



## Australian and New Zealand Society for Geriatric Medicine

### Position Statement 15

#### Discharge Planning

1. Discharge planning is an important component in providing a smooth transition from hospital to home for older patients. These processes are becoming even more important as there are increasing numbers of patients in hospital with multiple chronic and disabling conditions in the setting of an ageing population.
2. Discharge planning should start from the beginning of a patient's admission to hospital. For elective patients, discharge planning should start prior to admission.
3. A comprehensive geriatric assessment should be performed in older patients, particularly those who have functional impairment, multiple comorbidities or complex social issues<sup>1</sup>.
4. Discharge planning and assessment of post acute care requirements should be performed by a multidisciplinary team in all patients but particularly if the risk screen determines that the discharge needs of the patient are complex.
5. Risk screening should include assessments of:
  - i) pre-morbid function and disabilities
  - ii) pre-morbid cognitive function and mood
  - iii) current social situation and supports available at home
  - iv) pre-admission service utilisation and carer capability
6. Positive outcomes resulting from efficient discharge planning include a reduction in the length of stay, reduction in re-admissions, better medical outcomes and improved satisfaction for patients and carers.
7. There should be pre-discharge education particularly about medication awareness and management in the community. The patient's capacity to self-medicate should be assessed or an alternative method of medication administration should be introduced, eg. blister packs, dosette boxes&/or carer administration of medications or nursing administration (eg. district nursing services).
8. Communication with the patient's general practitioner should occur in a timely manner, with a comprehensive discharge summary should accompany the patient and a copy sent to their general practitioner at the time of discharge outlining the clinical course in hospital, any complications, changes to management and support services enlisted.
9. There should be timely access to community support services on discharge from hospital to ensure continuity of care and adequate medical follow-up.

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## Background Paper

### Introduction

In Australia and New Zealand, the population is ageing as a result of sustained low fertility and increasing life expectancy.<sup>2</sup> Furthermore, the percentage of people aged 65 years and older has increased from 11.1% of the population in 1990 to 13.6% of the population in 2010.<sup>2-4</sup> This is projected to nearly double over the next 20 years and in New Zealand, the over 65's will make up a quarter of the population by the late 2030's. The burden on health services is anticipated to increase significantly due to the fact that hospital utilisation rates increase with age which will represent a significant challenge for hospitals in the future.<sup>5</sup> Hospitalisation rates are high for older Australians. In 2011-2012, persons aged 85 and over accounted for approximately 7% of all separations and the number of separations in this group increased by an average of 9% each year between 2007-2008 and 2011-2012.<sup>6</sup> Separation rates are increasing at a greater rate among older patients, even after adjusting for population growth.<sup>7</sup> With the increase in projected hospital utilisation, the demand for quality discharge planning and the provision of health and related services in the community in the immediate period after discharge from acute hospital care are emerging as important issues. The reduction in hospital length of stay under current funding arrangements, as well as explicit government policy to substitute community for institutional care has led to an increased emphasis on the provision of formal community services to support older patients discharged from hospital.

There is a perception that discharge planning and organisation of post acute care services leads to better outcomes. This review was performed to examine the effectiveness of discharge planning in improving patient outcomes and reducing health care costs. Although there is substantial literature surrounding the effectiveness of in-patient geriatric and evaluation units, orthopaedic geriatric services and stroke units, which is relevant to the matter of discharge planning for older people, a detailed analysis of these particular strategies was beyond the scope of this review. This review looks at the role of discharge planning but has

references to post acute services where they play an integral role in the discharge process.

### Definitions

Discharge planning is defined as a "systematic, organised and centralised approach to providing continuity of care from the time a patient is admitted to a health care facility through return to the community".<sup>8</sup> It is the development of an individual discharge plan for the patient prior to them leaving the hospital for home and has been described as the "critical link between treatment received in hospital by the patient and the post-discharge care provided in the community".<sup>9, 10</sup> Discharge interventions aim to smooth the discharge process and prevent, ease or solve problems in patient's functioning and health after discharge.<sup>11</sup> The goal of discharge planning is to facilitate transition of care back to the community.<sup>12</sup> Post-acute care programs refer to programs that specifically organise or provide health and related services in the immediate post discharge period. Although it can be argued that discharge planning and post acute care programs are not identical, there is considerable overlap in their functions in preparing a patient for discharge from hospital. Post acute care programs play a role in organising the post-discharge requirements for patients and in some instances are involved directly in patient care in the immediate period after discharge from hospital. In some hospitals the role of the post acute care program is to take on the role of discharge coordination and planning for patients with complex needs.<sup>13</sup>

### Care planning

Assessment and planning occurs during the hospital admission with the objective of organising care and ensuring patients are in such a condition that they can be discharged back to the community and not be readmitted due to complications or deteriorate after discharge.<sup>11</sup> The aim is to reduce delays in discharge from hospital so that the length of stay is as short as possible. Factors identified in delaying discharge from hospital include inadequate assessment by health care professionals eg. poor knowledge of patient's social situation, poor organisation of services and poor communication

between hospitals and community service providers.<sup>9</sup> Care providers also need to know about available services before they can offer it to their patients. Some physicians still demonstrate an unsatisfactory level of knowledge and awareness in regards to discharge planning.<sup>14</sup> Care planning involves understanding the patient and their ongoing needs which relies on a thorough knowledge of the patient's medical conditions, their physical function and social set up. A comprehensive geriatric assessment can be incorporated into discharge planning and there are standardised assessment instruments that can aid in this assessment.<sup>1,9</sup> This assessment can help to identify factors which may need to be addressed either prior to discharge or in the community. Comprehensive geriatric assessments are not wholly focused on the discharge process itself but instead on improving the functional health status of the patient and promote independent living through medical intervention and rehabilitation.<sup>9</sup>

#### **Outcomes of discharge planning**

Outcomes of effective discharge planning can be classified as "patient centred" and "hospital centred". Patient centred outcomes include:

- Improved patient and carer satisfaction
- Improved access to community services and support
- Reduced short and medium term morbidity
- Reduced mortality

Hospital centred or health financier centred outcomes include:

- Reduced length of stay and episode cost
- Reduced likelihood of unplanned readmission to hospital
- Reduced health care expenditure

The literature pertaining to discharge planning can be broadly described as comprising descriptive and intervention studies. The descriptive studies aim to analyse patient populations with a view to understanding their needs and the potential health care service responses. These studies have a strong emphasis on diagnosing health service delivery problems, and on establishing processes

to identify "high risk" patients. The intervention studies evaluate a range of strategies devised to improve outcomes. Firstly, descriptive studies are reviewed.

#### **Patient satisfaction and consumer feedback**

Few studies were identified which assessed patient satisfaction with discharge programs. Consumer satisfaction surveys of varying degrees of sophistication have been incorporated into studies examining the impact of discharge planning.<sup>15-17</sup> Some have studied satisfaction with the discharge process itself and these have shown that patients often feel that they are not provided with enough information or given adequate notification of discharge. One study found that at least 10% of patients indicated that they were not given sufficient information at the time of discharge.<sup>15</sup> Dissatisfaction rates among readmitted patients were almost twice those of patients who were not readmitted. One study found that one third of patients were not informed of their discharge date until the actual day of discharge.<sup>16</sup> Therefore, a discharge date needs to be estimated early in the course of the admission to enable time for the organisation of appropriate post acute care services. This discharge date should be reviewed regularly throughout the admission to ensure that the patient is making the expected recovery.

Several North American and British studies report disparity between expectation of service requirement and receipt, with levels of up to 30% being reported.<sup>18, 19</sup> Of greater relevance is the patient perception of post-discharge interventions organised and implemented as an integral part of discharge planning, by hospital based discharge-planning staff. There is some evidence that such interventions may be associated with improved patient satisfaction and quality of life.<sup>14, 17, 20, 21</sup> One study showed that patients had better quality of care scores when they are involved with the discharge planning process and they had increased knowledge about whom to contact about care/services at three and twelve months.<sup>17</sup> In Australia, a controlled study performed looking at the introduction of a re-engineered surgical service, consisting of preadmission assessment and education, admission on day of surgery, and post acute care after discharge found

an increase in the patient satisfaction rate.<sup>22</sup> Interpretation of patient satisfaction surveys however is difficult as subjects' replies depend on many other factors such as educational level, social circumstances and general expectations of the role of hospital staff, which may influence responses to a greater degree than the process of discharge and post acute interventions. An Australian study found that highly valued aspects of discharge planning for all involved (patients, carers and hospital staff) include: (1) communication with the patient and education (2) providing information on medications (3) provision of information on community services and equipment.<sup>23</sup>

Consumer feedback is an important concept in discharge planning. Patients as consumers need to have an understanding of the aims of discharge planning and should be able to have input into this process. Active participation by patients and their carers can enhance the adherence to a discharge plan, such as medication compliance.<sup>24, 25</sup> A New Zealand study found that 17% of patients wanted to know more about their medications, and some people were confused about their medications following hospital discharge.<sup>26</sup> Additionally, another New Zealand study found that computer programs that can detect possible adverse drug reactions can help screen and target at risk individuals.<sup>27</sup> Increased knowledge can lead to empowerment of the patient so that they feel more in control in the management of their condition and thus more satisfied with their care.

### **Communication between hospitals and general practitioners**

General practitioners are often the main medical point of contact for patients on discharge from hospital and thus play a vital role in the follow-up of patients post discharge. Thus, the transfer of information between hospitals and general practitioners is a crucial aspect of patient care. Communication of information between hospitals and general practitioners needs to be improved.<sup>28-30</sup> Suboptimal handovers at hospital discharge can lead to increased rehospitalisation and decreased quality of health care.<sup>30</sup> Liaison with the patient's general practitioner during the hospital admission is often beneficial and assists in determining a suitable discharge plan,

particularly for patients with complex needs.<sup>31</sup> On discharge of the patient from hospital, the transfer of information should be timely and contain relevant data. Delayed or lack of communication with the general practitioner can have implications in continuity of care, patient safety, patient and clinical satisfaction and resource use.<sup>28, 32, 33</sup> A recent review found that the availability of a discharge summary at the first post-discharge visit was low (12-34%) and remained poor at 4 weeks (51-77%), affecting the quality of care in 25% of follow-up visits.<sup>28</sup> Another study found that incomplete or non-availability of discharge summaries led to lack of completeness in follow-up tests recommended by the hospital.<sup>34</sup> Other studies have commented on the usefulness of comprehensive discharge summaries and electronic discharge summaries.<sup>30</sup> Other options to facilitate timely transfer of information to general practitioners include web-based discharge summaries.<sup>30</sup> A recent trial found that a multidisciplinary approach in discharge planning which includes liaison with the patient's general practitioner can reduce hospital readmissions and lower hospital costs.<sup>31</sup>

### **Community services and post hospital care**

A wide range of forms of assistance may be offered to patients and their families in the post acute period. These can be broadly classified as follows:

- *Review, advisory and referral services.* This includes review of patient progress, provision of advice or education, and referral to additional services not organised prior to discharge.
- *Treatment services.* These are often a continuation of treatment offered in the inpatient hospital setting. Examples include renal dialysis, pathology tests, wound dressings and rehabilitation services.
- *Support services.* These services assist dependent individuals to manage in the home environment. Such services include assistance with bathing, house cleaning, provision of meals and respite services.

Depending on the nature of service required, the provider may vary. Services of a highly technical nature may only be

able to be provided by the hospital from which the patient was discharged, under the supervision of specialist professionals. This includes hospital substitution programs such as rehabilitation in the home, for example after a stroke. Studies have shown that these programs can be effective.<sup>35</sup> They are cost effective, reduce length of stay in hospital and it has been shown in some studies that participants in a home based rehabilitation program have less adverse events which leads to better outcomes.<sup>35-37</sup> Community providers such as general practitioners or outpatient rehabilitation services may provide less complex treatment services. Assistance to overcome functional dependency is generally offered by the same agencies that provide similar services on a long-term basis to the chronically disabled. Details of which community services are used are also important for future planning of these services. Differing regional discharge practices, service availability and demographic profile complicate the interpretation of the literature and the degree to which findings are applicable at a local level. However studies from Australia and overseas generally show that the three most commonly used services are the “social” services, home meals (meals on wheels) and home help, usually provided by the council and the “medical/nursing” service community nursing, provided by community nursing agencies. An Australian study examined the quality of discharge planning from the perspective of the carer.<sup>38</sup> They found that carers rated the quality of planning for discharge lower than the patient which suggests that carer needs were often not met during this period. The authors concluded that planning for discharge requires more consideration for the carer. Therefore, a holistic approach is recommended which incorporates the needs of both the patient and the carer. A study of eight countries including Australia and New Zealand found that deficits in care management occurred in all countries during hospital discharge and that system innovations are needed to improve outcomes for patients with complex chronic conditions.<sup>39</sup>

### **Cost constraints and reducing length of stay**

In recent decades a progressive decline in average length of hospital stay has been a

universal phenomenon.<sup>9</sup> This results partly from improvements in medical practice and the increase in day admission rates. However, it is also influenced by attempts by government, insurers and hospitals to reduce costs. While limitations in physical space (beds) may contribute, probably the major driving force is the effect on cost-reduction afforded by reducing length of stay. Prospective payment systems based on case mix have probably accelerated this trend. The introduction of Diagnosis Related Groups as a basis for payment to hospitals in the United States of America in the mid 1980s was associated with reduced hospital length of stay, discharge of patients while in less stable condition but no change in readmission rates or 30 day mortality. However, the demand for community services increased.<sup>40</sup> Decreased length of stay reduces the time available to organise care requirements following discharge from hospital which impacts on discharge planning. This is likely to increase the risk of patients being discharged with inadequate or inappropriate services. Further, if it is assumed that the recovery path is unchanged, the period of dependency following an acute illness will increasingly be transferred to the post-discharge period, where the responsibility of care will lie with families and formal community service providers. In effect, this represents cost shifting by the hospital to the community which may not necessarily eventuate in an improvement in patient or societal welfare. In fact, some studies suggest that shorter length of stay is associated with higher rates of re-admission, but an exclusive statistical relationship has not been established.<sup>41</sup> A recent Cochrane meta-analysis found that hospital length of stay was statistically significantly reduced for patients admitted to hospital with a medical diagnosis who received discharge planning as an intervention (mean difference length of stay -0.91, 95% CI -1.55 to -0.27).<sup>42</sup> Conversely, another meta-analysis from Fox et al<sup>12</sup> did not find a difference in hospital length of stay.

### **The intervention studies – what is the evidence?**

#### **Introduction and Methodology**

Studies published since the mid 1980's have focused on evaluating the impact of

discharge planning and/or post acute care programs. The literature was reviewed in order to identify evidence that discharge planning and post-acute strategies in acute care produce any of the benefits described earlier in this paper. Thirteen studies were identified in the previous version of this position statement in 2008.<sup>43</sup> An additional four studies have been identified for this review.<sup>44-47</sup> All seventeen studies met the following criteria:

- There was a prospective experimental design with a control group
- There was a clearly defined intervention related to discharge planning and / or provision of post acute care
- There was an adequate sample size
- Older patients constituted a major proportion of the subjects involved
- There was a minimum of three months follow-up

#### *Study populations*

Six studies<sup>46, 48-52</sup> used age cut offs to recruit patients. Four of these studies,<sup>48, 49, 51</sup> recruited patients greater than 75 years of age, the study by Legrain et al<sup>46</sup> recruited inpatients aged 70 and older and the study by Siu et al<sup>50</sup> had patients greater than 65 years of age. The Post Acute Care study in Australia<sup>53</sup> used medical and surgical patients aged 65 years and over. Two studies recruited only general medical inpatients<sup>54, 55</sup> Smith et al<sup>54</sup> recruited 1001 consecutive patients admitted to a general medical inpatient unit with an average age of 53 years. The study by Fitzgerald et al<sup>55</sup> studied 688 veteran patients with an average age of 64 years and the study by Legrain et al<sup>46</sup> recruited from six acute geriatric units in Paris and its surroundings.

Seven studies targeted specific patient groups. Rich et al<sup>56</sup>, Harrison et al<sup>45</sup> and Laramie et al<sup>44</sup> recruited patients with congestive cardiac failure, Naylor et al<sup>57</sup> recruited cardiac medical and surgical patients, Weinberger et al<sup>21</sup> studied patients with a diagnosis of congestive cardiac failure, chronic obstructive airways disease or diabetes mellitus, Lin et al<sup>47</sup> recruited hip fracture patients and Legrain et al<sup>46</sup> recruited inpatients from an acute geriatric unit.

#### *Interventions*

Thirteen studies incorporated discharge planning into the intervention. One study<sup>58</sup> had discharge planning only, by social workers, as the intervention. Five<sup>56, 59, 60 45, 47</sup> of the thirteen studies incorporated a nurse mediated home visit following discharge from hospital. Two studies<sup>52, 60</sup> also had a pharmacist intervention performed on 'high risk' patients and three other studies<sup>21, 44, 59</sup> had telephone-follow-up performed after discharge. One study focused predominantly on the purchase and provision of services following discharge.<sup>53</sup> The DEED II study incorporated a Comprehensive Geriatric Assessment followed by a multidisciplinary outreach service up to 28 days following discharge from the Emergency Department. Le Grain et al<sup>46</sup> used geriatrician intervention targeting three components (1) comprehensive chronic medication review, (2) education on self-management of disease and (3) detailed transition-of-care communication with outpatient health professionals.

#### *Outcomes of intervention studies - Mortality*

The capacity of discharge planning and post acute care programs to influence patient centred outcomes remains largely unanswered. Only one study had an impact on patient survival and this effect remained sustained up to 18 months in the cardiac subgroup of the trial.<sup>60</sup> Another study which performed a multifaceted intervention on patients with heart failure showed a trend towards the reduction of mortality suggesting that targeting cardiac medical patients, in particular those patients with congestive cardiac failure may provide the largest benefit on patient survival. Two recent meta-analyses did not find a significant difference in mortality between the intervention and control groups.<sup>12, 42</sup>

#### *Functional status*

Six studies examined physical function<sup>14, 47, 48, 50, 57, 59</sup> as an outcome measure. The study by Caplan and colleagues<sup>51</sup> demonstrated a reduction in physical decline as measured by the Barthel Index and Lin et al<sup>47</sup> showed a trend to better functional status with the discharge planning intervention. No differences were observed between intervention or control patients in the other studies. These findings suggest that discharge planning

and/ or post acute care programs have a minimal impact on changes in the level of disability. Other studies and meta-analyses have come to the same conclusion.<sup>9, 11, 61</sup>

#### *Patient satisfaction and quality of life*

With regard to patient satisfaction there was little evidence that discharge planning had sustained effects. In fact, one study<sup>50</sup> somewhat paradoxically demonstrated that intervention patients were less satisfied with the quality of post acute care. The authors suggested that their intervention might have raised patient expectations beyond those of the control group. The study by Weinberger et al<sup>21</sup> demonstrated an increase in patient satisfaction, despite increased readmissions in the intervention group. The study by Lin et al<sup>47</sup> did not find a difference in patient satisfaction compared to the control group. Three studies that demonstrated improvement in quality of life were targeted at cardiac failure patients<sup>45, 56</sup> and all patients who had short term service provision and case management.<sup>53</sup>

#### *Hospital readmissions and length of stay*

The effect of the interventions on hospital based outcomes is more promising. All 17 studies used hospital readmissions as one of the main outcome measures. Of these, 11 studies<sup>44-46, 48, 51, 53, 56-60</sup> reported a reduction in readmission rates. Three factors were identified that reduce hospital readmission rates; (1) active discharge planning, (2) targeting high risk patient groups and (3) home visits.

(1) Active discharge planning. Ten of the eleven successful trials offered assistance, usually guided by a protocol, in preparing patients and carers for the hospital discharge. The study by Townsend et al<sup>48</sup> offered no formal discharge planning, although care attendants visited patients before they were discharged and were involved in organising help from family, friends and statutory services. This service could have therefore taken on a proxy discharge planning role. In contrast, discharge planning was only offered in one unsuccessful trial.<sup>21</sup>

(2) Targeting of high risk patient groups. Of the 11 studies with a reduction in readmission rates, three studies did not have specific targeting of a high risk

patient group.<sup>48, 51, 53</sup> Four studies<sup>44, 45, 56, 57</sup> targeted cardiac patients. Three studies<sup>44, 45, 56</sup> enrolled only patients with an admission diagnosis of congestive cardiac failure while Naylor et al<sup>57</sup> enrolled both cardiac medical and surgical patients. Interestingly, there was no difference in readmission rates in the surgical group of patients.

(3) Home visits. Five trials with improved readmission rates used home visiting as a major feature of the intervention<sup>48, 51, 56, 59, 60</sup>. Only two out of the five studies identified with no improvement in readmission rates had home visits incorporated as part of their intervention.<sup>49, 50</sup>

Apart from the lack of interventions highlighted above, three of the six studies<sup>21, 54, 55</sup> that were unable to show reductions in readmission rates relied on telephone and outpatient follow-up. In the study by Weinberger et al,<sup>21</sup> readmission rates were actually increased in the intervention group over a six month follow-up period.

Only five studies<sup>21, 47, 53, 57, 58</sup> reported length of stay of the initial admission, which is surprising given the increasing preoccupation with Diagnosis Related Group (DRG) based prospective payment systems. Four studies that involved discharge planning as a component of the intervention demonstrated no difference in length of stay of the index admission.<sup>21, 47, 57, 58</sup>

#### *Nursing home admissions*

Five studies<sup>49-51, 54, 58</sup> looked at the effect of their intervention on discharge disposition in the form of nursing home admissions. Two studies which showed a reduction in nursing home admissions over the follow-up period had a social worker driven discharge planning intervention<sup>58</sup> and a post-discharge home visit intervention by nurses and general practitioners.<sup>49</sup> The studies by Siu et al<sup>50</sup> and Caplan et al<sup>51</sup> in which the intervention consisted of a comprehensive geriatric assessment, showed no impact on discharge to nursing homes. In the study performed by Smith and colleagues<sup>54</sup> there was no difference in groups in terms of nursing home placement in a 6 month follow-up period with a protocol driven telephone follow-up intervention supported by a general medical outpatient service.

### Cost-effectiveness

Six of the trials<sup>53, 55-57, 59, 60</sup> included an analysis of cost of delivering the intervention. In five studies, there were substantial reductions in cost in the intervention group, but in only three studies<sup>53, 56, 59</sup> were the differences statistically significant. However, the studies failed to analyse in detail community or non-hospital services costs, an important component in assessing the efficacy of discharge planning and post acute interventions from a health financier's perspective.

### Discussion

The role of discharge planning in achieving a successful outcome in reducing readmissions to hospital may be mediated through a variety of mechanisms. For example, patient education may result in improved compliance with treatment regimes, including medications and lifestyle advice. Other advantages of discharge planning include providing psychological support and appropriate formal home care services. These 17 studies were primarily designed to ascertain whether the intervention could influence readmission rates. The capacity of these or similar interventions to influence other health outcomes largely remain unanswered given the heterogeneity of the studies. However, the evidence available in these studies suggests that the effects on outcomes such as physical function and quality of life are likely to be weak.

### Conclusion

This is an updated review of the 2008 Australian and New Zealand Society for Geriatric Medicine position statement on discharge planning.<sup>43</sup> The conclusions are similar; significant sub-groups of acute hospital patients are at risk of adverse outcomes, which the evidence suggests are at least partially preventable through careful discharge planning. A variety of strategies are available to identify most of these patients during the inpatient episode. The intervention studies suggest that interventions targeted at high risk patients have the capacity to reduce readmission rates for these patients during the first few months after discharge. The evidence suggests that carefully designed discharge planning and home based

review protocols implemented by health professionals, perhaps in a multi-disciplinary team setting, with a focus on patient education, treatment compliance, and review of service requirements can achieve optimal results.

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