



CHKS

Insight for better healthcare

Hospitals readmissions and the 30 day threshold



A CHKS Market Intelligence report
23rd June 2010

Prepared by: Dr Paul Robinson

Confidential
Contains commercially sensitive information
©Copyright CHKS Limited 2010

CHKS is part of the Capita Group plc

CAPITA

Abstract

The government has made a commitment to ensuring that hospitals are responsible for patients not just during their treatment but also for the 30 days after they've been discharged. Health Secretary Andrew Lansley has said that if a patient is readmitted within 30 days the hospital will not receive any additional payment for this treatment. He has not indicated that there would be any exclusions (although the numbers he quoted appear to have exclusions).

Researchers at CHKS, the market leader in healthcare intelligence and improvement services, carried out an analysis to assess the potential impact of such a penalty. They looked at all hospital readmissions within 30 days using Hospital Episode Statistics (HES) (i.e. the worst case scenario) and found that they are currently costing the NHS around £1.6 billion.

The issue of readmissions to hospital is a complex one. The full detail behind the policy must emerge before further assessment on how it will impact hospitals can be made. Nevertheless all hospitals will now have to start to have a clear focus on this issue.

Perhaps the key question will be whether this helps drive an improved service for the patient.

Context

The full detail behind the policy must emerge before further assessment on how it will impact hospitals can be made. Nevertheless all hospitals will now have to start to have a clear focus on this issue.

According to research carried out by National Centre for Health Outcomes Development (NCHOD) and further work by Finance and Investment Directorate and the NHS Medical Directorate(1) readmissions to hospital have been growing over the past decade.

The most recent figures reflect a number of trends (see below) but one in particular is worth highlighting. For older people alone the number of emergency readmissions has gone up from 88,000 in 1998 to 149,000 in 2006, an average of 1,000 per adult social care authority. It is well understood that older people have higher readmission rates than younger people because they are more likely to be frail, or more likely to suffer from long-term conditions associated with relatively high rates of readmission.

Readmission trends:

- The readmission rate for the 16-74 age group increased from around 7 per cent in 1998/9 to 9 per cent in 2006/7. The equivalent figures for the 75 plus age group are 10 per cent and 14 per cent respectively.
- Over the period 1998/9-2006/7, there has been a shift towards readmissions with a shorter length of stay. The mean length of stay of an emergency readmission has decreased from 8.06 days and 15.94 days in 1998/9, for age groups 16-74 and 75+, to 6.38 days and 13.89 days respectively in 2006/7. This is a reflection of an overall downward trend in lengths of stay.
- Similarly, there has been a considerable increase in the proportion of emergency readmissions occurring within 0 -1 days of the original admission (from 11.4% as a proportion of total in 1998/9 to 14.9% as a proportion of total in 2006/7). Again, this reflects the pattern of emergency admissions in general. In 2009 the proportion of total emergency admissions treated in less than two days exceeded 50% for the first time.

What did we find?

Our analysis using the Hospital Episode Statistics (HES) database show that total readmissions to hospital within 30 days is costing the NHS £1.6 billion(1).

The figures show that of the 14.2 million discharges from hospital in 12 months up to June 2009, in total 916,000 patients (just under 6.5 per cent) were readmitted within 30 days.

It also reveals a wide variation between hospitals with readmissions accounting for up to 15.0 per cent of average turnover in some hospitals to less than 1.0 per cent in others. The average figure per Trust is just over £11 million.

Clearly some of this variation is due to hospital size but this does not account for all of it.

The figures show that of the 14.2 million discharges from hospital in 12 months up to June 2009, in total 916,000 patients (just under 6.5 per cent) were readmitted within 30 days. When the original admissions were examined CHKS researchers found that 70 per cent were emergency admissions, as opposed to being elective (planned).

The health warning that comes with this analysis is that it is a worst case scenario because it includes all readmissions. However, there hasn't been much detail on what will be included and what will be excluded, so it's helpful in terms of assessing the scale of the issue.

The figures quoted by Andrew Lansley appear to exclude some conditions as the numbers are lower than the total here. This may be down to exclusions such as cancer, for example, where further unpredicted treatments may be a necessary part of the disease process. However, the arguments for exclusion and inclusion are complex. At present the statement from the DH is that this will be a matter for local decision between commissioners and providers.

An analysis of readmissions as a percentage of total discharges found the England average to be 6.5 per cent with a range from 10.5 to 0.5 per cent. Again whilst some of this variation may be due to casemix variation between hospitals (exclusions will have an impact) this does not account for all this variation.

In addition we found:

- 70 per cent of the original admissions were emergency admissions, 25 per cent related to elective care and the remaining 5 per cent were either babies or transfers.
- Some Healthcare Resource Groups (HRGs) appeared more frequently than others when looking at volume and percentage of readmission. For example, HRG J12 (drainage of ascites) appears second in the top 20 for percentage of readmissions [see table 1]. This is a condition related to cancer, and often the very late stages before death.
- Three HRGs which appear across all three analyses (D39, D40, D99) – Chronic Obstructive Pulmonary Disease (COPD) (with and without complications) & Complex Elderly with respiratory problems.
- There are 12 HRGs which appear twice in the top 20 of all three analyses. These are respiratory (D41), six relating to general surgery (F03,06,35,36,46,47) and two relating to cancer (S27 & S98).

Table 1: Top twenty readmissions by percentage of readmission by HRG

"HRG of original admission"	Readmissions	Original admissions	%age	"Total Price (of readmissions)"	HRG Description
F45	3,103	11,341	27.4%	£8,734,419	General Abdominal - Diagnostic Procedures
J12	3,331	12,387	26.9%	£10,466,471	Drainage of Ascites
D39	8,048	31,553	25.5%	£16,766,197	Chronic Obstructive Pulmonary Disease or Bronchitis w cc
L01	500	2,120	23.6%	£1,051,840	Kidney Transplant
D23	1,724	7,432	23.2%	£4,498,355	Pleural Effusion w cc
G25	1,945	8,440	23.0%	£3,467,765	Chronic Pancreatic Disease <70
D99	12,578	54,672	23.0%	£33,897,121	Complex Elderly with a Respiratory System Primary Diagnosis
D44	832	3,708	22.4%	£2,152,928	Inhalation Lung Injury or Foreign Body w cc
D40	12,975	57,993	22.4%	£23,795,012	Chronic Obstructive Pulmonary Disease or Bronchitis w/o cc
K17	993	4,464	22.2%	£3,746,079	Diabetes with Lower Limb Complications
D46	454	2,048	22.2%	£1,095,929	Fibrosis or Pneumoconiosis w cc
D48	197	893	22.1%	£491,403	Pneumothorax w cc
E99	6,328	29,327	21.6%	£17,109,184	Complex Elderly with a Cardiac Primary Diagnosis
C99	153	713	21.5%	£403,320	Complex Elderly with a Mouth Head Neck or Ear Primary Diagnosis
G99	224	1,045	21.4%	£632,650	Complex Elderly with a Hepato-Biliary or Pancreatic System Primary Diagnosis
G07	1,934	9,060	21.3%	£5,191,168	Chronic Liver Disorders >69 or w cc
K99	931	4,435	21.0%	£2,731,018	Complex Elderly with an Endocrine or Metabolic System Primary Diagnosis
F03	374	1,788	20.9%	£845,751	Oesophagus - Major Procedures or Prosthesis
F99	1,930	9,293	20.8%	£5,455,203	Complex Elderly with Digestive System Primary Diagnosis
K13	683	3,291	20.8%	£1,302,516	Diabetes with Hyperglycaemic Emergency >69 or w cc

Table 2: Top twenty readmissions by volume of readmission by HRG

"HRG of original admission"	Readmissions	Original admissions	"Total Price (of readmissions)"	HRG Description
N03	24,837	462,046	£19,809,000	Neonates with one Minor Diagnosis
N12	16,186	633,147	£10,824,036	Antenatal Admissions not Related to Delivery Event
L09	13,993	77,002	£32,631,359	Kidney or Urinary Tract Infections >69 or w cc
S16	13,665	100,723	£9,709,891	Poisoning Toxic Environmental and Unspecified Effects
F47	13,490	114,734	£17,694,091	General Abdominal Disorders <70 w/o cc
F46	13,360	78,094	£27,256,397	General Abdominal Disorders >69 or w cc
D40	12,975	57,993	£23,795,012	Chronic Obstructive Pulmonary Disease or Bronchitis w/o cc
D99	12,578	54,672	£33,897,121	Complex Elderly with a Respiratory System Primary Diagnosis
E36	11,555	148,834	£11,771,753	Chest Pain <70 w/o cc
F06	11,500	403,215	£24,482,844	Diagnostic Procedures Oesophagus and Stomach
P13	11,216	84,110	£9,372,515	Other Gastrointestinal or Metabolic Disorders
M09	11,115	70,633	£7,357,514	Threatened or Spontaneous Abortion
S27	10,849	143,002	£24,006,998	Malignant Disorder of the Lymphatic/ Haematological Systems with los <2 days
E35	9,686	73,489	£15,345,335	Chest Pain >69 or w cc
P03	9,028	86,703	£6,611,019	Upper Respiratory Tract Disorders
D41	8,794	58,924	£18,605,337	Unspecified Acute Lower Respiratory Infection
F35	8,676	405,153	£18,318,053	Large Intestine - Endoscopic or Intermediate Procedures
S98	8,477	144,563	£19,639,380	Chemotherapy with a Haematology Infectious Disease Poisoning or Non-specific Primary Diagnosis
D39	8,048	31,553	£16,766,197	Chronic Obstructive Pulmonary Disease or Bronchitis w cc
F36	8,005	60,498	£19,000,956	Large Intestinal Disorders >69 or w cc

Table 3: Top twenty readmissions by price of readmission by HRG

"HRG of original admission"	"Total Price (of readmissions)"	Original admissions	Readmissions	HRG Description
D99	£33,897,121	54,672	12,578	Complex Elderly with a Respiratory System Primary Diagnosis
L09	£32,631,359	77,002	13,993	Kidney or Urinary Tract Infections >69 or w cc
F46	£27,256,397	78,094	13,360	General Abdominal Disorders >69 or w cc
F06	£24,482,844	403,215	11,500	Diagnostic Procedures Oesophagus and Stomach
S27	£24,006,998	143,002	10,849	Malignant Disorder of the Lymphatic/ Haematological Systems with los <2 days
D40	£23,795,012	57,993	12,975	Chronic Obstructive Pulmonary Disease or Bronchitis w/o cc
N03	£19,809,000	462,046	24,837	Neonates with one Minor Diagnosis
S98	£19,639,380	144,563	8,477	Chemotherapy with a Haematology Infectious Disease Poisoning or Non-specific Primary Diagnosis
F36	£19,000,956	60,498	8,005	Large Intestinal Disorders >69 or w cc
D41	£18,605,337	58,924	8,794	Unspecified Acute Lower Respiratory Infection
F35	£18,318,053	405,153	8,676	Large Intestine - Endoscopic or Intermediate Procedures
F47	£17,694,091	114,734	13,490	General Abdominal Disorders <70 w/o cc
E99	£17,109,184	29,327	6,328	Complex Elderly with a Cardiac Primary Diagnosis
D39	£16,766,197	31,553	8,048	Chronic Obstructive Pulmonary Disease or Bronchitis w cc
L48	£15,942,780	804,111	5,942	Renal Replacement Therapy w/o cc
H99	£15,810,167	30,676	5,127	Complex Elderly with a Musculoskeletal System Primary Diagnosis
H41	£15,737,770	47,052	6,869	Sprains Strains or Minor Open Wounds >69 or w cc
E18	£15,694,601	33,092	6,571	Heart Failure or Shock >69 or w cc
S05	£15,369,217	67,378	7,366	Red Blood Cell Disorders >69 or w cc
E35	£15,345,335	73,489	9,686	Chest Pain >69 or w cc

The presumption is that emergency readmissions occur because the patient was not completely treated for their problem on the first admission. Clearly much hospital treatment is for people with both multiple and long-term conditions and therefore this is an oversimplification.

What are the implications?

The presumption is that emergency readmissions occur because the patient was not completely treated for their problem on the first admission. Clearly much hospital treatment is for people with both multiple and long-term conditions and therefore this is an oversimplification. There will always be readmissions to hospital because some are unavoidable and unrelated to previous admission. The analysis does not exclude readmissions to another specialty. Whilst this is possible, there is such a wide range of methods that it is more likely to produce an unrepresentative picture.

Readmissions are not always down to specific failings at hospital level. The number of readmissions depends on the support that is available in the community because hospitals have little control over what happens to patients once they are discharged. CHKS is aware of one hospital which is treating patients from two primary care trusts (PCTs) and the readmission rates are quite different when you look at where they come from.

In addition there are some medical conditions where there is a high likelihood of readmission – for example with late stage cancer. This means a hospital's case-mix will also play a part in the number of readmissions. A good example would be a hospital trust in an area where there is a significant elderly population.

In urban areas, for example in London, where there are many hospitals in close vicinity patients could be discharged from one hospital and readmitted to a different one which will inevitably have an impact on the figures.

However, there are clearly some hospitals that are seeing higher levels of readmissions than others with more patients being readmitted within the 30 day threshold. Treating the patient rather than the symptom is particularly important with long-term conditions such as COPD where readmission can be a sign that the treatment is not being managed effectively. Infections following surgery can lead to readmission and this should not be happening.

However, there are clearly some hospitals that are seeing higher levels of readmissions than others with more patients being readmitted within the 30 day threshold.

Some trusts are still poor at giving good discharge information to GPs in a timely manner which means that patients do not get the support they need. A recent survey by the NHS Alliance found that only half of GPs say the discharge information provided is complete and accurate. Of the GPs who responded 70 per cent had experienced instances in the past year where the clinical care of patients has been compromised because discharge information was late, incomplete, or both. NHS Alliance chairman Dr Michael Dixon said: *"We are now calling on the Department to take action again to ensure hospitals understand that providing medical information to their patients GPs is a vital part of their role."*

Conclusion

Although we have analysed the HES database and discovered a number of interesting trends, there is little hard evidence as to why these readmissions occur. Is it hospitals discharging too early? Or is it down to support in the community from carers/community services/social services, or even GPs?

Hospitals have to deliver cost-effective treatment and the current model of care does not encourage them to wait for a patient to fully recover after treatment. The Audit Commission has produced a number of reports that highlight longer-than-necessary bed stays.

That said better discharge planning that provides healthcare professional and patients with the support and information they need are vital in reducing emergency readmissions. Can hospitals really be expected to be responsible for patients once they are discharged? This would raise significant governance issues. Can they be sure that the appropriate services are provided after discharge? Not completely, but this is the area that they will need to focus on.

Hospitals are going to have to start to put a strong focus on this issue as it represents a significant amount of potential lost income.

Improving the linkages between hospital and community level services could well come about by the integration of PCT provider arm services into acute Trusts – but this is not a universal solution. The strengthening role of GPs as commissioners may also have the opposite effect with more pressure being placed on the hospital to ensure there is less for primary care to pick up on discharge.

There are already a number of strong health economies where the focus has been on getting the right service for the patient, in the right place and then sorting out the financial flows within the rules. If this policy change can help spread this practice it can only be better for the patient.

Whatever the impact of policy changes, one thing is certain; hospitals are going to have to start to put a strong focus on this issue as it represents a significant amount of potential lost income.

Methodology

1. The data source for the analysis was the Hospital Episodes Statistics (HES) database.
2. The data period was July 2008 to June 2009 (allowing for full forward readmissions through the following six months).
3. HRG v3.5 and the 2008/09 tariff was used. HRG version 4 only started to be applied for tariff from April 2010. For the few episodes where the HRG was not identifiable a figure of £1,000 was applied (the overall average was just over £1,500).

References

1. **Emergency readmission rates** - Further analysis:
http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_090052.pdf