BMC Health Services Research

Meeting abstract

Maximizing the explanation of cost and LOS variation while minimizing the effects of coding

Darren Gerson* and Sheril Perry

Address: Canadian Institute for Health Information, 495 Richmond Road, Suite 600, Ottawa, Ontario, Canada

Email: Darren Gerson* - dgerson@cihi.ca

* Corresponding author

from 23rd Patient Classifications Systems International (PCSI) Working Conference
Venice, Italy. 7–10 November 2007

Published: 26 November 2007

BMC Health Services Research 2007, **7**(Suppl 1):A11 doi:10.1186/1472-6963-7-S1-A11

This abstract is available from: http://www.biomedcentral.com/1472-6963/7/S1/A11

Introduction

In the spring of 2007, the Canadian Institute for Health Information (CIHI) introduced CMG+ (Case Mix Groups+), Canada's acute inpatient hospital grouping methodology. CMG+ uses administrative and clinical data to group patients into clinically relevant and resource-homogeneous groups. CMG+ identifies 21 major clinical categories (MCC), similar to Major Diagnostic Categories (MDC), and 558 CMG (analogous to DRG). CMG+ is an ICD-10-CA and CCI-native grouping methodology that replaces the ICD-9 and CCP based CMG/Plx methodology. (CCI is the Canadian Classification of Health Interventions.)

The impetus for developing a new acute care grouping methodology was two-fold: 1. To maximize the benefits associated with the clinical specificity provided in the updated classification systems ICD-10-CA and CCI. 2. To address the concerns related to coding variation that was observed in the previous CMG/Plx methodology. The complexity (Plx) component of the methodology, introduced in 1997, relied almost solely on comorbid conditions.

Methods

Data mining demonstrated that during the five year period between 1997 and 2001 there was a noticeable increase in the number of comorbid conditions coded in Canadian hospitals. Some portion of this change can be attributed to changing mix of patients and more complete coding; however, much of the increase occurred as a result of unclear rules for capturing comorbid conditions and inconsistent application of coding standards. Due to these inconsistencies, case mix comparisons across hospitals and jurisdictions became increasingly more difficult.

Results

One of the goals in the development of the new CMG+ methodology was to minimize the reliance on comorbid conditions and thus to some extent, minimize the effect of inconsistent diagnosis coding. To do so, CIHI introduced a factor methodology based heavily on interventions, in an attempt to refine the grouping methodology and maximize the explanation of cost and length of stay variation. A methodology based heavily on interventions is less susceptible to coding variation since there is less need for interpretation by the coder and interventions are more easily audited: an intervention either took place or it did not and it was either documented or it was not. As well, although the use of comorbid conditions was not eliminated, the number of conditions considered in the methodology was drastically reduced.

Discussion

The paper will highlight the rigorous approach used to identify comorbid conditions that remain as a part of the CMG+ grouping methodology. Details will be provided on the process of establishing minimum cost impacts for the presence of each comorbid condition and establishing minimum data quality results based on a large scale reab-

straction study. Additionally, the paper will demonstrate through an R-Square analysis the significant effect of the three intervention-based factors: Flagged Interventions, Intervention Event and Out of Hospital Intervention factor. The new CMG+ methodology with the intervention-based factors will be compared to the previous CMG/Plx methodology to demonstrate a marked improvement in ability to account for cost and LOS variation.