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A Review of Bed Utilisation in the West of Ireland

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Abstract
To ensure efficient use of Irish acute hospitals, the study aimed to assess the appropriateness of admission and days of care. The Appropriateness Evaluation Protocol (AEP) was applied to a stratified random sample of 286 medical and surgical, elective and non-elective patients from four acute hospitals in the west of Ireland. A total of 23 patients (8%) were inappropriately admitted. Of these, 15 (65%) could have been avoided. Of the 34 elective/booked admissions, seven (21%) were inappropriate in terms of location of surgery criteria. Over three quarters of elective patients (77%) were admitted one or more days prior to surgery which was not justified for 13 (57%) of these patients. Over a quarter of days of care (n = 73, 26%) were inappropriate. Evidence of discharge planning was found for 48% of patients. The study provides a benchmark to monitor progress. Existing policies and programmes should be implemented and monitored.

Introduction

Ireland's older population has experienced significant growth. The CSO have projected that those over 65 years will increase from 532,000 in 2011 to 1.4 million by 2046.[1] As a result, forecasts estimate that there will be a 60% increase in demand for acute hospital services by 2020.[2] It is therefore vital that acute services make efficient use of their resources. In Ireland, the Health Service Executive (HSE) has developed performance indicators based on the appropriateness of acute hospital admission and days of care. The study aimed to monitor performance of four acute hospitals in the west of Ireland in terms of these indicators to identify any shortfalls and gaps.

Methods

Hospital utilisation was assessed using the Appropriateness Evaluation Protocol (AEP); a validated tool that assesses appropriateness of admission and days of care.[3] This has been used in a number of other Irish studies.[2,4] It contains a list of objective criteria that require a patient to be in an acute hospital. All four acute hospitals within counties Galway, Mayo, and Roscommon were selected. For each hospital, a random sample of medical and surgical, elective and non-elective patients were selected from patient lists for the day of the study from the patient administration system. Sample size calculation was based on the total number of medical and surgical beds for each hospital. As with previous Irish studies,[2,4] a sample of 50 patients was selected for hospitals with less than 100 patients (Merlin Park Regional Hospital, Portiuncula Hospital), 75 for hospitals with 100-299 patients (Mayo General Hospital;), and 125 for hospitals with over 300 patients (University Hospital Galway). This provided statistically representative data (95% confidence interval for proportions). Trained staff administered the protocol over a four day period in April 2012 (one day for each participating hospital). Reviewers followed a code of confidentiality with anonymised data analysed using IBM SPSS Statistics V20. Independent T tests and Pearson's Chi square was utilised to analyse key patterns.

Results

Profile

Of the 286 patients included in the study, 153 (54%) were male and 131 (46%) were female. The mean age was 68.97 years (male = 68.58, female = 69.60) with almost two thirds (64%) over 65 years of age. There were no significant differences in mean age by gender (independent t test, t = -.525, p = 0.600). A total of 185 (65%) patients were medical with 99 (35%) surgical.

Source of Referral

Over a third of referrals (n = 107, 38%) were from GPs. Other sources of referral included self referrals (n = 54, 19%) outpatients (n = 44, 16%), other hospitals (n = 20, 7%), private clinic (n = 4, 1%) and 'other' (n = 54, 19%). A variety of referrals classified as 'other' including elective (n = 10, 4%), ambulance (n= 5, 1%), accident and emergency (n = 6, 2%), and medical assessment unit (n = 5, 2%).

Appropriateness of Admission

A total of 263 patients (92%) were classified as appropriate and 23 (8%) as inappropriate hospital admissions. There were no significant differences in the appropriateness of admission between medical or surgical (χ^2 = 0.024, df = 1, p = 0.877), or by source of referral (χ^2 = 0.692, df = 2, p = 0.708). A larger proportion of those admitted for elective surgery were inappropriate admissions (18% compared to 7%). These

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differences were statistically significant (Fishers Exact Test, p = 0.047). For appropriate admissions, the main AEP criteria met was for intravenous medication (n = 151, 53%) and for fluid replacement (n = 103, 36%). These were the only criteria met for 65 patients (23%). Of the inappropriate admissions, 15 (65%) could have been avoided if other treatment was given. The main treatments that would have avoided admission (Table 1) included the access to diagnostics (n= 4, 29%), and access to pre-operative assessment (n = 3, 21%), and for the patient to stay at home with support via normal access to their GP (n = 3, 21%).

Appropriateness of Elective Admissions

Of the 34 elective/booked admissions, 27 (79%) were classified as appropriate in terms of location of surgery criteria. The main criteria met was the requirement for general or regional anaesthesia lasting more than 90 minutes (n = 15, 44%), surgery of an internal organ (n = 15, 44%), and the need for post-operative care (n = 8, 24%). The seven cases that were deemed to be inappropriate in terms of location of surgery did not meet any of the listed criteria. Examination of these cases indicated that there were no documented criteria that made them different to other cases having the same procedures within the particular specialities. In terms of timeliness of surgery, seven patients (23%) had surgery on the day of admission with 23 (77%) admitted one or more days prior to surgery. The delay in surgery was not justified for 13 (57%) of these patients.

Table 1 Main ways Inappropriate Admissions could have been Avoided

Main ways admission could have been avoided	No.	%
Access to pre-operative assessment	3	21.4
Own home with GP support (no additional supporting services other than normal access to their GP)	3	21.4
Home with home care package	1	7.1
Home with nursing support	1	7.1
Non acute bed with therapy support (placement in community hospital, residential or nursing care home with direct input from therapy services)	1	7.1
Access to diagnostics	4	28.6
Other	1	7.1

Appropriateness of Day of Care

The appropriateness of the care received on the day of the study was examined for each patient. A total of 213 patients days of care (75%) were appropriate, with 73 patients (26%) days of care classified as inappropriate. There were no significant differences in the appropriateness of days of care between medical or surgical (χ^2 = 0.016, df = 1, p = 0.899), or elective and non elective patients (χ^2 = 0.467, df = 1, p = 0.494). For appropriate days of care, the main criteria met was the requirement for parenteral therapy (n = 119, 42%), close medical monitoring (n = 76, 39%), intake and output measurement (n = 75, 26%) and respiratory care (n = 37, 13%). Parenteral therapy was the only requirement on the day of care for 38 patients (13%). In terms of the inappropriate days of care, Table 2 shows that the main factors delaying discharge were waiting for a consultant decision to discharge (n = 13, 18%), investigations or the results of investigations (n= 12, 16.4%), and a rehabilitation/step down bed (n = 7, 10%). In addition, Table 3 shows that the main discharge choices that would help reduce length of stay were the provision of a non acute bed with (n = 14, 19%) and without (n = 9, 12%) therapy support, and access to assessment/diagnostics (n = 10, 14%) and care for the patient at home via normal access to their GP (n = 9, 12%).

Evidence of Discharge Planning

Evidence of discharge planning (discharge date recorded) was found for 48% (n = 136) of patients with no significant differences between medical or surgical (χ^2 = .809, df = 1, p = 0.368), or elective and non elective patients (χ^2 = 2.725, df = 1, p = 0.099).

Table 2 Main Factors Delaying Discharge for Inappropriate Days of Care

Main factors delaying discharge	No.	%
Consultant decision to discharge	13	17.8
Review/assessment by other Consultant	1	1.4
Review/assessment by other health professional	5	6.8
Investigations or result of investigations	12	16.4
Transfer to other acute facility	1	1.4
Nursing home bed	2	2.7
Rehabilitation bed (specifically designated – e.g. National Rehabilitation Hospital)	7	9.6
Home care package	4	5.5
Needs further monitoring	2	2.7
Continuing IV antibiotics	2	2.7
Awaiting/having further treatment	4	5.5
Needs isolation with nursing care	1	1.4
Social work referral	1	1.4
Other	3	4.1

Table 3 Discharge Choice that would Reduce Length of Stay for Inappropriate Days of Care

Discharge choices	No.	%
Own home with GP support (no additional supporting services other than normal access to their GP)	9	12.3
Home with home care package	4	5.5
Home with nursing support	3	4.1
Home with therapy support	2	2.7
Non acute bed with therapy support (placement in community hospital, residential or nursing care home with direct input from therapy services)	14	19.2
Non acute bed without therapy support (placement in community hospital, residential or nursing care home; no direct input from therapy services)	9	12.3
Access to assessment/diagnostics	10	13.7
Palliative care	1	1.4
Awaiting bed in another acute facility	1	1.4
Nursing home or long term care	1	1.4
Rehabilitation bed (specifically designated – e.g. National Rehabilitation Hospital)	1	1.4
Other	6	8.2

Discussion

At the time of the study over two thirds of medical and surgical, elective and non-elective patients admitted to the hospitals in the study were over 65 years of age. With the older population projected to more than double by 2046,[1] appropriate utilisation of acute services is important if future demands on services are to be met. On admission to hospital, 8% of medical and surgical patients in the study did not require admission in terms of AEP criteria.[3] This level is lower than that found in the HSE in 2007 (13%),[2] and in the study area in 2010 (12.5%, unpublished data), and lower than that found in the HSE South (20%).[4] It is encouraging that a downward pattern has emerged. In terms of the reasons for inappropriate admissions, almost two thirds could have been avoided if alternative services were available, demonstrating significant scope to reduce inappropriate admissions. Key services include non acute services (e.g. non acute beds, home based supports), access to diagnostics, and pre-operative assessment. Many of those appropriately admitted in terms of AEP criteria could also have been treated in the community if services were developed. For example, 23% were admitted for intravenous medication and /or fluid replacement and did not require any other treatment. Whilst these treatments have traditionally been provided by acute hospitals, they can also be given in a non acute setting. Treatments can be administered by health professionals or self administered at home.[5] Chapman et al[6] for example report that outpatient parenteral antibiotic therapy (OPAT) has become

established in several countries and is cost effective. OPAT has now been established in HSE West and it is anticipated that this will lead to more efficient hospital utilisation. The need for community based services can also be seen in examining days of care. Of the days of care classified as inappropriate (27%), over a quarter were waiting for a less acute or step down facility elsewhere, with 16% only requiring parenteral therapy.

In examining elective admissions, seven (21%) were inappropriate terms of location of surgery criteria and could have been admitted as day cases. This compares to 11% for the Hospital Group in 2010 (unpublished data); 25% in the HSE South,[4] and 37% in the HSE nationally (2007).[2] Although comparisons are difficult due to small sample size (34 patients), the results are promising. However, in terms of timeliness of elective surgery admission, there remains significant scope for improvement with only 23% of surgery taking place on the day of admission. Over three quarters were admitted one or more days prior to surgery. In 57% of these patients, this delay was not justified. This pattern is similar to that experienced in 2010 (unpublished data). In Ireland, bed pressures have led to admissions the day before surgery to avoid cancellation.[2] To address such issues, the Model of Care for Elective Surgery was developed in 2011 as part of the HSE National Clinical Programme in Surgery.[7,8] Key elements include pre-admission assessment, day surgery, day of surgery admission, and discharge planning. Although there has been a 7% reduction in average length of stay from 2011-2013, 47% of hospitals have not met targets for day of surgery admission,[8] suggesting a need to review the Programme's implementation.

Having a structured discharge plan can reduce length of stay and readmissions.[9] It is disappointing that evidence of discharge planning was only found in less than half the patients in the study (48%). The HSE has developed a code of practice for integrated discharge planning (HSE, 2008). Although this has been introduced in all the hospitals in the study, the results highlight a need for it to be fully implemented and monitored. Ensuring that acute hospitals are utilised appropriately will lead to improved quality of care for all patients attending. The results provide a benchmark to gauge the impact of future developments. Improving services will require a whole systems approach, looking at issues within hospitals and the interaction between hospitals and community services. Policies and programmes have been developed and it is only through implementation that any progress can be made.

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Transurethral Resection of the Prostate – "Now and Then"

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Abstract
The number of transurethral resections of the prostate (TURP) performed each year is decreasing. The aim of this study was to assess a cohort of patients undergoing TURP and compare this to one twenty years earlier in terms of procedure, complications and outcomes. A retrospective comparative analysis of one hundred consecutive TURPs performed in 2010 was compared to one hundred cases performed in 1990. Fifty-five (55%) had a urinary catheter (UC) in situ pre-operatively in 2010 compared to 22 (22%) in 1990. The length of catheterisation time was significantly longer in 2010 compared with 1990 (average 65 days vs 20 days). Infective complications occurred in six (6%) patients in 2010 and three (3%) in the 1990 cohort. Patients who had UCs in situ pre-operatively for longer periods had a higher rate of infective complications and more serious complications. This highlights the importance of early specialist referral for patients diagnosed with urinary retention.

Introduction

With the widespread introduction of a-blocker and 5- a-reductase inhibitor medications for the treatment of benign prostatic hyperplasia (BPH), the number of transurethral resections of the prostate (TURP) performed each year is decreasing[1]. Recent studies demonstrate that 5- a-reductase inhibitors can reduce the lifetime risk of acute urinary retention and the need for BPH-related surgery[2]. TURP is a core urology training procedure but the number of TURPs being performed by current urology trainees is decreasing. A recent publication by Gill et al revealed a recent decline in the numbers of TURPs being performed annually by urology trainees in the UK as assessed by logbooks[3]. The aim of

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