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### Incorporating Patient Concerns into Discharge Plans: Evaluation of a Patient-Generated Checklist

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#### Abstract

**Background:** This paper reports on the effectiveness of a checklist that assists patients to transition safely and sustainably from hospital to home. **Methods:** Medical wards in three tertiary public hospitals in metropolitan Adelaide provided subjects during 2004. Eligible patients were English-literate and aged at least 60 years, provided written informed consent and had an unplanned hospital admission for a new medical condition. Data was excluded *post-hoc* if subjects had another hospital readmission for the same condition within seven days of discharge. The study had a quasi-experimental study design in which each hospital acted as its own control. In each hospital, the first half of the study period measured the outcome of usual discharge planning practices (control phase), and the second half of the study period measured the outcome following administration of the checklist (intervention). Quantitative and qualitative (grounded theory) evaluation methods were used. **Results:** 464 potentially eligible patients were approached and 317 (63.3%) consented to participate (210 control and 107 intervention subjects). *Post-hoc* exclusion and loss to follow-up reflected 60% (control) and 42% (intervention) subjects. Unplanned readmission to hospital (*post hoc* exclusion) reflected 21% control and 39% intervention phase subjects. A key reason for loss to follow-up was inability to contact subjects seven days after discharge (29% control, 16% intervention phases). Complete outcome data was collected from 148 subjects. For patients with family/ friends who visited them in hospital, the checklist provided the opportunity for joint discussion and decision-making prior to discharge about daily living activities. These activities were often additional to formal discharge plans. The short duration of hospital admission, and generally poor health precluded many patients without family/ friends from obtaining maximum benefit from the checklist. **Conclusion:** The checklist improved patients' preparedness for discharge, particularly when family/ friends were involved.

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#### Introduction

Discharge planning is the systematic identification and organisation of services and supports to assist patients to manage in the community post-discharge (from hospital (*sic*)).<sup>1</sup> Discharge plans should be timely and proactive, and address key factors that could compromise patients' health and safety post-discharge.<sup>2-6</sup> Common recommendations from recent systematic reviews of discharge planning initiatives are the importance of involving the patient, family/ friends in planning for discharge, and developing

interventions which work well across hospital sites and patient types. Such interventions need to be independent of staff skills and training, project funding or local environments and processes.<sup>1-18</sup>

Controlled randomized and blinded experimental studies are the research design of choice to test the effectiveness of interventions, however there are many constraints on conducting experimental research in 'real-life' hospital environments [20].<sup>19-20</sup> The discharge planning systematic

reviews reported a range of research designs which were used to evaluate discharge planning interventions.<sup>1-18</sup> These reviews noted that patient heterogeneity, the ethics of randomization, potential contamination during intervention and control phases, and the inability to standardize patient care can prove problematic when testing the effectiveness of discharge planning activities within a hospital environment.<sup>2,6,9,10,13-17,19,20</sup>

Our research consistently reports the lack of involvement of patients and family/ friends in planning discharge from hospital, and a lack of understanding by hospital staff of patients' home circumstances.<sup>21-27</sup> We developed a checklist [28] (see Appendix 1), based on patient and family perspectives, which could be provided to patients in hospital, to stimulate discussion between patients, their families and friends, and hospital staff, about the practicalities of returning home.<sup>21-27</sup> The checklist deals with issues which are not usually part of formal discharge plans made by hospital staff, and yet are essential ensure safe, sustainable patient transition from hospital to home.<sup>21-28</sup> It includes practical prompts relating to a range of issues such as safely leaving hospital, safely arriving and staying at home, avoiding isolation, caring for others at home, involving community health services, understanding medications, identifying services and equipment that could improve safety and health at home, and managing pets, garden and house care, driving and transport.

This paper reports on a quasi-experimental study which tested the effectiveness of our discharge planning checklist (Appendix 1). The aim of the study was to test whether patients exposed to the checklist scored the quality of discharge planning processes and outcomes higher than control patients who had 'usual' discharge planning.

### **Method**

Ethics approval was obtained from the Human Research Ethics Committees of the participating universities (University of South Australia, The University of Adelaide) and the three participating Adelaide hospitals.

### *Intervention*

The Discharge Planning Checklist (*Appendix 1*) was printed in black and white ink on two-sided A4 paper, using large fonts, illustrations and easy-to-read layout to cater for elderly readers with impaired vision and concentration. It was provided to patients within the first 24 hours after admission to hospital.

The checklist was not formally completed by patients, nor did hospital staff routinely discuss the checklist with patients and carers, unless specifically asked by patients to do so. The checklist was designed as an adjunct to formal discharge planning [28]. If reading the checklist highlighted specific concerns for patients or their families, then

addressing these concerns by patients and hospital staff would enhance individual discharge plans.<sup>21-26</sup>

### *Research design*

A quasi-experimental design (before-after study) was the most appropriate approach by which to test checklist effectiveness in hospitals.<sup>20</sup> Higher level experimental designs were inappropriate, because randomisation to control or intervention allocation, the conduct of simultaneous intervention and control groups, and therapist and patient blinding were not feasible in real-life hospital environments. Minimising the potential for contamination and bias in administration, and maintaining good relationships with hospital staff were important concerns, thus precluding a study using simultaneous control and intervention administrations, in randomly allocated patients or wards.

Each hospital acted as its own control. The same outcome measures were administered to every patient throughout the study period. The first half of the study period in each hospital was the control phase, reflecting 'usual' discharge planning practices, and in the second half of the study period the intervention was administered.

### *Hospital involvement*

Staff on medical wards in three tertiary hospitals in metropolitan Adelaide, South Australia agreed to participate during March-November 2004. Each hospital participated for different periods (Hospital A: 6 months, Hospital B: 4 months, Hospital C: 3 months). The different participation periods reflected administrative constraints, hospital staff workload and opportunities for access to wards.

### *Subject eligibility*

Patients were eligible to join the study if they had an unplanned first admission for a medical condition, were aged at least 60 years, were English-literate, could provide written informed consent, and were not admitted with a primary diagnosis of dementia. We believed that patients who were hospitalized for the first time for a medical condition would be naïve to discharge planning processes.

We were also interested in whether patients with carers obtained a greater benefit from the checklist than patients on their own. Carers were defined as the primary unpaid person assisting the patient with daily activities once they returned home (showering, dressing, shopping, feeding, household management etc). Patients nominated whether they had a carer at the time of study recruitment. Carers were usually spouses, immediate family members or friends. Agency carers were not included. The nominated carers were invited to participate in the study, independently of patients. Carer findings from this research have been presented elsewhere.<sup>31</sup>

### *Recruitment, consent and evaluation processes*

Patients were recruited in the same manner in all sites. Potentially eligible patients were identified by hospital staff on participating medical wards within 24 hours of admission. A study information sheet was provided to eligible patients, and consent forms were signed in hospital. Patients agreed to complete and return a written survey (see next section) a week after discharge, and participate in a telephone interview around that time. Patients became ineligible for inclusion *post hoc* if they had an unplanned readmission to any hospital for the same condition within seven days after their index discharge. For reporting purposes, these patients were counted, although their data was excluded from analysis. These patients became ineligible because they were no longer naïve to the issues of managing their medical condition at home.

### *Outcome measures*

#### 1. Quantitative measures

Subjects were surveyed with the PREPARED<sup>1</sup> instrument (patient version) [21] available on <http://www.unisa.edu.au/cahe/pubs/Patient%20scoring.pdf>.

The survey instrument was given to patients whilst in hospital, with instructions to complete and return it by post a week after discharge, using reply-paid envelopes. The patient version of PREPARED seeks patient perspectives of the quality of their preparation for discharge from hospital, using process and outcome measures. The *process data* is reported in four domains, the scores to which are calculated from responses to multiple questions (See Appendix 2 for questions and scoring). The four domains are Domain 1: information on support structures, Domain 2: medication management, Domain 3: information on community management and Domain 4: control of discharge circumstances. A total process score is also calculated as the sum of scores in the four process domains.

*Outcome data* comprised the sum of responses to three questions 'Confidence on returning home', 'Whether worries have been addressed', and 'Whether organized community services and equipment have met needs'.

We also reported individual questions in PREPARED regarding medical costs incurred as a result of this admission to hospital, services consumed since discharge, and overall satisfaction with discharge planning.

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(<sup>1</sup> PREPARED is an acronym standing for Prescriptions, Ready to enter community, Education, Placement, Assurance of safety, Realistic expectations, Empowerment, Directed to appropriate services.)

The PREPARED instrument assigns ordinal scores to ranked categorical question responses (See Appendix 2). An example is provided of one process question in Domain 2:

*Question II-1* 'How much information did you receive about the medications that you (the patient) took home?'  
*Responses:* 'As much as I needed' (scored 2), or 'Some, but not enough' (scored 1), or 'None' (scored 0).

For standardised comparisons, the raw score in each domain for each subject is expressed as a percentage of the total possible score for that domain. Where data was abnormally distributed (such as cost and service consumption), it was transformed as log values to approximate a normal distribution for statistic testing.

Ordinal/ interval data was summarised as averages and standard deviations (SD), and independent Student t-tests were applied to test differences between phases in demographic and outcome data. Nominal category data was reported as percentages, and differences were tested using chi squared statistics. Logistic regression models were constructed to determine whether checklist administration was associated with improved PREPARED scores (interpreted in binary form at the median value), and the potential confounding effect of gender, or having a nominated carer.

#### 2. Qualitative measures

A week after the patient had been discharged from hospital, an interviewer independent of the study recruitment process, and blinded to study phase allocation and PREPARED responses, interviewed patients by telephone. If no initial response, up to three further telephone calls were made randomly over the next few days. Patients reconfirmed at the start of the interview their consent to participate. They were also reminded to complete and return the PREPARED instrument if they had not already done so. All interviews were semi-structured, using the following broad questions.

*How have you been managing with your daily activities since leaving hospital? (Can prompt and ask about dressing, showering, cooking, cleaning, gardening and medications)*  
*Are you finding anything harder to do now, compared with before you went into hospital?*  
*Is your carer (could be spouse, daughter, neighbor) having to do more work since you have left hospital?*  
*Do you think there is anything more the hospital could have done to make it easier for you to go home?*

Additional questions for intervention phase subjects included:

*Do you recall the discharge planning checklist?*

After reading the checklist, did anything occur to you that you hadn't thought of?  
How relevant was the checklist for you?  
Please rate it as Relevant, Neutral, Not relevant  
How useful was the checklist for you?  
Please rate it as Useful, Neutral, Not useful  
Would you recommend the checklist to someone in a similar situation to yours?  
Is there anything about the checklist that you would change? If so, please specify.

Responses were collated and free text was analysed for key themes and emerging concepts using a grounded theory framework.<sup>32</sup> Indicative quotes are provided to illustrate key themes which emerged from the interviews.

## Results

### Participation

Figure 1 outlines the numbers at recruitment, consent and study completion. Differences in numbers of patients approached to participate in each site reflected different hospital participation times and the number of participating medical wards per hospitals (three at Hospital A, three at Hospital B and one at Hospital C).

Of the total number of patients approached (464), 256 came from Hospital A (55.2%), 139 came from Hospital B (29.9%) and 69 from Hospital C (14.9%). Standardised by data collection weeks and participating ward numbers in each site, the per-week per-ward rate of potentially eligible patients was similar (3.5 at Hospital A, 2.9 at Hospital B and 5.7 at Hospital C).

### Exclusion and refusal rates

Of the potentially eligible patients, 46.3% control and 45.7% intervention phase patients were excluded (13% Hospital A, 50% Hospital C, 63% Hospital B). Overall subjects approached, refusals to participate comprised 7% at Hospital A, 46% from Hospital B and 13.3% from Hospital C.

### Enrolment into study phases

Respectively, 210 and 107 patients were allocated to control and intervention phases. In the intervention phase 34% were enrolled at Hospitals A and C, and 36% at Hospital B.

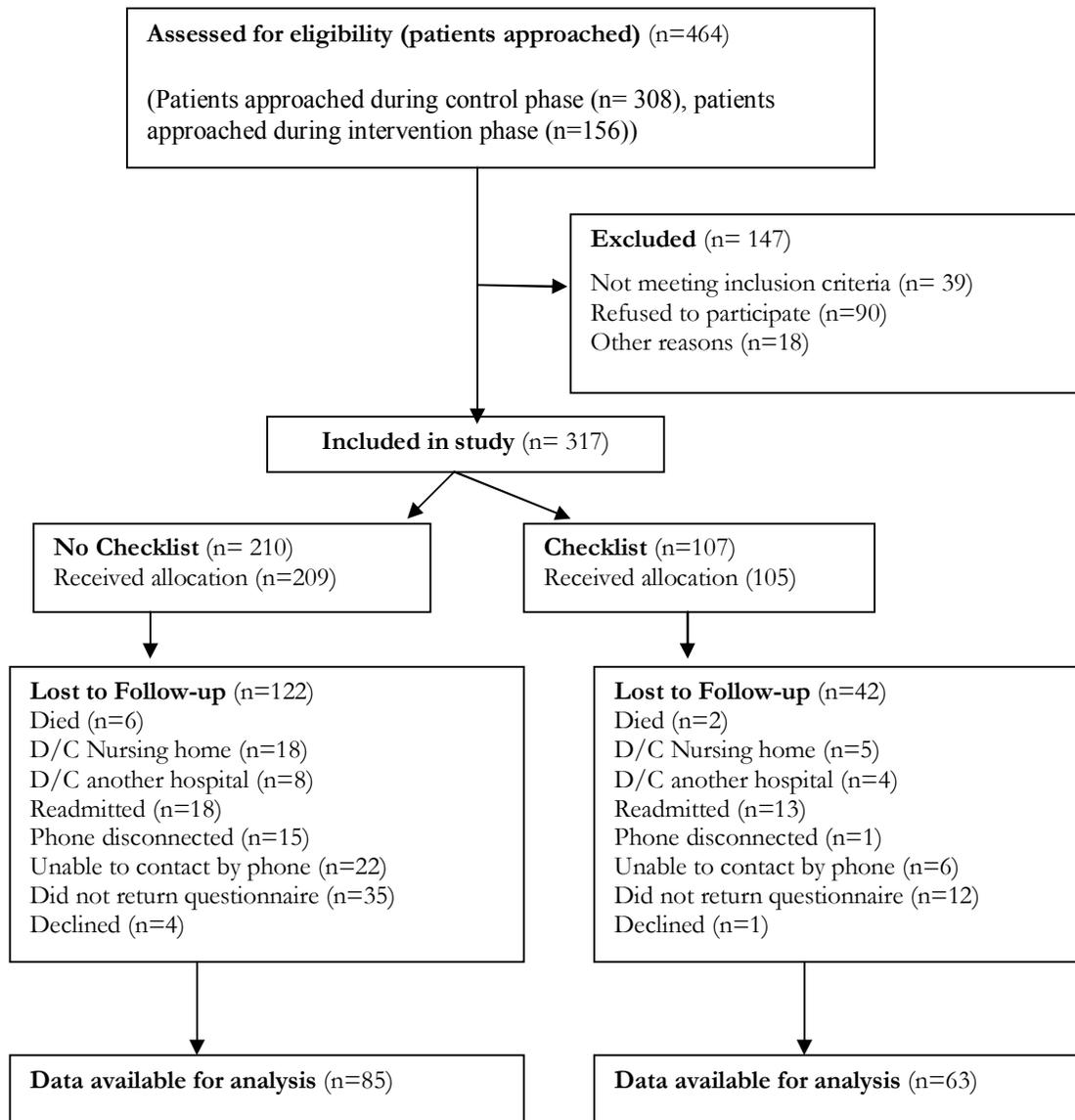
### Loss to follow-up

There was no significant difference between control and intervention phases in the numbers lost to follow-up ( $p>0.05$ ) (control 60%, intervention 42%). Of the loss-to-follow-up subjects, 20.6% (control), and 38.6% (intervention) were known to have been readmitted to hospital with the same condition within seven days of discharge. This information was provided by subjects themselves (by telephone, or written on the PREPARED instrument) or by family members at the time of follow-up telephone call. A further 29% subjects in the control phase and 16% in the intervention phase could not be contacted seven days after discharge despite multiple attempts, even though patients had consented to the telephone follow-up one week earlier.

### Patient Demographics

There was no difference in age of subjects in study phases ( $p>0.05$ ) (mean age control subjects 69.4 years (SD 7.6), mean age intervention subjects 70.2 years (SD 7.7)). There was a significant difference in gender proportions in the two phases ( $p<0.05$ ). The control phase had 35% (N=30) men and 65% (N=51) women, while the intervention phase had 61% (N=40) men and 39% (N=27) women. On the basis that gender differences could have influenced study findings, gender-specific analysis is reported, and the confounding effect of gender on the association between outcome and intervention was tested. There were no significant differences ( $p>0.05$ ) in age between males and females in the control or intervention phases [mean age women (control 68.1 years (SD 7.5) intervention 71.2 years (SD 8.2)), mean age men (control 72.8 years (SD 7.2), intervention 71.0 years (SD 6.9))].

**Figure 1. Participation flow chart**



\*\* the numbers in the subcategories list in this box do not total the total loss to follow-up because in many instances the individuals whose phone was disconnected, unable to contact by phone and did not return the questionnaire reflected the same people.

**Presence of primary carer**

In the control phase, there was no significant difference overall or between genders ( $p>0.05$ ) in the percentage of subjects nominating a primary carer (control phase 60.1% men, 49% women, intervention phase 60.5% men, 37.5% women).

**Reason for admission**

There was no difference in frequency of, or reason for, admission ( $p>0.05$ ) when comparing the control and intervention subjects (See Table 1). There were also no significant gender differences in reasons for admission. For both men and women, respiratory and cardiac conditions were the most common in both phases, followed by abdominal conditions, circulatory problems and falls.

| Admission Reason | % control | % intervention phase |
|------------------|-----------|----------------------|
| ENT              | 4.0       | 0.0                  |
| Abdominal        | 9.3       | 8.2                  |
| Cardiac          | 30.7      | 31.1                 |
| Circulatory      | 5.3       | 9.8                  |
| Renal            | 2.7       | 3.3                  |
| Exhaustion       | 1.3       | 0.0                  |
| Falls            | 4.0       | 6.6                  |
| Neurological     | 2.7       | 4.9                  |
| Orthopedic       | 2.7       | 4.9                  |
| Respiratory      | 36.0      | 29.5                 |
| Skin             | 1.3       | 0.0                  |

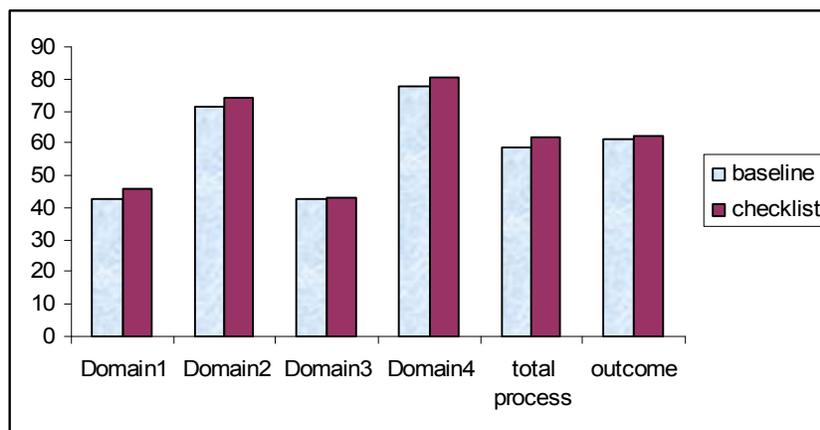
*Length of stay*

Length of hospital stay was short in both study phases, with no significant difference between control (2.2 days (SD 2.5)) and intervention phases (2.1 days (SD 2.2))( $p>0.05$ ), as well as no significant gender difference.

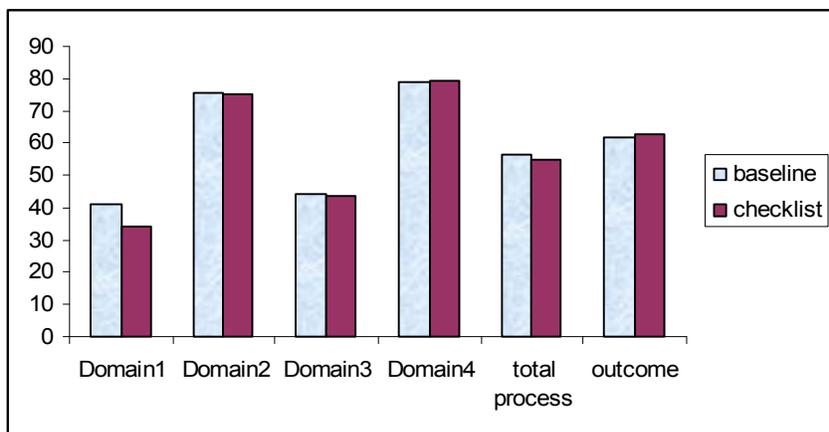
*PREPARED Responses*

There were no gender differences in mean PREPARED process and outcome scores between intervention and

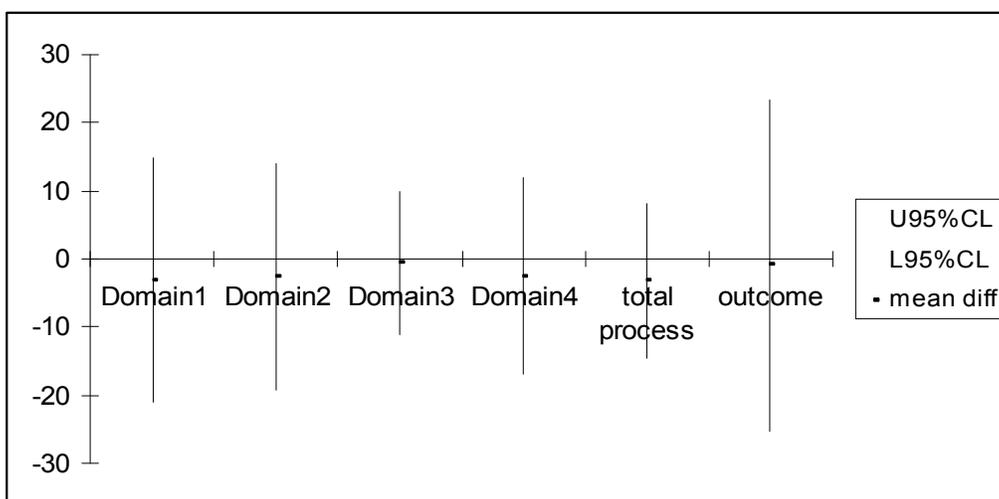
control phases. The mean scores for the PREPARED process and outcome domains in the control and intervention phases are reported in Figure 2a for women, and Figure 2b for men. Figures 3a and 3b provide further information on the mean differences in PREPARED scores between phases, and 5% Confidence Intervals. All differences encompassed zero, highlighting the lack of statistical significance between study phases.



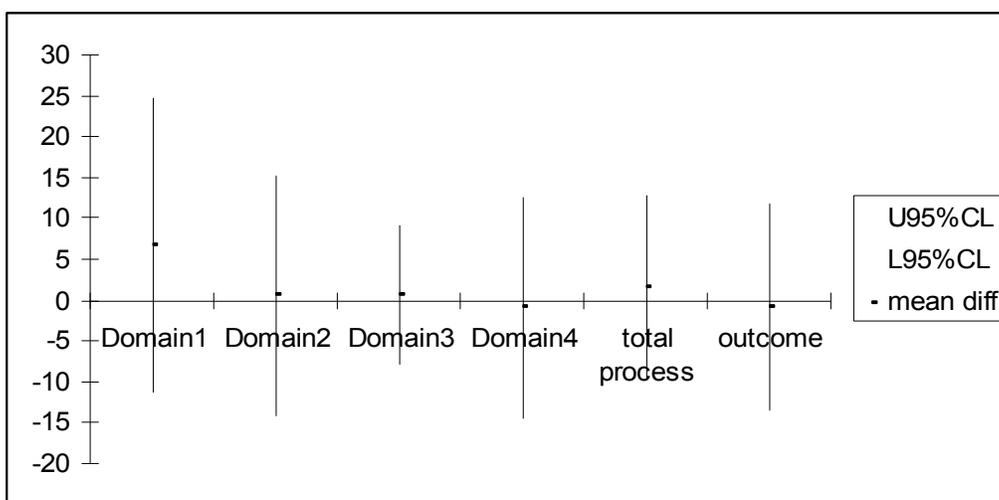
**Figure 2a.** Average female PREPARED process and outcome domain



**Figure 2b.** Average male PREPARED process and outcome domain scores



**Figure 3a.** Differences (95%CI) between study phases for female patients' process and outcome domain scores



**Figure 3b.** Differences (95%CI) between study phases for male patients' process and outcome domain scores

The association between checklist administration (Yes/ No) and preparation for discharge approached significance in the overall sample (Crude Odds Ratio 1.7 (95%CI 0.9-3.4) ( $p=0.08$ ). Adjusting by gender did not significantly strengthen this association (AOR 1.6 (95%CI 0.8-3.2), however, adjusting by the presence of a carer strengthened the association significantly (AOR 1.9 (95%CI 1.0-3.6,  $p<0.05$ )). Deconfounding by both these variables did not

significantly increase the probability that the checklist improved preparation for discharge (AOR 1.6 (95%CI 0.8-3.3)). Table 2 outlines the odds ratios (95%CI) from testing the association between checklist administration and the PREPARED domain scores, cost and service data, No significant associations were found in crude or adjusted form.

**Table 2.** Crude and adjusted odds of association between checklist/ control and PREPARED domains (divided at median values)

|                                | Process domain1  | Process domain2  | Process domain3  | Process domain4  | Total Process domain | Outcome domain   | Service costs <sup>2</sup> | Service Use <sup>1</sup> |
|--------------------------------|------------------|------------------|------------------|------------------|----------------------|------------------|----------------------------|--------------------------|
| COR                            | 0.9<br>(0.4-2.0) | 0.9<br>(0.4-1.7) | 1.0<br>(0.5-2.3) | 1.1<br>(0.6-2.2) | 1.2<br>(0.6-2.4)     | 0.8<br>(0.4-1.8) | 1.4<br>(0.5-3.7)           | 0.9 (0.5-1.9)            |
| Adjusted for gender            | 0.8<br>(0.3-2.1) | 0.7<br>(0.4-1.5) | 1.0<br>(0.5-2.5) | 1.0<br>(0.5-2.5) | 1.2<br>(0.6-2.4)     | 0.9<br>(0.4-2.2) | 1.5<br>(0.6-4.2)           | 1.1 (0.5-2.2)            |
| Adjusted for presence of carer | 0.9<br>(0.4-2.1) | 0.9<br>(0.4-1.7) | 1.0<br>(0.5-2.3) | 1.2<br>(0.6-2.3) | 1.2<br>(0.6-2.4)     | 0.8<br>(0.4-1.8) | 1.2<br>(0.5-3.3)           | 0.9 (0.4-1.8)            |

<sup>1</sup> The raw data were transformed into log values to obtain a more normal distribution of data for analysis purposes.

### Interview findings

#### Involvement in discharge plans

Interview responses in both study phases indicated that subjects were generally unaware of the plans made by hospital staff for their discharge. Most subjects had high praise for hospital care however specific interaction with staff regarding post-discharge management was vague.

*Nothing was done and no-one said anything, but I understand the hospital is strapped for time and staff overworked. Mrs A*

*Thought hospital was excellent-couldn't have done anything more to help, but no-one seemed to have the time to talk to me Mr W*

The short length of stay and their generally unwell state may have constrained patients' awareness of discharge plans being made for them. Many subjects indicated that, whilst in hospital, they felt too unwell and/ or tired to consider the practicalities of returning home.

*Considering how sick I felt when I went in, I wasn't there very long for them (hospital staff) to do much. I didn't feel much better when I came home but I guess the problem must have been sorted out! I guess there wasn't much time for anyone to even know my name while I was there, let alone think of me as important Mrs T*

*I just felt so tired in hospital, I just hoped someone would tell me what to do. I didn't want to have to think about anything myself. I still feel really tired now I am out, and I am so grateful to my daughter who has everything in hand. It is all really hard. Mrs F*

Approximately 23% subjects recalled someone talking with them about returning home, however few could recall in any detail what was said. The most common recall was about organization of formal community services.

*Someone came and talked to me in hospital about getting help at home. She said she would organize something, but I cant remember who, or what, and whatever it is, it hasn't happened yet!! Mr G*

Approximately half subjects indicated that after discharge they had developed worries about managing at home, such as dealing with pain and fatigue, confusion about medications, managing shopping, hygiene and house duties and meals.

*I received a written sheet about my medications, but it would have been good if it could have been explained in more detail before I left hospital. Mrs S*

#### Use of the Discharge Planning Checklist

Approximately 90% subjects in the intervention phase recalled the Discharge Planning Checklist. The responses to the specific interview questions about the checklist indicated that the amount of time subjects had to read and

consider it was constrained by short hospital stays. For approximately 35% subjects, their capacity to read and understand the checklist whilst in hospital was compromised by not having their reading glasses handy, not having visitors to assist with reading, not being well enough to appreciate the checklist contents, or simply losing, or forgetting to read, the checklist.

*I think it was very useful dear. I just wish I had been able to read it in hospital. I took it home with me and read it later, and realized that it would have helped a lot if I had been able to look at it earlier.* Mrs H

Responses to the usefulness of the checklist were encouraging. 89% subjects considered the checklist to be relevant to them (or if not to them, then relevant to others of a similar age with similar health problems), and 81% subjects considered that the checklist contents were useful in assisting them to think about issues related to returning home that they might not have otherwise considered.

*It was very good to be prompted about practical things about going home. I hadn't thought much about how I was going to get food once I got home, that was a bit of a surprise to me, and it was good to be able to plan for this while I was still in hospital.* Mr D

*None of the things in that paper were really relevant to me. My wife looks after all those things. I suppose they may be useful to other people though. It was a good idea.* Mr P

Patients with carers highlighted the usefulness of the checklist in providing points of discussion with family or friends whilst in hospital. It appeared from subject comments that carers obtained as much, if not more, information from the checklist, than they did. Typical comments were:

*My wife (carer) hadn't thought about how she would go shopping after I got home. She doesn't drive and we realized after reading the paper (Checklist) that we would have to get our groceries delivered until we got organized. We wouldn't have thought of that ourselves until after I got home.* Mr D

*My husband and I have a large dog who gets very excited. When we read the brochure we realized that we would have to consider the dog when I went home as he would need the same amount of exercise, but could also be a nuisance for me until I got steadier on my feet.* Mrs T

*The nurses said they would organize someone to come and help me shower and dress, but my wife and I realized after reading the checklist that our bathroom and toilet were going to be difficult for me to get around in. We were able to talk to the nurses about this before we went home.* Mr & Mrs B

Over 95% of the patients who recalled receiving the checklist considered that it should be widely available for all older people admitted to hospital. However patients commonly mentioned that the checklist should be provided to patients and families immediately on admission, so that the maximum amount of hospital time could be spent considering the contents. In ranked order, the most useful checklist aspects were staying at home safely (67%), driving and transport (61%), medications (52%), pets, garden and house care (46%), getting home successfully (42%), services that could help you manage (38%), and equipment that could help you manage (36%).

#### Key themes from interview

The frequency with which key themes were recorded is reported in Table 3.

**Table 3.** Key patient themes and the frequency with which they were mentioned (*listed in alphabetical order, and reported as percentage of the total number of comments made in each phase (N=208 for Control, and N=95 for Intervention).*)

|   | <b>Control</b> | <b>Intervention</b> |
|---|----------------|---------------------|
| Conserving energy post-discharge        | 5.8            | 5.3                 |
| Core ADLs problematic                   | 11.5           | 13.7                |
| Family or friends as carers             | 20.7           | 15.8                |
| Fear of falling                         | 2.4            | 4.2                 |
| Good medication info in hospital        | 6.3            | 12.6                |
| Ill spouse                              | 0.5            | 4.2                 |
| Kept too long in hospital               | 1.4            | 1.1                 |
| Left hospital too early                 | 1.4            | 2.1                 |
| Loneliness                              | 0.5            | 0.0                 |
| Managing house/garden difficult         | 2.9            | 2.1                 |
| No discharge problems                   | 3.8            | 8.4                 |
| Ongoing medication problems             | 5.3            | 3.2                 |
| Paid carers prior to, or post discharge | 7.2            | 5.3                 |
| Physical/ emotional shock               | 1.0            | 1.1                 |
| Post-illness morbidity still preset     | 6.3            | 3.2                 |
| Problems sleeping                       | 1.0            | 0.0                 |
| Receiving community services            | 1.9            | 1.1                 |
| Satisfactory hospital stay              | 7.2            | 8.4                 |
| Tiredness                               | 9.6            | 6.3                 |
| Transport problems                      | 2.9            | 1.1                 |
| Unsatisfactory hospital stay            | 0.5            | 1.1                 |

Similar themes were raised in each phase. Consistent, albeit non-significant, differences in frequency of response were observed between control and intervention phases regarding the themes of:

- Family or friends being asked to help as emergency carers (unplanned) (20.7% (control), 15.8% (intervention))
- Good medication information provided in hospital (6.3% control, 12.6% intervention)
- No discharge problems (2.9% control, 8.4% intervention)
- Continuing post-illness morbidity (6.3% control, 3.2% intervention)
- Continuing tiredness (9.6% control, 6.3% intervention).

These consistent differences suggested that using the checklist may have pre-empted a number of post-discharge problems.

The key themes were combined into broader groupings to reflect core aspects of subjects' experiences post-discharge. The groupings and the frequency of responses within them did not differ between the study phases. This provides insights that could be incorporated into survey

questions for research on aged people's experiences post-hospitalisation. The broad grouping of key themes comprised:

- Immediate post-discharge physical and mental changes
- Recovering at own pace
- Information on medication
- Constraints on usual activities of daily living
- Formal caring assistance
- Informal caring assistance

### **Discussion**

This paper reports on an effective, practical discharge planning aid (checklist), which can be used as an adjunct to formal discharge plans. It was developed from feedback by patients and their carers, and focuses on everyday aspects of returning home from hospital, that could enhance patient confidence and ownership about returning safely and sustainably to their home.<sup>22-27</sup> The checklist can be handed to the patient or carer (family) by any hospital staff member, and should not require additional staff time to administer it. The checklist provides a vehicle for patients and staff to interact on issues that are important to patients

when they leave the hospital bed, but may not be recognised, or addressed, in formal discharge plans.

#### *Loss to follow-up*

Attempts to contact subjects who did not respond to the first telephone contact were made at least twice more at different times of the day, including evenings and weekends as appropriate. This approach should have elicited contact with subjects who were living at the address provided. We wondered whether some of the non-contacts may indicate readmission to hospital (in addition to the known readmission rate). If this is so, then this suggests that approximately 50% of the loss to follow-up in both the control and intervention phases could have resulted from readmission to hospital.

#### *Length of stay in hospital*

Length of stay in hospital was short in both study phases, with similar measures of variability, despite a range of conditions being reported as the reason for admission. This may well reflect the pressures on hospital beds and discharge practices, rather than the severity or complexity of the illness. This suggests that many patients were discharged from hospital still suffering from the effects of the condition for which they were admitted, thus increasing the need for good preparation for managing safely at home.

#### *Discharge planning activities in hospital*

The qualitative findings regarding the amount of time spent with patients by hospital staff in planning their discharge suggests that little patient-centred time was spent. However, the short length of stay and the generally unwell nature of patients during, and after, their hospital stay may have produced difficulties in accurate recall.

#### *Evidence of effectiveness*

This study disappointingly provides equivocal quantitative evidence of the effectiveness of the checklist in improving the quality of discharge planning from patients' perspectives. There were however, consistent positive trends for checklist patients to be better prepared for discharge than patients receiving 'usual' discharge planning. The only significant finding was better overall preparation for discharge by patients who used the checklist (compared with controls), particularly in the presence of a carer. Males and females gained equally from using the checklist. A consistent theme from the rich qualitative evidence from patients' experiences confirmed that the checklist empowered them to plan ahead to deal with practical issues of returning home from hospital, that they may otherwise not have considered. Routine use of the checklist could provide an effective, cost-efficient adjunct to more formalised discharge plans made by hospital staff.

The general absence of significant differences between phases in the quantitative PREPARED domain scores suggests the presence of confounders for which we could not adjust (for instance, the illness state, the shock of being hospitalized, the effect of new medications, the time of year of admission etc).

Moreover, the PREPARED domains may be insensitive to change following the administration of the checklist, where changes in the domains could be expected more with more overt discharge planning activities such as organization of support services, or provision of medication advice. Additional questions regarding patient empowerment and involvement in discharge planning may be required in PREPARED to measure more subtle influences of the checklist on patient preparation.

#### *External generalisability of the intervention*

The Discharge Planning Checklist provides a rare intervention which is potentially generalisable across hospital sites, patient types and staff complements. This claim is made in consideration of the nature of interventions published in the discharge planning literature (1), and of the recommendations made in the systematic reviews of this literature that interventions should not be dependent on staff availability, specific hospital environment or staff training.<sup>1-18, 22-27</sup> The Discharge Planning Checklist is currently presented as a written brochure (simple language, large font, usual terminology). Culturally-appropriate brochures in other languages could be developed, and the checklist contents could be validated for younger patients, or tailored for patients with specific conditions. Barriers to using the checklist in its current brochure form could be poor patient vision, limited patient written literacy, not receiving the checklist on admission to hospital or not understanding the checklist implications. Alternative methods of delivery of the information in the checklist could be considered, such as audiotapes, in-house video or large print posters.

#### **Conclusions**

This study suggests that the Discharge Planning Checklist is a useful patient-centred adjunct to formal discharge planning practices. The checklist, used in hospital, prompts patients and their family / friends to consider a range of practical aspects of returning home, which should enhance formal post-discharge services and positively impact on post-discharge experiences.

#### **Author contributions**

KG and JM were responsible for project conceptualization, obtaining appropriate funding, data analysis and manuscript preparation and review.

MG, RP, LD, AY and YD were responsible for conducting the study, data analysis and manuscript preparation and review.

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## Appendix 1: DISCHARGE PLANNING CHECKLIST FOR PATIENT & CARER

This checklist is to prompt you (the patient) and your carer, family and friends to consider a range of practical aspects about your return home after being in hospital. It is very important that, during the time you are in hospital, you make time to talk through all of the items on this list with your visitors to make sure that you are fully prepared for discharge.

The items on this list have been identified by other patients like you, as things that worried them after they had been discharged from hospital, and which they wished had been brought to their attention before discharge. Being safe and confident after leaving hospital will happen if you consider the practical aspects of managing at home when you are not feeling the best. This checklist will get you started. Not all the concerns on this checklist may be relevant to you, and there may be other things that we have not mentioned that are important. Please write these down and sort them out before going home.

Remember, if there are any issues that worry you about going home, make sure that you have worked out a solution before you leave hospital!. If you cannot find a solution yourself, your nurses and doctors can advise you and can help you make plans. Don't leave any problem to sort itself out!

### GETTING HOME SUCCESSFULLY

Q1 Do you, or your family, have the keys to your home?

YES

NO

**If this is a problem, how can it be solved?**

---

Q2 How will you get home from hospital?

---

**If this is a problem, how can it be solved?**

---

Q3 Do you have sufficient money with you for the first few days out of hospital?

YES

NO

**If NO, can you arrange to have money available?**

---

**If this is a problem, how can it be solved?**

---

Q4 Does your home need to be cleaned before you get out of hospital?

YES  NO  **If YES, who can do this for you?**

---

**If this is a problem, how can it be solved?**

---

Q5 Are there fresh groceries at home in preparation for discharge? (e.g. fresh bread, milk, fruit, meat and vegetables?)

YES  NO  **If NO, is there anyone who can organise these for you?**

---

**If this is a problem, how can it be solved?**

---

Q6 Do you have adequate heating/cooling immediately you get home?

YES  NO  **If this is a problem, how can it be solved?**

---

Q7a Do you need to pay any urgent bills in the first few days after going home?

YES  NO

---

Q7b Who might help you do this?

---

**If this is a problem, how can it be solved?**

---

Q8 Do family/friends need to be contacted to advise them that you are going home?

YES  NO  **If YES, who will do this?**

---

**If this is a problem, how can it be solved?**

---

---

Q9 Does anything else worry you about going home?

YES

NO

**If this is a problem, how can it be solved?**

---

### STAYING AT HOME SAFELY

Q10 Do you feel confident about preparing and eating food when you go home?

YES

NO

**If this is a problem, how can it be solved?**

---

Q11 Do you have adequate lighting in your house, particularly over steps, in the bathroom and toilet?

YES

NO

**If NO, can you organise short term solutions?**

---

**If this is a problem, how can it be solved?**

---

Q12 Would you like to take home a brochure or information about personal alarms, or other services?

YES

NO

**If this is a problem, how can it be solved?**

---

Q13 Does anything else worry you about managing once you are at home?

YES

NO

**If this is a problem, how can it be solved?**

---

### AVOIDING ISOLATION

Q14 Is there anyone who can give you a phone call every day for the first few weeks that you are home?

YES

NO

**If this is a problem, how can it be solved?**

---

### SOMEONE TO CARE FOR YOU

Q15a Do you have a carer (someone who can assist you with aspects of daily living after you leave hospital)?

YES  NO  **If NO, do you need assistance at home?** YES  NO

Q15b **If YES, does this person live at the same address as you?** YES  NO   
**If this is a problem, how can it be solved?**

---

Q15c Have you discussed with this person what they might need to do for you, and how often this will happen?

YES  NO  \_\_\_\_\_

Q15d Are you and your carer confident that you can both manage every day?

YES  NO  **If NO, you will both need to discuss this with hospital staff and work out a solution**

There may be someone who could come and stay with you for a night or two.

---

### ARE YOU ARE A CARER FOR SOMEONE ELSE?

Q16a Do you regularly care for someone else? (an ill spouse, child, friend, neighbor or grandchild, etc.?)

YES  NO  \_\_\_\_\_

---

Q16b What arrangements have been made for this person whilst you are in hospital?

---

Q16c What arrangements need to be made to assist you both when you go home?

---

## YOUR GENERAL MEDICAL PRACTITIONER [GP]

Q17a Do you have a regular GP?

YES  NO

**If this is a problem, how can it be solved?**

---

Q17b Do you see more than one GP?

YES  NO

Q17c Which GP needs to be told about your trip to hospital?

---

Q17d Does he/she do home visits?

YES  NO

Q17e Who will let him/her know that you are coming home from hospital?

---

## MEDICATIONS

Q18 Do you feel you need more education and/or assistance with your medications before you leave hospital?

YES  NO

**If this is a problem, how can it be solved?**

---

Q19 Do you understand about how any new medications work along with the ones you were taking previously?

YES  NO

**If this is a problem, how can it be solved?**

---

Q20 Are you taking any herbal / naturopathic remedies?

YES  NO

***If YES, make sure you tell hospital staff about these, as some can react with your medications***

---

Q21a Do you have enough medication to last for the first few days after discharge?  
YES  NO  **If NO, how will you obtain your medications?**

---

Q21b Within the next few days, you may well need to visit your GP for further supply of your medications and then arrange for the prescription to be filled by a Pharmacist. Think about how you will do this.

---

### SERVICES THAT COULD HELP YOU MANAGE AT HOME

Q22a Were you receiving community health or support services before coming to hospital?  
YES  NO

---

Q22b Do these services know you are in hospital?  
YES  NO

Q22d Are you expecting these services to be available for you as soon as you leave hospital?  
YES  NO  ***If Yes, make sure that someone tells the service when you are going home***

Q23 Do you know if new community health or support services have been arranged for you?  
YES  NO  ***Make sure you have their details so you can follow them up***

---

### EQUIPMENT THAT COULD HELP YOU MANAGE AT HOME

Q24a Do you feel you need any equipment to help you manage in your house (eg walking frame, stick, rails etc)?  
YES  NO  **If YES, do you have all the advice that you need?**

Q24b If you have been given equipment whilst in hospital, are you confident that you can use it properly at home?

YES  NO

**If this is a problem, how can it be solved?** \_\_\_\_\_

---

Q25 If you already have equipment at home, will it still be adequate?

YES  NO

**If this is a problem, how can it be solved?**

### PETS, GARDEN AND HOUSE CARE

Q26a What arrangements have you made for your pets while you are in hospital, and after you go home?

---

Q26b Are you worried about managing your pets when you go home?

YES  NO

**If this is a problem, how can it be solved?**

---

Q27a Do you think you can manage the house and garden when you go home?

YES  NO

**If NO, what tasks are urgent?**

---

Q27b Do you know of anyone who could help you with house or garden chores?

YES  NO

**If NO, do you know who to contact for assistance?**

### DRIVING and TRANSPORT

Q28a Do you drive a car?

YES  NO

Q28b **If YES, have you discussed with staff whether you are still well enough to do this?**

YES  NO

MAKE SURE THAT YOU ASK HOSPITAL STAFF BEFORE YOU LEAVE, WHEN YOU MIGHT EXPECT TO RETURN TO DRIVING.

Q28c If you are unable to drive, what alternatives are available to you for transport?

---

Q28d *Think about how many times you currently go out to shop each week.*

Will your shopping habits have to change if you can no longer drive a car?

YES

NO

**If this is a problem, how can it be solved?**

---

### THINGS TO DO BEFORE YOU GO HOME

Speak to at least one hospital staff member about how long it might be before you will be feeling better and can expect to resume usual activities.

If your physical abilities have changed as a result of your illness, make sure you understand about what you can and can't do when you go home.

Ask staff questions about what has happened to you, and what changes you can expect in your health and daily activities once you return home.

## Appendix 2: Question content of the process domains of the PREPARED instrument [28]

### a) Domain 1: Support structures

| Patient Questions   | Score    |
|---|----------|
| <b>Section II Q5</b><br>How much information did <b>you</b> receive on how you would manage your usual activities when you went home? (e.g. shopping, showering, bathing, dressing, toileting, feeding, mobility, transportation) | 2        |
| <b>Section II Q6</b><br>How much information did <b>you</b> receive on community health services you might use once you went home?<br>(e.g. Domiciliary Care, District Nurse, Meals on Wheels)                                    | 2        |
| <b>Section II Q7</b><br>How much information did <b>you</b> receive on equipment you might need once you went home?<br>(e.g. rails, shower chair, walking aids)   | 2        |
| <b>Section III Q1</b><br>Did anyone arrange community services for you?<br>(e.g. Domiciliary Care, District Nurse, Meals on Wheels)   | 1        |
| <b>Section III Q2</b><br>Did anyone arrange equipment for you?  | 1        |
| <b>Possible total</b>   | <b>8</b> |

### b) Domain 2: Medication and management issues

| Patient Questions   | Score |
|---|-------|
| <b>Section II Q1</b><br>How much information did <b>you</b> receive about the medications that you were to take home? | 2     |
| <b>Section II Q2</b><br>How much information did <b>you</b> receive about the side effects of the medications         | 2     |

|  |   |
|--|---|
| that you were to take at home?                                     |   |
| <b>Section II Q3</b>   |   |
| Were <b>you</b> given written instructions about your medications? | 1 |
| Possible total   | 5 |

**c) Domain 3: Concerns with community management (post discharge)**

| Patient Questions  | Score    |
|--|----------|
| <b>Section III Q3</b>  |          |
| Was there any other information <b>you</b> would have liked whilst you were in hospital to prepare you for coping at home? | 1        |
| <b>Section V Q1</b>  |          |
| Has anything been worrying <b>you</b> , about managing at home?  | 1        |
| <b>Possible total</b>  | <b>2</b> |

**d) Domain 4: Control of circumstances.**

| <i>Patient Questions</i>                                  | Score    |
|---|----------|
| <b>Section IV Q1</b>                                      |          |
| How confident did <b>you</b> feel about managing at home? | 2        |
| <b>Section IV Q2</b>                                      |          |
| Were there any delays?                                    | 1        |
| <b>Possible total</b>                                     | <b>3</b> |