

Discharge planning is an important component in ensuring that there is a smooth transition from hospital to home for older patients. These processes are becoming more important as there is an increase in absolute numbers of patients with multiple chronic and disabling conditions. The ANZSGM recommends that these guidelines be taken into account in order to ensure appropriate care of older patients discharged from hospital.

1. Discharge planning should be commenced from the time a patient is admitted or as soon as practically possible. It is important that an accurate diagnosis and management plan is instituted as early as possible in the patient's admission. Comprehensive geriatric assessment should be performed in older patients, particularly those who have cognitive impairment, functional impairment, multiple comorbidities or complex social issues. For elective patients, discharge planning should start pre-admission.
2. Risk screening should be performed early in an admission and should include assessments of:
 - i) pre-morbid function and disabilities
 - ii) pre-morbid cognitive function and mood
 - iii) pre-admission service utilisation and carer capability
 Risk screening will identify patients who are likely to require inpatient multi-disciplinary comprehensive assessment, inpatient post-acute care including for maintenance of function and complex discharge planning.
3. Discharge planning and assessment of post acute care requirements should be performed by a multidisciplinary team as soon as possible during a patient's admission if the risk screen determines that the discharge needs of the patient are complex. Staff involved in discharge planning need to be aware of community services available.
4. 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 if
 5. Positive outcomes resulting from efficient discharge planning include a reduction in the length of stay and better medical outcomes due to a reduction in hospital acquired complications.
 6. There should be adequate communication and discussion with the patient, relatives and/or carers in regards to the discharge plan. Consumer feedback is an important element of discharge planning which may improve adherence to an agreed discharge plan.
 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 and if there are problems with this the patient should have the opportunity to receive education and training. Failing this, an alternative method of medication administration should be introduced. Examples of these are blister packs, dosette boxes and carer administration of medications.
 8. Communication with the patient's general practitioner should occur in a timely manner and important ongoing aspects of patient care should be communicated verbally to the general practitioner where possible.
 9. A discharge summary should accompany the patient and a copy sent to their general practitioner. This discharge summary should describe the patient's clinical course in hospital as well as any changes to medication management during the inpatient period. A record of all support services should be documented. This record needs to be legible.
 10. There should be timely access to support services and adequate medical follow-up in the community. Relevant community or support services should be available to the patient when they are discharged from hospital to ensure continuity of care. The patient should have a follow-up medical appointment with their general practitioner .

Background Paper

Introduction

In Australia, the percentage of people aged 65 years and older is 13% of the population.^{1,2} The population aged 65 years and over is projected to nearly double over the next 20 years. 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.³ Hospitalisation rates are high for older Australians. In 2004-2005, there were 782 hospital separations per 1,000 people aged 65-74 years, 1,102 per 1,000 people aged 75-84 and 1036 per 1,000 people aged 85 years and over.¹ Separation rates are increasing at a greater rate among older patients, even after adjusting for population growth.⁴ 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 towards 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 strategies is 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”.⁵ It is the development of an individual discharge plan for the patient prior to them leaving the hospital for home.⁶ Discharge interventions aim to smooth the discharge process and prevent, ease or solve problems in patient’s functioning and health after discharge.⁷ 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.⁸

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.⁷ 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.⁶ 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 standardized assessment instruments that can aid in this assessment.^{6,9} 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.⁶ Knowledge of local post-acute services is also vital as these services aid in the discharge transition from hospital to home.

Outcomes of discharge planning

Outcomes of effective discharge planning can be classified as “patient centred” and “hospital centred”.¹⁰ 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.^{11, 12} 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.¹¹ 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.¹²

Several North American and British studies report disparity between expectation of service requirement and receipt, with levels of up to 30% being reported.^{13, 14} 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.^{15, 16} 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.¹⁷ 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. Nevertheless, 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.¹⁸

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. It has been found that active participation by patients and their carers can enhance the adherence to a discharge plan, such as medication compliance.^{19, 20} Also, 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

The transfer of information between hospitals and general practitioners is an important aspect of patient care. There is a need to improve communication of information between hospitals and general practitioners.^{21, 22} Liaison with the patient's general practitioner during the hospital admission can be beneficial and aid in determining a suitable discharge plan, particularly for patients with complex needs. 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.^{21, 23, 24} 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.²¹ Another study found that incomplete or non-availability of discharge summaries lead to lack of completeness in follow-up tests recommended by the hospital.²⁵ 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 from hospital.

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.²⁶ 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 better outcomes.²⁶⁻²⁸ 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.²⁹ They found that carers rated the quality of planning for discharge lower than the patient which suggests that carer needs may 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.

Cost constraints and reducing length of stay

In recent decades a progressive decline in average length of hospital stay has been a universal phenomenon.⁶ 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.

Decreased length of stay reduces the time available to organise care requirements following discharge from hospital. This is likely to increase the risk of patients being discharged with inadequate or inappropriate services. Further, if it 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,³⁰ but an exclusive statistical relationship has not been established.³¹

Prospective payment systems based on casemix 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.³²

The intervention studies – what is the evidence?

Introduction and Methodology

Recent 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 which 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

Five studies³³⁻³⁷ used age cut offs to recruit patients. Four of these studies,^{33, 34, 36} recruited patients greater than 75 years of age and the study by Siu et al³⁵ had

patients greater than 65 years of age. The Post Acute Care study in Australia³⁸ used medical and surgical patients aged 65 years and over. Two studies recruited only general medical inpatients^{39, 40} Smith et al³⁹ recruited 1001 consecutive patients admitted to a general medical inpatient unit with an average age of 53 years. The study by Fitzgerald et al⁴⁰ studied 688 veteran patients with an average age of 64 years.

Seven studies targeted specific patient groups. Four of these six studies recruited patients with specific diagnoses. Rich et al⁴¹ recruited patients with congestive cardiac failure, Naylor et al⁴² recruited cardiac medical and surgical patients, Weinberger et al¹⁶ studied patients with a diagnosis of congestive cardiac failure, chronic obstructive airways disease or diabetes mellitus.

Interventions

Ten studies incorporated discharge planning into the intervention. One study⁴³ had discharge planning only, by social workers, as the intervention. Three^{41, 44, 45} of the seven studies incorporated a nurse mediated home visit following discharge from hospital. Two studies^{37, 45} also had a pharmacist intervention performed on 'high risk' patients and two other studies^{16, 44} had telephone-follow-up performed after discharge. One study focused predominantly on the purchase and provision of services following discharge.³⁸ 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.

Outcomes of intervention studies

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.⁴⁵ 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.

Five studies examined physical function^{33, 35, 42, 44} as an outcome measure. Only the study by Caplan and colleagues³⁶ demonstrated a reduction in physical decline as measured by the Barthel Index. No differences were observed between intervention or control patients in any of 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.^{6, 7, 46}

Patient satisfaction

With regard to patient satisfaction and quality of life there was little evidence that discharge planning had sustained effects. In fact, one study³⁵ 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. Only the study by Weinberger et al¹⁶ demonstrated an increase in patient satisfaction, despite increased readmissions in the intervention group. Two studies that demonstrated improvement in quality of life were targeted at cardiac failure patients⁴¹ and all patients who had short term service provision and case management.³⁸

Hospital readmissions

The effect of the interventions on hospital based outcomes are more promising. All 13 studies used hospital readmissions as one of the main outcome measures. Of these, 8 studies^{33, 36, 38, 41-45} 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. Seven of the eight successful trials offered assistance, usually guided by a protocol, in preparing patients and carers for the hospital discharge. The study by Townsend et al³³ 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.¹⁶

(2) Targeting of high risk patient groups. Of the 8 studies with a reduction in readmission rates, three studies did not have specific targeting of a high risk patient group.^{33, 36, 38} Two studies^{41, 42} targeted cardiac patients. Rich et al⁴¹ enrolled only patients with an admission diagnosis of congestive cardiac failure while Naylor et al⁴² 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^{33, 36, 41, 44, 45}. Only two out of the five studies identified with no improvement in readmission rates had home visits incorporated as part of their intervention.^{34, 35}

Apart from the lack of interventions highlighted above, three of the five studies^{16, 39, 40} that were unable to show reductions in readmission rates relied on telephone and outpatient follow-up. In the study by

Weinberger et al,¹⁶ readmission rates were actually increased in the intervention group over a six month follow-up period. Only four studies^{16, 38, 42, 43} reported length of stay of the initial admission, which is surprising given the increasing preoccupation with Diagnosis Related Group (DRG) based prospective payment systems. All three studies that involved discharge planning as a component of the intervention demonstrated no difference in length of stay of the index admission.^{16, 42, 43}

Nursing home admissions

Five studies^{34-36, 39, 43} 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 intervention⁴³ and a post-discharge home visit intervention by nurses and general practitioners.³⁴ The studies by Siu et al³⁵ and Caplan et al³⁶ 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 colleagues³⁹ 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^{38, 40-42, 44, 45} 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^{38, 41, 44} 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. Other advantages of discharge planning may include providing psychological support and appropriate formal home care services. These 13 studies, for the most part, were designed primarily 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 review was undertaken to assist in the development of the ANZSGM policy statement on discharge planning. It has identified that 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 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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This position paper should be read in conjunction with Position Paper 14: Guidelines for the Management of Elderly Patients Presenting to Emergency Departments

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