Western Sussex Hospitals NHS Trust

Haven't We Seen You Before?

- Acute Readmissions from an Inpatient Rehabilitation Unit

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Background:

Patients transferred to rehabilitation settings after an acute neurological event often have medical co-morbidities and may require transfer back to the acute medical sector for safe management.

Questions:

- How many Inpatient bed days are lost to patients readmitted to the acute sector?
- Are more patients transferred off the rehabilitation unit inappropriately when senior medical cover is not available ("out of hours")?
- Can we predict which rehabilitation inpatients are more likely to be readmitted to the acute sector?

Methods: A retrospective review of UKROC data for admissions to a level 2 inpatient rehabilitation unit over a 7-year period for patients who were readmitted to the acute wards. Time, date and reason for transfer were assessed to determine if it occurred "in hours" (when senior medical support is available) or "out of hours" (when medical cover is provided by medical trainees) and whether the transfer was appropriate (if the patients' medical needs could not be met on the rehabilitation unit).

An appropriate readmission…
A 70 year old woman with a premorbid history of Parkinson's disease was admitted 15 days after a large posterior fossa bleed. Sustained a fracture of clavicle on home leave at weekend. Developed pneumonia requiring high flow oxygen and intravenous antibiotics/fluids. Eventually required intensive care admission.

An inappropriate readmission…
A 46 year old woman with a large brain stem bleed and insulin treated diabetes developed mildly deranged LFTs and frequent episodes of hyperglycaemia. She was transferred to the acute wards but back to rehabilitation within 48 hours and subsequently investigated appropriately with further imaging and blood tests. No changes to medical treatment.

When do patients need to be readmitted to the acute sector?

- Needing >daily blood tests
- Needing constant / high flow oxygen
- Needing multiple intravenous therapies
- Needing repeated / unpredictable investigations
- Needing repeated / multiple specialty reviews – "out of sight out of mind"

	Number	Age	Wait admission	RCS (med)	PCAT
Readmitted	26	60	44	1.8	33.4
Not	456	60	47	1.5	30.1
p		0.88	0.77	0.04	<0.01

Table 1 – Characteristics of patients readmitted to the acute wards

Appropriate Transfer	"In hours"	"Out of hours"	Total
Yes	12	5	17
No	2	7	9
Total	14	12	

Table 1 – Characteristics of patients readmitted to the acute wards

Results:

- Over 482 patient episodes, there were 26 acute re-admissions, 20 were due to new acute pathology.
- Subsequently 23 were transferred back to the rehabilitation unit after an average of 10 days. This equated to 230 days of lost activity on the unit.
- Patients were more likely to be inappropriately readmitted to the acute sector out of hours when there was no consultant cover available (X^2 = 5.54, p=.012) (table 1).
- There was no difference in the age or wait for admission time for patients who required readmission. Admission Patient Categorisation Tool (PCAT) (p<.01) and medical rehabilitation complexity scale (RCS) element scores (p=.04) were significantly higher for patients requiring acute readmission (table 2). The most common causes for acute readmission are shown (fig 1).

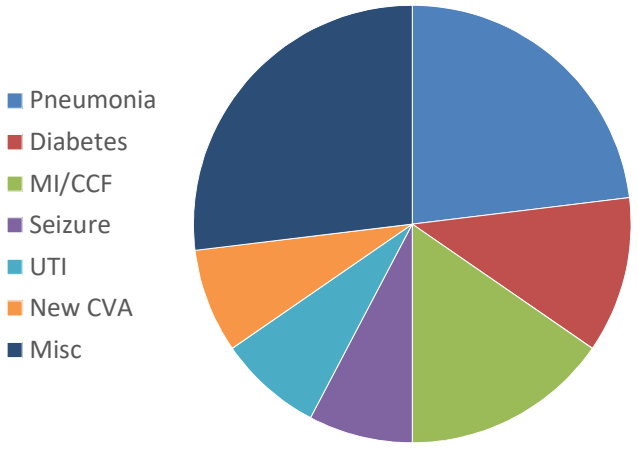

Figure 1 – Causes of acute readmissions from the rehabilitation unit

Changes Implemented:

- Inpatient rehabilitation beds not held for patients transferred off the unit allowing greater throughput.
- Transferred patients reviewed by a senior clinician to determine medical stability and ensure rehabilitation needs are met in the acute sector where possible.
- Out of hours medical management plans documented to aid decision making for acute episodes.