Rod Jones

Is diagnosis a reliable basis for benchmarking and costing?

Over the past 18 years I have been involved in innumerable benchmarking exercises looking to see if admissions for XYZ are higher than expected.

Which leads to the very uncomfortable question – just how accurate is the process of diagnosis and coding?

People then rush off with earnest zeal to 'fix' the problem. For reasons which will become apparent I tend to conduct such exercises using either the raw procedure or diagnosis codes (rather than HRG) and have invariably noted that on every occasion the tail of higher than expected XYZ is always matched by the opposing tail of lower than expected ABC.

Everyone seems to concentrate on the tail of 'higher than expected' and seem to ignore the fact that it is counterbalanced by the tail of 'lower than expected'.

Which leads to the very uncomfortable question – just how accurate is the process of diagnosis and coding?

As you will all be aware the Audit Commission conducts a coding audit each year where the recorded details for 300 FCE are checked against the codes which have been assigned to these FCE.

This audit only addresses the accuracy of the translation of available information about the patient into clinical codes. It does not audit the accuracy of the process of diagnosis.

In this respect the paper by Fink et al (2009) Diagnosis by general practitioners: accuracy and reliability. International Journal of Forecasting 25(4):784-793 is an absolute eye opener.

Only 10% of GP consultations involving the need for a diagnosis result in a confirmed diagnosis, 50% remain 'symptoms' and 40% remain a named 'syndrome'. Translate this into the acute setting and you are starting to get the drift of the argument.

Just prior to the last re-organisation I conducted a large study for the former Thames Valley SHA looking at the benchmarking of acute admissions. The results of this study can be found at

The moral of the story is this. Be very careful before you fervently rush forth to change 'everything'.

http://www.hcaf.biz/forecastingdemand.html under the Benchmarking series of articles.

After adjusting admissions for age, deprivation, ethnicity and students (elective admissions) the resulting apparent admission rates varied enormously by hospital site, i.e. the processes of diagnoses and coding at each hospital site (including multiple sites within the same Trust) were so disparate as to overwhelm any attempt at rational benchmarking.

Figure 1 presents the trend in emergency admissions coded using ICD Chapter 'R' (Signs & Symptoms) for England over the past 11 years.

The trends are headed in the wrong direction and tend to confirm the situation observed for GP's.

If I may respectfully suggest – the diagnosis (and the supporting process of reaching a diagnosis) is not sufficiently robust to support rational attempts to benchmark or to assign admissions to a HRG for the purpose of cost.

The latter explains why the length of stay distribution for each HRG has a huge standard deviation.

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Figure 1: Proportion of emergency admissions coded as 'signs & symptoms'
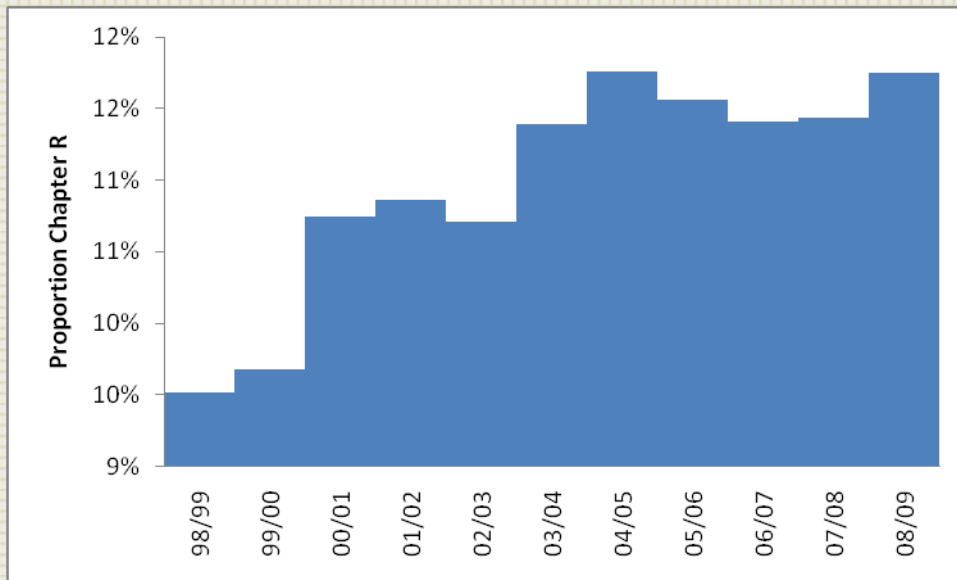
Data from www.hesonline.nhs.uk Calculated proportion excludes maternity and mental health. The basis for the three step increases seen in 00/01, 03/04 and 08/09 has been explained elsewhere http://www.hcaf.biz/emergencyadmissions.html

Dr Rod Jones (ACMA) provides forecasting and actuarial support to health care organisations and can be contacted at: hcaf_rod@yahoo.co.uk