Use of Disease Staging and analysis of untimely admissions in the Abruzzo Region, Italy: implications for clinical management

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Dear Sir;

The Section of Epidemiology and Public Health of the University "G. d'Annunzio" of Chieti, in collaboration with the Centre for Research in Medical Education and Health Care of Jefferson Medical College, Philadelphia, PA, USA, has analysed 350,000 hospital admissions for the year 2001 in the Abruzzo region. Four diseases were chosen for an in-depth analysis. These were: diabetes mellitus; cholecystitis/cholelithiasis; cancer of the female breast and bacterial pneumonia. The total admissions for these conditions were 11,000.

Using the Disease Staging methodology to control for severity, a number of variables were analysed: length of hospital stay, hospital mortality, complications and repeated admissions. In addition, the timeliness of hospitalisation was analysed by grouping admissions into three categories: premature or medically unnecessary, timely, and late. An example of the first type is a patient with an elevated blood sugar but no other complications (Stage 1 Diabetes Mellitus). Appendicitis without rupture is an example of a timely admission (Stage 1 Appendicitis), while empyema in a patient with bacterial pneumonia is an example of a late admission (Stage 2.3).[1] Finally, a number of factors were analysed to determine whether they had an impact on early and late hospitalisations. The variables included in the multivariate analysis were age, gender, area of residence and type of hospitalisation.

The data demonstrated that in the Abruzzo region there are problems with inappropriate hospital admission, both early as well as late. For example, the rate of medically unnecessary admissions for diabetes mellitus was 72% throughout the region, and the percentage of late hospitalisations for cholelithiasis/cholecystitis was 43%.

Problems associated with late admissions present major health management challenges since they have important economical and quality of care implications.[2] The reason for inappropriate utilization depends on a number of factors, which include the competences of the professionals, the ability or willingness of the patients to enter the system at the right time, the quality of the infrastructure available in the region, and, of course, the reward system including regulations.

While use of hospital discharge abstract data has potential problems associated with the quality of ICD-9-CM coding, it is the same data used for hospital financing; additionally it provides the advantage of being able to do large-scale studies.

References

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2) Gonnella JS, Louis DZ, Zeleznik C, Turner BJ. The Problem of Late Hospitalization: A Quality and Cost Issue. Academic Medicine 1990; 65:314-9.