

Add Diagnosis-Related Group (DRG) to Visit_Occurrence

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Owner

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Details

Background

This proposal applies only to US Diagnosis-Related Groups (DRGs). DRG is a system to classify hospital cases into one of approximately 500 groups. They have been used in the United States since 1983. There is more than one DRG system being used in the United States, but only the MS-DRG (Medicare Severity Diagnosis Related Grouper) system is used by Medicare. OMOP vocabulary **includes MS-DRG version 33.0 released in October 2015**, the vocabulary_id is 'DRG'.

Presently, US DRG code is stored in the Observation table and linked to Visit_Occurrence table via visit_occurrence_id.

Proposed Change

Move DRG from Observation to the new Cost table as a first class attribute. Link it to Visit_Occurrence table via visit_occurrence_id.

Add the following DRG fields to Cost table:

Field	Type	Required	Description
DRG_concept_id	Integer	No	A foreign key to the predefined concept in the DRG Vocabulary reflecting the DRG for a visit.
DRG_source_value	Varchar(3)	No	The 3-digit DRG source code as it appears in the source data.

Multiple DRG codes

Occasionally, one visit may have multiple DRG codes. In this case, there will be multiple costs associated with these DRG codes. In OMOP CDM, they will be represented by multiple records containing corresponding costs and DRG codes in the Cost table.

Vocabulary mapping

Source codes coming from DRG systems other than MS-DRG should be mapped to concept_id = 0.

Use cases, analytical questions

DRG codes are used in the analysis of cost-efficiency¹ and designs of a hospital payment system². The Affordable Care Act and other recent legislation affect medical reimbursement by altering the DRG system. This legislation will give DRGs an even larger role in determining reimbursements in the coming years.³

Importance, also with respect to other projects

This change is an important enhancement to the model and can be implemented immediately without impacting other projects.

It will have an immediate effect on the three OMOP-based CDRNs: NYC-CDRN representing over 2.5 million patients; pSCANNER covering over 21 million patients; and PEDSnet which includes eight of the nation's largest children's hospitals and provides service to 4.6 million children per year.

Consequences of doing it and not doing it including technical (e.g. implications on vocab, existing software), resources

This change will enhance representation and analysis of DRG codes in OMOP CDM and simplify ETL for the sites that are presently using Observation table.

It will have no implications on vocabulary or existing software.

References

1. Weiland DE, ea. Using Delta/DRG Diagrams and Decision Tree Analysis to Select a Cost-Effective Surgery for Cholecystitis. JSLs. 1997 Apr-Jun.
2. Vertrees JC , ea. Bundling post-acute care services into MS-DRG payments.Medicare Medicaid Res Rev. 2013 Aug 2.
3. Rimler SB , ea. Radiographics. Diagnosis-related Groups and Hospital Inpatient Federal Reimbursement. 2015 Oct.