Diagnosis-related groups (DRGs) were originally developed in the early 1980s as a collaborative project between Robert B. Fetter, PhD, and John D. Thompson, MPH, of Yale University. The DRG classification is intended to categorize patients by their similar clinical characteristics and costs.

In 1983, Medicare adopted the DRG methodology (now known as CMS-DRGs) for hospital inpatient care reimbursement, with the intention of curbing skyrocketing health care costs. Since 1983, many other DRG systems have been developed and used throughout the world, most notably the 3M All Patient Refined (APR) DRG system, which is widely used in the United States for non-Medicare patients.

In 2007, CMS adopted Medicare Severity DRGs (MS-DRGs) to better differentiate patients' severity of illness and associated costs of care. Each of the original CMS-DRGs had either one (singlet) or two (doublet) levels of severity and reimbursement. In contrast, most MS-DRGs have three (triplet) levels, although there are still some singlet and duplet MS-DRGs.

An MS-DRG is determined by the principal diagnosis, the principal procedure, if any, and certain secondary diagnoses identified by CMS as comorbidities and complications (CCs) and major comorbidities and complications (MCCs). A comorbidity is a condition that existed before admission; a complication, in this context, is simply any condition occurring after admission, not necessarily a complication of care. Over 14,000 ICD-10-CM diagnosis codes are designed by CMS as CCs and about 3,200 codes are MCCs.

Every year, CMS assigns a “relative weight” to every DRG. The relative weight determines the reimbursement associated with that DRG and reflects the patient’s severity of illness and cost of care during hospitalization. A higher relative weight is associated with longer length of stay, greater severity of illness, and higher reimbursement. For example, DRG 189 (respiratory failure) has a relative weight of 1.2353 and DRG 312 (syncope) is 0.8015.

The principal diagnosis is the condition established, after complete evaluation, to be primarily responsible for and the primary focus of the admission. The condition, or at least some signs or symptoms (including test results) of it, must have been present on admission. It often takes several days to identify the actual cause of signs, symptoms, and abnormal findings that were present on admission. The “focus” of an admission is an important concept, which should guide the selection of a primary diagnosis. Factors such as severity, risks, complexity of evaluation and care, medications (IV vs. oral) and their risks, diagnostic procedures, number of consultants, and intensity of monitoring (e.g., frequency of vital signs or neuro-checks; nursing time; intensive care) should be considered.

Take, for example, a patient admitted for heart failure and pneumonia where the heart failure responded quickly to IV furosemide with no other particular management required, but the pneumonia was prolonged, requiring pulmonary and infectious disease consults and IV administration of potentially nephrotoxic antibiotics. Pneumonia must be assigned as the primary diagnosis, not heart failure.

The primary diagnosis is determined by the coder, who reviews the entire chart, including documentation by clinicians,