Using day case share as a means of detecting anomalies in HRG-based PbR

A report for the Thames Valley Strategic Health Authority

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Executive Summary

- **The definition of 'day case' is subject to enormous differences in classification**
  - Large volumes (>270,000) of 'regular day attender', outpatient procedures/tests and possibly ward attendee's appear to be reported in specific hospitals as a day case
  - Of these 45% are held on a so-called 'planned' rather than 'active' waiting list

- **The volumes are of sufficient magnitude to distort the calculation of HRG average price**
  - In 9 HRG chapters (covering 58% of the national volume of supposed 'day case' procedures) a minimum of 12% of the volume was potentially questionable

- **Under PbR (which uses a combined overnight and day case price) there is considerable potential for windfall profit**

- **Hospitals and PCT's (acting as a provider) claiming to have greater than a 3% share of the national volume in a single HRG can be flagged as potential sources of this abuse**
  - The top 20 hospitals account for 150,000 questionable day case admissions

- **Gross examples of poor/incomplete clinical coding can also be detected leading to allocation into the wrong HRG**

- **Certain HRG appear to be immune to this uncertainty and it is only these HRG where an average overnight & day case price should be used under PbR**
  - These are mainly true surgical procedures where an average overnight and day case price is appropriate

- **In those HRG where there is high uncertainty a better approach is to revert back to separate overnight and day case prices.**
  - In these instances an overnight stay signals a level of resource input which can be orders of magnitude different from that which is otherwise reported as 'day case'.

Background

TVHA has a very low apparent day case rate when assessed using HES data. At the same time all TV Trusts are in the upper quartile of day case performance when assessed using the Audit Commission basket of day case procedures. This gross discrepancy appears hard to resolve.

A detailed review of HES data shows that widespread differences in the interpretation of the definition of 'day case' have led to this discrepancy. This 'abuse' is initiated when any organisation decides that an outpatient procedure/test, regular day attender or even a ward attender should be reported as a 'day case'.

This abuse is easily implemented due to the ambiguity in the clinical coding of a procedure. Having decided that an outpatient procedure or similar attendance will be called a 'day case' the procedure is then given an ICD diagnosis and the nearest fit (sometimes not the best fit) to an OPCS procedure/test code. The HRG grouper then automatically assigns this to a HRG.

Prior to the 2005/06 financial year procedures were paid at the separate overnight and day case tariff. However in a move designed to increase perceived lower efficiency in some Trusts the HRG tariff for 05/06 onward is a single price covering both overnight and day case treatments for the same HRG.

Under payment by results (PbR) this has two effects:

1. The national average price is depressed by the inclusion of potentially large volumes of lower value 'outpatient-type' procedures
2. Those organisations who adopt this practice make large windfall profits since they are paid for a relatively inexpensive outpatient procedure/test at the price of genuine inpatient treatment (overnight plus day case average price).

The evidence shows that this practice is so widespread that particular providers will be given an exceedingly unfair financial advantage while purchasers using these organisations will likewise be receiving exceedingly poor value for money.

Methodology for detecting examples of gross discrepancies

2003/04 HES data was used to do the analysis. Since any discrepancies will result in elevated volumes of 'day case' activity it should be possible to detect gross abuse when a particular organisations share of the national volume of 'day case' activity in a particular HRG is very high.

Table One gives indicative values for the share of the national volume based on relative size for the top 10 largest NHS Trusts. Overnight admissions have been used as the criteria to avoid any distortion due to abuse of the day case definition.

As can be seen the largest provider in England only has a 1.8% share of the national volume. Anything below the tenth largest Trust has a share less than 1% of the national volume.

Table One: Relative share of national volume of overnight inpatient activity for the largest NHS Trusts

Hospital Provider	Share
RWE University Hospitals of Leicester	**1.8%**
RR8 Leeds Teaching Hospitals	**1.7%**
RHQ Sheffield Teaching Hospitals	**1.3%**
RHU Portsmouth Hospitals	**1.2%**
RTD The Newcastle Upon Tyne Hospital	**1.2%**
RWD United Lincolnshire Hospitals	**1.1%**
RWA Hull & East Yorkshire Hospital	**1.1%**
RTH Oxford Radcliffe Hospital	**1.1%**
RHM Southampton University Hospital	**1.1%**
RM1 Norfolk & Norwich Health Care	**1.1%**

For comparison the Thames Valley SHA has a weighted capitation share of 3.6% from 5 large acute trusts operating over multiple sites.

A figure of greater than a 3% share of national volume has therefore been chosen as the point above which gross abuse of the definition of day case is likely to be occurring.

This is the activity equivalent to 3 extremely large trusts or the whole of an SHA.

Examples of Gross 'Abuse'

The interesting finding regarding the >3% share is that it also appears to detect instances of what appears to be poor clinical coding as well as counting of outpatient procedures. Remember that the 3% limit is effectively only detecting gross examples of abuse and many smaller hospitals with >2% but less than 3% share will likewise be practicing abuse of the definition.

One hospital with only a 0.6% national share based on overall size in the 03/04 FY had the following apparent share of day case activity in Ophthalmology HRG's.

HRG	Description	Volume	Share
B15	Other Lens Surgery Low Complexity	453	3.6%
B26	Glaucoma / Uvea Low Complexity	91	3.5%
B29	Surgical Retina Low Complexity	1,027	5.5%
B32	Non Surgical Ophthalmology with los <2 days	404	9.5%

The high volume in HRG B15 is probably due to poor coding by neglecting to add 'Lens insertion' to 'Phakoemulsification of lens' and hence is misallocated cataract surgery.

The very high volume in B26 is probably the tip of the iceberg of clear abuse by counting the outpatient version of inpatient laser iridotomy as a day case procedure.

The exceedingly high volume of B29 is possibly abuse of other outpatient laser techniques or even 'examination of eye under anaesthetic' which all fall within this HRG.

HRG B32 (which is normally reserved for emergency admission) is likewise another example of blatant counting of routine non-surgical tests and examinations as a day case.

This hospital has made a windfall profit of probably more than £500,000 on what are effectively 1,500 outpatient attendances!

Of the Ophthalmology HRG greatest potential for abuse appear to lie in the following areas. B29 (Non-surgical ophthalmology) 7 Trusts with an excess of 6,545 'day case' FCE and B15 (Other lens surgery low complexity) 8 Trusts with an excess of 4,610 'day case' FCE.

One interesting observation is some 6 Trusts with an apparent excess of 1,320 day case FCE in B14 (Non Phakoemulsification Cataract Surgery) which is either an example of poor clinical practice or poor clinical coding.

Table two gives examples of abuse detected in HRG Chapter A (Nervous System) while Table Three gives the aggregate volume across 9 HRG chapters (covering 58% of all reported day case volume in all HRG chapters) for those hospitals with the highest volume of potential abuse of the definition of day case.

As can be seen from Tables Two and Three individual NHS Trusts have the potential to make significant windfall gains from this practice. The Trust at the top of Table Three is effectively reporting a volume of questionable day case which is the size of a small hospital!

Table Two: Examples of hospitals reporting greater than a 3% share of day case in HRG Chapter A

Hospital Size	Excess day case admissions
0.9%	5,873
0.9%	4,039
1.2%	1,172
0.6%	959
0.6%	774
0.5%	632
0.9%	547
1.8%	532
0.5%	524
0.4%	455

With a potential windfall profit well in excess of £100 per 'day case' this translates into a figure greater than £2.6M of 'undeserved' profit.

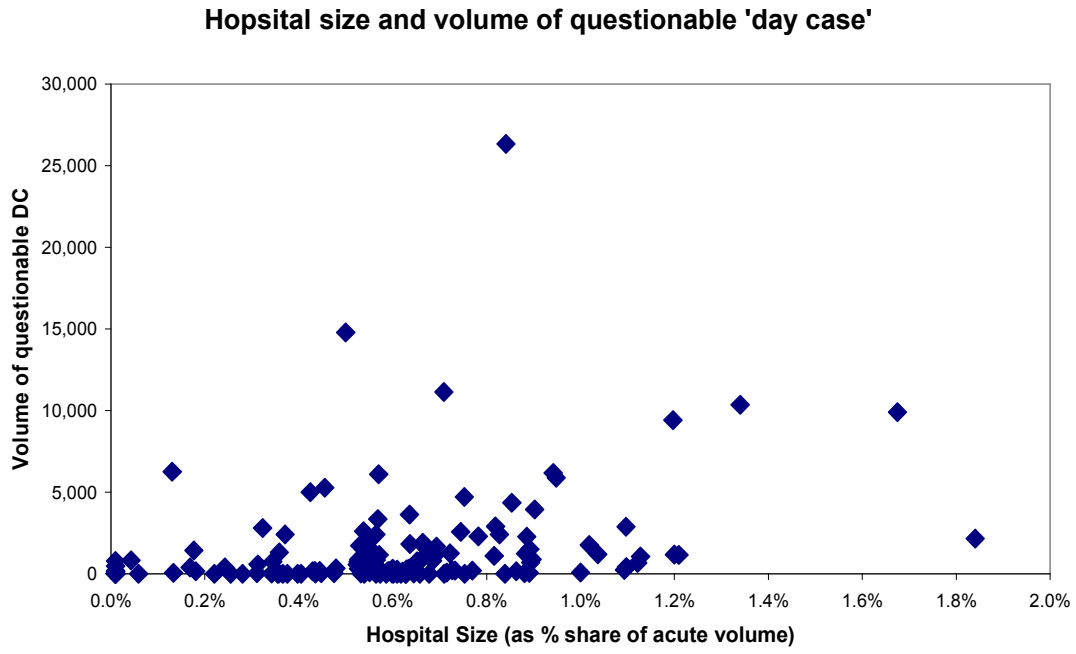
PCTs acting as a provider give some unique examples of the counting of otherwise outpatient attendances. Two PCTs managed to report a 4% and 3% share of the national volume of 'day case' activity in HRG H12 (Foot procedures category 2). It is fairly obvious that the work conducted at these PCTs can in no way compare to that conducted in acute Trusts where the bulk of this work is overnight in nature.

Data covering all hospitals is summarised in Figure One where it is clearly seen that gross examples of abuse are limited to some 30 to 50 hospitals with only 10 to 20 hospitals accounting for the bulk of the questionable volume.

Table Three: Aggregate volume of potential excess 'day case' admissions across 9 HRG chapters

Hospital Size	Excess day case admissions
0.8%	26,316
0.5%	14,789
0.7%	11,132
1.3%	10,351
1.7%	9,914
1.2%	9,412
0.1%	6,251
0.9%	6,178
0.6%	6,098
0.9%	5,873

Figure One: Hospital size and volume of questionable day case activity



HRG which are open to the highest volume of discrepancies

The following table lists the top 20 HRG where the volume of questionable activity is the highest. These 20 HRG account for 62% of all questionable activity identified using the 3% criteria. The table also gives the number of Trusts responsible for the questionable activity – it is surprising to note how few can contribute to such high volumes of activity.

Table Four: HRG where volume of questionable activity is the highest

HRG	Trusts	Volume	HRG Description
L48	4	29,251	Renal Replacement Therapy w/o cc
N12	11	26,143	Antenatal Admissions not Related to Delivery Event
S27	4	10,662	Malignant Disorder of the Lymphatic/ Haematological Systems with los <2 days
M98	11	9,854	Chemotherapy with a Female Reproductive System Primary Diagnosis
S33	8	8,483	Examination, Follow up and Special Screening
A07	2	8,399	Intermediate Pain Procedures
B29	8	7,073	Surgical Retina Low Complexity
M01	7	5,986	Lower Genital Tract Minor Procedures
B15	10	5,346	Other Lens Surgery Low Complexity
S06	4	4,713	Red Blood Cell Disorders <70 w/o cc
H22	3	4,422	Minor Procedures to the Musculoskeletal System
C04	7	4,152	Minor Mouth or Throat Procedures
L30	6	3,954	Prostate or Bladder Neck Minor Endoscopic Procedure (Male and Female)
S98	2	3,920	Chemotherapy with a Haematology, Infectious DisEASE or Non-specific Dx
L45	7	3,914	Extracorporeal Lithotripsy
S11	8	3,652	Disorders of Immunity without HIV/AIDS
M09	10	3,559	Threatened or Spontaneous Abortion
C58	1	3,549	Intermediate Mouth or Throat Procedures
L51	7	3,347	Chronic Renal Failure
S04	8	3,272	Coagulation Disorders

The volume of questionable activity in each of these HRG has several potential causes and consequences

Cause	Consequence
Most other trusts count the attendance as a RDA or an outpatient visit	Different apportionment decisions will lead to discrepancy in prices. Trusts reporting high volumes of ‘day case’ will tend to drive the national average price.