one night and that was it. There was no care or compassion (C2)

In two cases in tertiary hospitals the specialism had been focussed on other injuries and the actual head injury was overlooked:

And the staff nurse said ... "when you get him home, if you're not happy, just refer him to the mental health unit" (C2)

The thing that annoyed me the most ... because it was a general orthopaedic ward, they didn't understand the head injury... And they were constantly saying to [Patient], you need to go home; you shouldn't be here (C8)

Patients also reported feeling aggrieved that issues that were important to them were considered minor by staff and not addressed to their satisfaction:

Please bear in mind that I had an awful lot of time on my hands so little worries became big worries in that environment (P5)

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This patient was transferred without his wallet, mobile telephone or house keys and it took considerable time and effort for them to be forwarded. However he needed to buy food because that provided in the hospital did not meet his special dietary requirements.

#### Preparation for discharge

Respondents felt the final discharge home was relatively smooth but once home there were problems that had not been anticipated. Some were surprised at how difficult it was to adjust to being home once the initial joy had dulled. Pre discharge home visits/leave were valued and discussed yet even so the actual experience or implications did not appear to have been sufficiently explored nor issues addressed:

Nobody prepared me for home...Nobody said, "Well, what are you going to do when you get there? ...I just needed a bit more guidance on how it was going to be (P1)

You just sort of assume it's going to be like being at home (P6)

I didn't really think about it [coming home]... ... you just want to be normal again but... (P4)

I thought it was going to be a lot easier...I thought I was back to normal, yes. And I was nowhere near (P8)

The carer's perspective was slightly different but still had an element of surprise that things were not as anticipated:

I probably had a different set of concerns than [husband] did for coming home just because maybe of my role... just being back together after such a long time, because it is very different, isn't it? And ... in a hospital environment ... there's lots and lots of support, and there's somebody to ask whatever question you've got. And when you're at home, the onus... was on *me* to be able to either answer [husband's] questions or have an answer for both of us (C6)

He had a couple of weekend visits, but that still wasn't somehow really enough to prepare us (C1)

Although most discharges home went smoothly there were instances where respondents reported that staff did not adequately consult them, preparations were disorganised and information was limited. Again, carers felt they had to advocate for their loved one:

They weren't talking to each other. It just got very confusing and, in the end, I got myself into such a state... ... Nobody had said to me, how do you feel about him coming home? Are you happy for him to come home? (C8)

Every day...they call me .... they are so unorganised (C3)

I'm quite happy to badger the system until I get something sorted.... It just annoys me that I have to do that ... because I don't think we should have to, because I think things should be in place (C8)

Alongside this respondents raised concerns about unidentified and/or unmet need which included visual problems, continence, dietary restrictions, pain management, changes in medication, preexisting conditions (e.g. psoriasis) or concurrent injuries (e.g. shoulder dislocation) and outpatient appointments. Those awaiting cranioplasty were particularly anxious about how, when and where this would take place.

There may of course have been reasons for the above but it appeared to link with lack of timely information in a format respondents found helpful to assist understanding of the injury, rehabilitation and long term prognosis:

It's not in black and white. If it's in black and white, even though the injured one may not be able to understand it, but at least they have got a perception of what's wrong with them. And if that's the case then they can - like now, in my case - I can now adjust to what I know, whereas before I didn't know anything so I couldn't adjust myself to it (P9)

#### Theme 2: Struggling to accept a new reality

This theme is divided into three sub-themes which comprise *change in abilities, loss of valued roles* and *autonomy and control*. It encompasses the realisation for both parties that life post-injury is likely

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to be very different to pre-injury. Whilst in hospital patients felt protected from the outside world and able to share experiences:

You're with these people who've all got something wrong with them, you know, something similar. And then you get back here at home and outside and you're just... the one (P4)

But once home the long term implications of their injury started to manifest in a manner they had not anticipated:

I didn't have any worries about coming home. I thought I would be living at home as I lived before I went. And it hasn't proved quite like that... (P1)

When you get home... it hits you a bit more... the seriousness of it all (P4)

This dissonance between pre- and post-injury was exacerbated by lack of support (Theme 1) and/or delay in services once home (Theme 3). Respondents stated that they felt 'in limbo' and were trying to support each other as best they could. Some tried to establish a routine and build on their inpatient therapy but most struggled to do so.

#### Change in abilities

As would be expected, all areas of function were affected and impairments included physical aspects such as balance, co-ordination and general mobility; all areas of cognition, particularly memory and higher level executive skills; visual and visual-perceptual impairment; and emotional sequelae which stemmed from physical restrictions, extreme fatigue and beginning to comprehend the full impact of their injury. This manifested in mood swings, anger, frustration and anxiety of which the carer was most often the recipient. The emotional impact on both parties was tangible, alongside the difficulty adjusting:

What I find more frustrating than anything, is, at this present moment in time, I cannot do what I want to do and what I used to be able to do (P6)

Fatigue was more profound than anticipated and made it important to plan each day. Activity tolerance was limited and this made it difficult to establish a daily routine:

We have to plan now... for everything we want to accomplish in a day (C6)

I'm sure if I could just get over this sleep thing. It wears you down, you know? ... last night...I think I went to sleep about half-nine and I got up at quarter to nine, and I'm still tired (P4)

Managing routine daily tasks left little energy to engage in activities that respondents had previously enjoyed, either independently or with their partner such as socialising, cycling, gardening, voluntary work and dog walking.

Interestingly patients who chose joint interviews were particularly insightful about the effect of their injury on their functional abilities, daily structure and relationship. Those who chose separate interviews were slightly less insightful concerning the impact of their injury on their partner, who especially noted changes in behaviour and/or temperament:

He gets mentally exhausted and tired. Very, very forgetful. He'll say things that you and I ... you'd never dream of saying it. But he'll say it (C2)

#### Loss of valued roles

The combination of change in abilities, profound fatigue and difficulty establishing a daily routine translated into loss of valued roles particularly that of husband, parent and 'breadwinner' and made life at times intolerable:

I actually took an overdose...because I didn't think that it was worth going on...because everything that I wanted was taken away: my work, my driving, my...normality, if you like (P9)

Alongside this, carers found themselves struggling to look after their partner and subsume additional tasks including running the house, managing finances, in some case continuing to work and maintaining contact with family and friends who did not always appreciate the difficulties:

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What I hadn't realised was quite how much attention [husband] needs... he needs supervision all the time (C1)

I'm the only capable, coping adult in the house now... he isn't there, not as a husband, a friend, a lover, a dad... (C2)

Patients who were employed wanted to return to work as soon as possible. Work was a large part of their identity and anxiety about loss of this role was exacerbated by financial pressures including repossession of their house and maintaining their business.

#### Autonomy and control

The profound change in abilities and loss of valued roles translated into an underlying tension between patient and carer with both expressing frustration, even those who worked closely as a team. The patient expressed frustration with their reduced freedom and their partner missed being able to do other activities and have time apart. At times patients felt over-protected, disempowered and not listened to:

People try to be a bit over helpful...Just leave me alone! Give me some space. ... I think they're trying to be overprotective' (P3)

I was just someone who had to rely on everybody else (P9)

This was also reflected in comments about professionals. Some patients tried to take control of their rehabilitation but did not feel supported in their drive for independence:

the physio will say things to you and it's very difficult when... someone tries to tell you something what you know more about yourself.... she [OT] was talking to me like I was a bit of an idiot (P2)

I think there is an element of probably success in recovery at home in what skills you bring to the table yourself (P6)

Carers were clearly aware of the need to promote their partner's independence and how hard it was for their loved one to adapt to loss of status and control. However carers felt over whelmed by additional demands and having no time to themselves:

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He was very...very clear about saying that he felt like he wasn't doing the things he should be doing...Yes, he's very aware of this...and I think he does feel...guilty about it (C1)

[the sitter] just gives me that little bit of respite ... to me, that is important that I've got to get out and do what I need to do (C8)

#### Theme 3: Fear and anxiety for the future

This theme developed from the preceding themes. Respondents were looking towards the future with increasing fear and anxiety exacerbated by lack of, or delay in, services commencing post-discharge. Respondents were struggling to adjust to changed abilities and roles whilst trying to support each other as best they could. However there was a strong need to reach towards a 'better' future but knowing how to ameliorate the gap between now and where they wanted to be was intangible. This theme is divided *post-discharge experiences* and *moving forward*.

#### Post-discharge experiences

The main source of consternation was delays in services commencing, no update on when they would commence and no point of contact. Some carers resorted to private services while others advocated forcefully:

Four weeks after discharge and we haven't heard a dickey bird (C1)

If you are articulate and competent, you can access the services....some of our success is the fact that we ... probably get that information and are resilient enough (C6)

Basically, he's been left to sit here and rot. Now if we weren't involved – because he has no family and no next of kin... ... nothing would be happening... (C10)

Once people did finally receive intermediate care (or similar) the duration and appropriateness was questioned; respondents appreciated that services were stretched but wanted more rehabilitation than provided.

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Some carers needed but felt unable to ask for emotional or practical support for themselves while
others simply wanted signposting. Some expected their GP to take on this role but commented that
their GP often appeared ill-informed and unable to co-ordinate or identify follow up services:

I just think it's that one missing link because the intermediate care team try so, so hard. But even they're pushed with the resources that were available... ... if there was just one person that was dedicated to that family... ... who could co-ordinate everything (C2)

Somebody that could just say: this is who you need to speak to. I don't necessarily want someone to actually do it for me ... but to have someone to put me on the right track (C6)

Finally, respondents talked about the difficulties managing friends and families reactions to their changed circumstances. In some cases this was an additional stressor while for others a source of support:

I think the biggest thing that I've found is trying to manage other people's emotions and other people's expectations (C6)

So he didn't die but a massive part of him died, and I think that's the bit people don't see (C2)

#### Moving forward

Closely linked with post-discharge experiences and on-going rehabilitation was patients' focus on longterm goals. Most were receiving input from the intermediate care team (ICT) which is designed for relatively short-term rehabilitation depending on local criteria [49]. Therapists appeared to focus on short-term goals while patients wanted to look further ahead and challenge themselves:

Sometimes the physio says, "Oh, don't do this." The only person who really, really knows how you feel is yourself. And because I've tutor supported myself, I don't think I would really, really push... Yeah, I do push and I've always worked really hard...but I haven't gone really over the top. (P2)

The focus was on regaining a 'normal' life, including return to work and driving, but the gap between now and where they wanted to be stretched ahead:

I want to get back to where I was... (P10)

I got upset yesterday when we came out of Tesco's. It just overwhelmed me... ... And I phoned my sister, and she said it's just a wobble. I'm not having many wobbles but it was just the thought: is this me for ever now? (P4)

I recognise possibly that I'm still recovering... But I can't go on like it forever... ... I'd like to get back to, hopefully, work where it's actually using my mind a bit (P5)

Equally, carers were keen to look forward to a time where the injury was less in the foreground of daily life and they could resume 'normal' life:

But, look, we can go on about the past forever, and what we talked about – there is no past. All there is is every day and cracking on (C10)

#### DISCUSSION

It is widely argued that the provision of effective and efficient services depends crucially on feedback from those who use them [50]. This study captures the perspectives of patients with severe TBI and their carers, and addresses a gap in the literature on their experiences during the transition home and first month post-discharge specific to our health and social care setting. In particular we wanted to map patient and carer experiences, the difficulties they experienced and what they found beneficial during this transitional phase in order to inform local service development.

#### Experiences during the transition home and first month post-discharge

Our first aim was to explore the experiences of patients and carers during the transition home from hospital and first month post-discharge. All patients had complex needs that required a holistic approach to rehabilitation [22] but respondents' care appeared to be carved across specialisms with inconsistent and at times inadequate identification of needs. No one talked about goal setting or making a therapy plan either pre- or post-discharge although this is a cornerstone of rehabilitation [18]. We had anticipated that this period would be an area of concern but had not foreseen that the

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shock of initial injury and early inpatient experiences would so dominate patients' and carers' thoughts even when interviewed several months later. Many respondents expressed dissatisfaction with the discharge process and delays before intermediate care or other services commenced. This appeared to be exacerbated by poor communication between clinicians and patients/carers plus lack of co-ordination between services. Such experiences are not uncommon [11] but are inconsistent with recent guidelines that stipulate both patient and carer should be involved in decision making at all stages and that care should be co-ordinated within and between services [12]. Such experiences appeared to have coloured respondents' experiences and increased their anxiety. More positively, patients and carers functioned together to manage ongoing impairment and work towards long-term goals but they appeared isolated and wanted reassurance that they were managing their rehabilitation correctly. Mostly family and friends were regarded as a source of support which accords with existing literature [6, 17] but some respondents reported lack of understanding and family conflict as an extra source of anxiety to manage post-discharge.

#### Difficulties with service delivery

Our second objective was to identify what gaps and/or difficulties patients and carers encountered in service provision during this period. As above, most apparent were difficulties with transfers between units, discharge home and gaps in service provision. Patients reported services which had been promised did not materialise or that there were long delays with no communication. Some carers did not know who to contact while others spent considerable time identifying a contact and chasing them. Respondents appeared unclear what the role of ICTs were and some reported limited therapy input due to staff shortages. Alongside this study the neurorehabilitation unit was piloting an intervention to increase service efficiency and reduce length of stay whereby some patients were transferred to a private provider for further rehabilitation before discharge (**Figure 1**). However we did not find evidence that using the Independent Sector in this way added value to the patient journey or circumvented problems once home.

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Respondents indirectly alluded to the need for integrated care. Instead they experienced problems with vertical integration, or integration at each stage of care within the care pathway [24] which appeared to have a detrimental effect on adjustment in the first month home. Many wanted to know who to contact for specific concerns that they did not consider within their general practitioner's (GP) remit or that the GP had been unable to answer and they did not know who else to ask, for example when they would return to work and driving. Thus inpatient, community and specialist services appeared fragmented but perhaps this is unsurprising given that services sit under different structures and organisations. Supported discharge and integrated care planning are essential for patients with such complex needs [22] but our respondents experienced 'that missing link everywhere' (C2) which increased their anxiety and fear for the future.

Nalder et al's [10] interviews with carers, nine months post-discharge, identified key issues as the weight of caring, lifestyle changes, feeling unprepared for discharge and coping with the initial shock while services failed to acknowledge their needs. We found similar issues with carers becoming exhausted, frustrated and at times overwhelmed. Although many had received excellent support from inpatient neuropsychology services there was a key gap on discharge.

Respondents commented on perceived gaps in information prior to discharge which echoes previous research highlighting a dissonance between the extensive education and information that professionals reported providing and the paucity of information that patients and carers reported receiving [51]. This disparity appeared to relate to patient and carer's emotional state pre-discharge, the amount and consistency of information, when it was provided and its relevance [51].

What did patients and carers value about service delivery?

#### **Disability and Rehabilitation**

Thirdly, we wanted to find out what patients and carers found beneficial in terms of interventions and services and what they would have liked or could suggest to assist service development. Respondents valued the kindness and compassion of individual staff and were extremely appreciative of acute and specialised medical intervention. It was less clear what they valued during the transition and first month home which possibly reflects the state of uncertainty they were experiencing and that they had never been in such a situation. Patients and carers particularly valued neuropsychology support but this often stopped post-discharge. They wanted more emotional support particularly from the neuropsychologist they had seen in hospital whom they trusted and felt listened to them. The need for emotional support post-discharge is unsurprising and although our carers wanted reassurance this was not related to having 'strong negative feelings' about their loved one [16]. What was notable with our respondents was their dedication to working together to tackle the sequelae of their injury particularly those who opted for joint interviews where both respondents appeared confident to express themselves even when this involved disagreement.

Sherer et al [37] conceptualises the patient experience in terms of prognostic factors for TBI outcomes and categorises these according to those which are helpful and amenable to change, or at least management, and those which are not. The former include cognitive functioning, self-reported symptoms such as fatigue and environmental factors including access to service provision. These were all issues that respondents identified as unmet needs. For example, several couples discussed the difficulty of re-establishing a daily routine due to fatigue but did not know how to negotiate this or which service could assist. Such help falls within the remit of ICTs which employ a range of therapists but the service is generic, time limited and did not appear to meet the complex and ongoing needs of this group.

Our respondents also wanted to focus on return to work or activities of similar value but commented that services had a very short-term focus that did not support such aspirations. Nalder et al [9]

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identified key events relevant to the transition phase and found a positive perception of the transition was associated with return to work, independent use of transport and accommodation change. A negative perception was associated with financial strain and problems accessing services. That the timing of such events was extremely varied within the first six months post-discharge is not surprising given the nature of TBI but highlights the importance of flexible and responsive services tailored to individual need [9].

#### **Study Limitations**

The study sample was small and although relatively representative of the geographical area it was not fully representative of the UK population with TBI in terms of age and ethnicity. This limitation is common to qualitative research and reflects its focus on respondents' narratives rather than statistical outcomes. In addition, we did not have funding for interpreters and could not include those with severe aphasia. We chose to include only those with severe TBI and the experience of those with mild-moderate injuries may be different. The follow-up period was intentionally short, in accordance with the study aims. Consequently the findings are a 'snapshot' of respondent experiences at a particular point in time.

The analysis was conducted by two researchers, both occupational therapists with experience of TBI. It could be argued that our professional perspective might have influenced analysis but efforts were made to avoid bias including use of a field log, independent analysis, comparison of coding and adherence to Braun & Clarke's [47] guidelines. Some respondents had compensation claims pending but we did not set out to compare those who did versus those who did not. However it became apparent that this was relevant in terms of access to follow-up services and addressing financial difficulties and it may have been useful to differentiate. Similarly, data analysis could be criticised for insufficient attention to the interaction between patient and carer in joint interviews, and insufficient

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separation of patient versus carer data, however the approach taken was in-line with the purpose of the study and how the findings can be translated into practice.

Finally, the findings need to be considered within the context of health and social care provision in our setting because services vary considerably across the UK. This was part of the rationale – to identify problems specific to the area and ways of ameliorating them, with the long-term aim of developing a care pathway that supports equity across the UK.

#### **Conclusions and recommendations**

Our study has filled a gap in knowledge surrounding the experience of patients who have had a severe TBI and their carers in the first-month post-discharge in our health care setting. Best practice recommends that there is a single point of contact, joint health and social service planning, multiagency care and long-term support [22] but respondents did not experience this. The first month home was an emotionally loaded time where experiences as an inpatient, during transitions and discharge home resonated strongly. Clinicians, patients and carers appeared to underestimate the change in abilities and impact on daily life once home. Both patients and carers struggled to adapt to new roles and responsibilities and were grieving for what had been lost. This was emotionally demanding and required more support than was available. In addition community based NHS services focused on short-term goals whereas patients had aspirations for the future which were not sufficiently acknowledged. This dissonance added to anxiety and fear of what the future holds for them. Lessons that emerged include:

- The value of making explicit the lessons of home leave and exploring their implications with patient and carer before and in preparation for discharge.
- All patients should have a comprehensive needs assessment and goal setting as part of discharge planning and this should take into account their carer's needs.

- The importance of a focus on the patient's long-term goals from the beginning and especially in the immediate post-discharge phase. Patients were particularly concerned about return to work and driving.
- A case manager or link worker as a first and ongoing point of contact would be ideally placed to facilitate integrated care and ensure patient and carer are at the forefront of decisions from inpatient admission onwards.
- Long term emotional/psychological support is essential for patient and carer. It is important to recognise that needs differ at different stages of the recovery process.

Case management models have existed for some time in the independent sector and there are other models [22]. Although a recent systematic review of services for people with ABI found insufficient evidence to draw conclusions regarding case management for people with TBI [52] a case manager should enable 'well-planned and timely transfer between services to ensure optimal use of limited resources', oversee the patient journey from admission onwards and support and advocate for patient and carer [22]. Future research needs to ascertain what model of case management is best suited to this client group; what local contextual issues affect process and outcomes; and what is best practice in terms promoting integrated care and providing a cost-effective service.

#### 8169 words

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References

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- 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
- [1] Acquired brain injury. The numbers behind the hidden disability [Internet]; c2015. Available from: <u>https://www.headway.org.uk/statistics-resources.aspx</u>.
- [2] Peeters W, van den Brande R, Polinder S, Brazinova A, Steyerberg EW, Lingsma HF, Maas AI. Epidemiology of traumatic brain injury in europe. Acta Neurochir 2015;157(10):1683-96.
- [3] Roozenbeek B, Maas AI, Menon DK. Changing patterns in the epidemiology of traumatic brain injury. Nature Reviews Neurology 2013;9(4):231-6.
- [4] Tennant A. Epidemiology of traumatic brain injury. project number 030/ 0067. Leeds: University of Leeds; 2005.
- [5] Counting the cost of the rehabilitation postcode lottery for road crash victims [Internet]; c2013 [cited 2015 5/22/2015]. Available from: <u>http://www.irwinmitchell.com/personal/personal-injury-</u> compensation/rehabilitation/postcode-lottery-of-rehabalitation.
- [6] Levack WM, Kayes NM, Fadyl JK. Experience of recovery and outcome following traumatic brain injury: A metasynthesis of qualitative research. Disability & Rehabilitation 2010;32(12):986-99.
- [7] Schönberger M, Ponsford J, McKay A, Wong D, Spitz G, Harrington H, Mealings M. Development and predictors of psychological adjustment during the course of community-based rehabilitation of traumatic brain injury: A preliminary study. Neuropsychological Rehabilitation 2014;24(2):202-19.
- [8] Williams MW, Rapport LJ, Millis SR, Hanks RA. Psychosocial outcomes after traumatic brain injury: Life satisfaction, community integration, and distress. Rehabilitation Psychology 2014;59(3):298.
- [9] Nalder E, Fleming J, Cornwell P, Foster M, Haines T. Factors associated with the occurrence of sentinel events during transition from hospital to home for individuals with traumatic brain injury. J Rehabil Med 2012;44(10):837-44.
- [10] Nalder E, Fleming J, Cornwell P, Foster M. Linked lives: The experiences of family caregivers during the transition from hospital to home following traumatic brain injury. Brain Impairment 2012;13(01):108-22.
- [11] Piccenna L, Lannin NA, Gruen R, Pattuwage L, Bragge P. The experience of discharge for patients with an acquired brain injury from the inpatient to the community setting: A qualitative review. Brain Injury 2016:1-11.
- [12] Transition between inpatient hospital settings and community or care home settings for adults with social care needs (NG27) [Internet]; c2015. Available from: <u>http://nice.org.uk/guidance/ng27</u>.
- [13] Turner BJ, Fleming J, Ownsworth T, Cornwell P. Perceived service and support needs during transition from hospital to home following acquired brain injury. Disabil Rehabil 2011 05/01; 2015/06;33(10):818-29.
- [14] Gray J, Lie ML, Murtagh MJ, Ford GA, McMeekin P, Thomson RG. Health state descriptions to elicit stroke values: Do they reflect patient experience of stroke? BMC Health Services Research 2014;14(1):573.

Page 29

- [15] Carlozzi NE, Kratz AL, Sander AM, Chiaravalloti ND, Brickell TA, Lange RT, Hahn EA, Austin A, Miner JA, Tulsky DS. Health-related quality of life in caregivers of individuals with traumatic brain injury: Development of a conceptual model. Arch Phys Med Rehabil 2015;96(1):105-13.
- [16] Tverdov AH, S. McClure K, Brownsberger MG, Armstrong SL. Family needs at a post-acute rehabilitation setting and suggestions for supports. Brain Injury 2016:1-10.
- [17] Baker A, Barker S, Sampson A, Martin C. Caregiver outcomes and interventions: A systematic scoping review of the traumatic brain injury and spinal cord injury literature. Clinical Rehabilitation 2016 March 23.
- [18] National service framework: long term conditions [Internet]; c2005 [cited 2014 11/26/2014]. Available from: <u>https://www.gov.uk/government/publications/quality-standards-for-supporting-people-with-long-term-conditions</u>.
- [19] [ARCHIVED CONTENT] High quality care for all: NHS Next Stage Review final report [Internet]; c2008 [cited 2015 6/1/2015]. Available from: <u>http://webarchive.nationalarchives.gov.uk/20130107105354/http://www.dh.gov.uk/en/Publications/PublicationsPolicyAndGuidance/DH 085825</u>.
- [20] Health and Social Care Act 2012 [Internet]; c2012. Available from: http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted.
- [21] A mandate from the Government to NHS England: April 2014 to March 2015 [Internet]; c2014. Available from: <u>https://www.gov.uk/government/publications/nhs-mandate-2014-to-2015</u>.
- [22] Medical rehabilitation in 2011 and beyond. Report of a working party [Internet]; c2010. Available from: <u>https://www.rcplondon.ac.uk/publications/medical-rehabilitation-2011-and-beyond</u>.
- [23] The Invisible Patients: Revealing the state of neurology services [Internet]; c2015 [cited 2015 6/1/2015]. Available from: <u>http://www.neural.org.uk/updates/245-invisible</u> patients variations report.
- [24] What is Integrated Care. An overview of integrated care in the NHS [Internet]; c2011 [cited 2015 6/23/2015]. Available from: <u>http://www.nuffieldtrust.org.uk/publications/what-integrated-care</u>.
- [25] Optimizings copes of practice: new models of care for a new health care system [Internet]; c2014 [cited 2015 6/24/2015]. Available from: <u>http://www.cahs-acss.ca/wpcontent/uploads/2014/08/Optimizing-Scopes-of-Practice\_REPORT-English.pdf</u>.
- [26] Life after brain injury: a way forward. Manifesto for acquired brain injury, July 2012 [Internet]; c2012 [cited 2015 6/1/2015]. Available from: <u>http://ukabif.org.uk/wp-content/uploads/2014/02/Life-After-Brain-Injury.pdf</u>.
- [27] Sander AM, Clark A, Pappadis MR. What is community integration anyway? defining meaning following traumatic brain injury. J Head Trauma Rehabil 2010 Mar-Apr;25(2):121-7.
- [28] Aspinal F, Gridley K, Bernard S, Parker G. Promoting continuity of care for people with long-term neurological conditions: The role of the neurology nurse specialist. J Adv Nurs 2012;68(10):2309-19.

- [29] Haggerty JL, Roberge D, Freeman GK, Beaulieu C. Experienced continuity of care when patients see multiple clinicians: A qualitative metasummary. Ann Fam Med 2013 May-Jun;11(3):262-71.
- [30] Kodner DL. All together now: A conceptual exploration of integrated care. Healthc Q 2009;13 Spec No:6-15.
- [31] Co-ordinated care for people with complex chronic conditions [Internet]; c2013 [cited 2015 6/23/2015]. Available from: <u>http://www.kingsfund.org.uk/publications/co-ordinated-care-people-complex-chronic-conditions</u>.
- [32] Nalder E, Fleming J, Cornwell P, Shields C, Foster M. Reflections on life: Experiences of individuals with brain injury during the transition from hospital to home. Brain Inj 2013 10/01; 2015/06;27(11):1294-303.
- [33] Whiffin CJ, Bailey C, Ellis-Hill C, Jarrett N, Hutchinson PJ. Narratives of family transition during the first year post-head injury: Perspectives of the non-injured members. J Adv Nurs 2015;71(4):849-59.
- [34] Nalder E, Fleming J, Cornwell P, Foster M, Skidmore E, Bottari C, Dawson DR. Sentinel events during the transition from hospital to home: A longitudinal study of women with traumatic brain injury. Arch Phys Med Rehabil 2016;97(2):S46-53.
- [35] Conneeley AL. Transitions and brain injury: A qualitative study exploring the journey of people with traumatic brain injury. Brain Impairment 2012;13(01):72-84.
- [36] Brands I, Stapert S, Köhler S, Wade D, van Heugten C. Life goal attainment in the adaptation process after acquired brain injury: The influence of self-efficacy and of flexibility and tenacity in goal pursuit. Clinical Rehabilitation 2015 June 01;29(6):611-22.
- [37] Sherer M, Sander AM, Nick TG, Melguizo MS, Tulsky DS, Kisala P, Hanks R, Novack TA. Key dimensions of impairment, self-report, and environmental supports in persons with traumatic brain injury. Rehabilitation Psychology 2015;60(2):138.
- [38] Hesse-Biber SN, Leavy P. The practice of qualitative research. Second edition. ed. Thousand Oaks, Calif.: SAGE; 2011. .
- [39] Maxwell JA. A realist approach for qualitative research. Thousands Oaks, CA: Sage; 2012. .
- [40] Bhaskar R. A realist theory of science. Hassocks, Sussex: Harvester Press; 1978. ID: 44KEN\_Voyager446818.
- [41] Sayer RA. Realism and social science. Thousand Oaks, Calif.: Sage; 2000. ID: dedupmrg14721441; Includes bibliographical references (pages 189]-199) and index.
- [42] Sayer A. Method in social science: A realist approach. Second ed. London: Routledge; 1992. .
- [43] Clark AM, Lissel SL, Davis C. Complex critical realism: Tenets and application in nursing research. ANS Adv Nurs Sci 2008 Oct-Dec;31(4):E67-79.

TBI\_redraft\_4<sup>th</sup> Apr 16

- [44] Head injury: Triage, assessment, investigation and early management of head injury in children, young people and adults. NICE clinical guidelines 176 [Internet]; c2014 [cited 2015 6/1/2015]. Available from: <u>http://www.nice.org.uk/guidance/cg176</u>.
- [45] Yin RK. Case study research: Design and methods. Fifth ed. Thousand Oaks, Calif.; London: SAGE; 2014. ID: 44KEN\_Voyager572343; Includes bibliographical references (pages 167-174) and index.
- [46] Emerson RM, Fretz RI, Shaw LL. Writing ethnographic fieldnotes. Second ed. Chicago: The University of Chicago Press; 2011. .
- [47] Braun V, Clarke V. Using thematic analysis in psychology. Qualitative Research in Psychology 2006;3(2):77-101.
- [48] Morse JM. Critical analysis of strategies for determining rigor in qualitative inquiry. Qualitative Health Research 2015:1-11.
- [49] National service framework for older people [Internet]: Department of Health; c2001 [cited 2014 Nov 11th]. Available from: <u>https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/198033/Nation</u> <u>al Service Framework for Older People.pdf</u>.
- [50] Kneebone II, Hull SL, McGurk R, Cropley M. Reliability and validity of the neurorehabilitation experience questionnaire for inpatients. Neurorehabil Neural Repair 2012 Sep;26(7):834-41.
- [51] Paterson B, Kieloch B, Gmiterek J. 'They never told us anything': Postdischarge instruction for families of persons with brain injuries. Rehabilitation Nursing : The Official Journal of the Association of Rehabilitation Nurses 2001;26(2):48.
- [52] Laver K, Lannin NA, Bragge P, Hunter P, Holland AE, Tavender E, O'Connor D, Khan F, Teasell R, Gruen R. Organising health care services for people with an acquired brain injury: An overview of systematic reviews and randomised controlled trials. BMC Health Services Research 2014;14(1):1.



Table 1: Respondent details

	Male (M)/ Female (F)	Age	Interviewed with	Housing	Social context: life pre-TBI and key concerns at time of interview
1	М	81	Wife <sup>1</sup>	Owner occupied house in a village.	Pre-injury this retired couple were very active, had individual and joint leisure pursuits, and particularly enjoyed belonging to a cycling group. Their children did not live locally and their social network was limited. The husband sustained a TBI when cycling but the police did not press charges; his wife was pursuing a personal injuries claim. His wife felt unable to leave him alone for more than ten minutes due to impairments with mobility, memory and cognition.
2	М	49	Wife <sup>1</sup>	Owner occupied house in a village.	This married couple had teenage children but no close family or friends in the area. The husband ran his own business and employed a large number of staff whilst his wife managed everything at home. He sustained extremely severe injuries and his business collapsed with major financial repercussions. His wife was struggling to cope with practical, financial and parenting issues. His key concerns were reduced mobility; pain; fatigue; impaired memory and cognition; difficulty self-regulating his emotions and speech; return to work and financial issues.
3	М	70	Partner (co-	Owner occupied flat	Pre-injury this retired businessman was in good health, very active and had friends in the

			habiting) <sup>1</sup>	in town.	area. His younger partner attended to all domestic concerns and had family close by. His
					main concerns were impaired memory and not being allowed to drive; his partner was
					concerned about his intermittent confusion and difficult regulating his emotions.
4	F	64	Son	Council house on the	Pre-injury this woman was very independent and active spending several hours per day
				outskirts of town.	walking her dogs and cooking. She was widowed and lived with both her sons, one of
					whom worked. Friends and family were local and close-knit. Her key concerns were lack
					of physical endurance; fatigue; loss of autonomy in terms of running the house, walking
					the dogs and going out by herself; and emotional sequelae in part related to waiting for
					cranioplasty.
5	Μ	51	Partner	Privately rented room	Pre-injury this man worked full-time and had been in the same job for many years. He
			(lives close	in a house, suburban	got on well with his landlady and his girlfriend lived locally. His main interests outside
			by)	area.	work were walking around town and socialising in his local pub. His main concerns were
					fatigue; fear of further head trauma while awaiting cranioplasty; and return to work.
6	М	48	Wife	Owner occupied flat	A professional couple who both worked full-time pre-injury and had recently moved from
				on a new estate on	a house to the current flat which had enabled her to take unpaid leave to care for her
				the outskirts of town.	husband. They had a reliable network of friends but limited contact with his family due to
					injury related issues. His main concerns were fatigue and reduced physical endurance

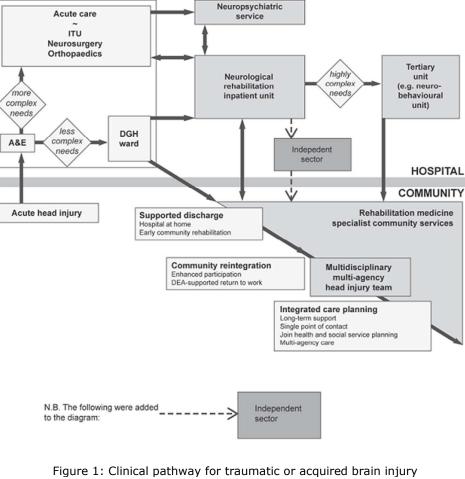
					which was making it difficult to re-establish a daily routine; return to employment; and resuming driving.
7	М	89	Friend/son- in-law <sup>2</sup>	Owner occupied house in town.	Pre-injury he lived alone in his own house with good family support. He could only walk short distances inside with a mobility aid due to a previous fall and arthritis. Since discharge his son-in-law had been staying overnight and a friend was acting as carer in the daytime. His main concerns were reduced mobility; poor hearing and vision (pre- existing); and not being allowed to drive.
8	М	69	Wife	Privately rented flat on a busy main road in town.	Pre-injury they were a very active retired couple with individual and joint leisure pursuits and both were involved with voluntary work. They had regular contact with their daughter and grand-daughter. Both had worked for the NHS and related their recent experiences to their past work life. His main concerns were ongoing headaches and fatigue; anxiety (as the TBI had occurred outside their flat); impaired memory; and resuming valued activities.
9	М	63	N/A	Owner occupied house in a semi-rural area.	Pre-injury this man was active and healthy. His partner lived locally. They both worked full-time and enjoyed gardening, walking the dog and socialising. They had friends in the area but not family. His main concerns were associated orthopaedic injuries causing significant pain and impaired mobility; poor concentration and memory; low mood and

					fatigue; and being unable to return to work or driving. He had an ongoing compensation claim.	
10	Μ	48	Best friend	Owner occupied flat on a new estate on the outskirts of town.	Pre-injury this man worked full-time running a business with his best friends. He lived on his own while his girlfriend lived several hours drive away. Little contact with his family. His main concerns were reduced physical strength and an upper limb injury; language impairment; emotional lability; moving house to be closer to friends; and waiting for cranioplasty.	
<sup>1.</sup> P	<sup>1.</sup> Patient & carer interviewed separately					

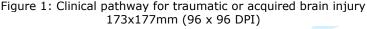
 Patient & carer interviewed separately
Son-in-law came in part way through interview
N.B. details of injury and other specifics have been omitted to protect confidentiality

#### Table 2: Summary of themes and sub-themes

1. Perceptions of support	2. Struggling to accept a new reality	3. Fear for the future
Inpatient experiences	Change in abilities	Post-discharge experiences
Transitions between units	<ul> <li>Loss of valued roles</li> </ul>	<ul> <li>Moving forward</li> </ul>
Preparation for discharge	<ul> <li>Autonomy and control</li> </ul>	



#### Figure 1: Clinical pathway for traumatic or acquired brain injury [22]



### Appendix 1: Topic guide

#### 1. Can you tell me about your experiences so far?

Initial interview prompts:

- What did you think when you were told you were being discharged home?
- What happened when you left the rehabilitation unit?
- What is it like being back at home?

Follow up interview prompts:

- How did staff prepare you for going home?
- What concerns did you have about going home?
- Were you able to discuss these concerns with anyone?
- Did you have any (unexpected) difficulties when home?
- What do you most enjoy about being home?

#### 2. What support or services have you both had?

#### Prompt:

- What do you think of this support/service?
- What did or did not work well?
- What else would you have found helpful?

#### 3. Can you tell me a little bit about your relationship and how things have changed since the

injury? (give both participants time to talk)

- Who did most of the domestic chores?
- Do you both drive?
- How much did you go out and about?
- What was your social life like?

#### 4. What activities would you like to resume? E.g. working, driving

Prompt:

- What are the barriers to doing so?
- What/who/how would help you get back to doing these things?

#### 5. Do you have any other suggestions or comments?

- Around the time of going home?
- On the services you have received and/or would like to receive?
- What you may have found beneficial?
- What support you anticipate you may need in the next year?