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Meeting abstract

New approach to grouping newborn/neonatal patients

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Introduction

In the spring of 2007, the Canadian Institute for Health Information (CIHI) introduced CMG+ (Case Mix Groups+), Canada's acute care 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/CCI native grouping methodology that replaces the ICD-9/CCP based CMG/Plx methodology.

Some of the most significant differences, and improvements, between the old methodology and CMG+ are found within the Newborns and Neonates with Conditions Originating in Perinatal Period MCC. In the neonatal section of the old CMG methodology, cases were assigned to Case Mix Groups based on a set of weight ranges and the presence of particular, but unspecified, diagnoses. No information, other than admission weight and diagnosis, was used to group neonates in this methodology.

Methods

In developing the new CMG+ grouping methodology, considerable thought was given to exploring additional grouping data elements. The elements were evaluated based upon their ability to assist in creating more meaningful groups from a clinical perspective while being able to account for more cost and length of stay variation.

Results

Two additional data elements, as well as one other existing element, were found that demonstrated marked improvements in both cost and clinical considerations. The two new elements, not taken into account by the old methodology, are gestational age and the presence of specific interventions. In addition, the use of diagnoses, which simply supported general categories in the old methodology (minor, moderate, major), was greatly expanded. In CMG+, specific diagnosis categories have been implemented that not only explain costs well but also create much more clinically identifiable and meaningful groups. These three elements have been combined with the series of admission weight ranges to form improved groups in CMG+.

Conclusion

The paper will highlight some of the CMGs resulting from the new approach and will present an R-square analysis that demonstrates clear advances in the explanation of cost variance. It will show that the use of gestational age, interventions, and specific diagnosis groups have helped to create a much more cost-homogeneous and clinically meaningful grouping methodology for newborns and neonates.