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Commentaries

The classic "Carrot-and-stick approach": Addressing underutilization of ICD-10 increased data granularity

Tobias A. Mattei

Division of Neurological Surgery, Saint Louis University, 1008 S. Spring Avenue, Saint Louis, MO 63110, United States

In this volume of NASSJ, the authors present a very interesting retrospective analysis of code utilization patterns for spinal pathologies using the Humana PearlDiver dataset with the goal of evaluating the impact of the transition between the ICD-9 and ICD-10. The results demonstrated that, despite a five-fold increase in available diagnostic codes for spinal conditions in the ICD-10, providers continued to select a small proportion of less specific diagnostic codes. Interestingly, in the ICD-10 group there was a clear bias toward utilizing less specified codes. Although there have been similar studies in other fields [1–3], this is the first one focusing on spine-related conditions (classified in the ICD code as "dorsopathies").

The International Classification of Diseases Ninth Revision (ICD-9) had been used for almost 40 years. The ICD-10 code which, in the US is composed by two components, an ICD-10-CM for diagnosis coding and the ICD-10-PCS for inpatient procedure coding, was initially supposed to substitute ICD-9 in the Health Insurance Portability and Accountability Act (HIPAA) electronic transaction standards in 2011, but such changes were postponed twice by the Centers for Medicare and Medicaid Services (CMS) with its final implementation taking place only on October 2015 [4].

One of the reasons why providers may prefer to use unspecific codes is that, at least in the initial evaluation, the final diagnosis for that specific patient may still be somewhat undetermined. For example, it seems understandable that a spine surgeon may prefer to use the code for "back pain, unspecified if radiculopathy" for a patient with back and leg pain but without any imaging or EMG/nerve conduction studies, for whom the differential diagnoses could be either sacroiliitis or lumbar radiculopathy.

The study published in this edition of the NASSJ provides additional evidence that, if the change from 14,025 ICD-9 to 69,823 ICD-10 codes was supposed by any means to increase the granularity of data available to CMS and other governmental agencies involved in quality improvement, a carefully designed program for stimulating the desired behavior on an individual level seems of paramount importance.

From a behavioral psychology perspective it seems probable that physicians, who may have no personal interest in increasing the granularity of the information in the data system for governmental agencies, would choose to employ unspecific codes simply because this is the pathway of least resistance. Although recent research has casted some doubt on the classic *Homo economicus* features of optimal behavior, consistency and rationality as accurately describing the typical human behavior [5, 6], it still seems overly uncontested (probably since Adam Smith's "invisible hand" analogy) [7], that self-interests are still the key force which, when harnessed by an optimally designed system, may lead to the common good [8]. In this sense, it seems quite naive to believe that generic appeals for additional work and commitment by individuals with scarce time resources would be effective.

One possible solution for addressing such a problem would be to employ the opportunity created by the mandatory transition between the traditional fee-for-service to the new bundled payment model, as prescribed by the Patient Protection and Affordable Care Act and the Affordable Health Care for America Act. As diagnosis-related group (DRG) codes (the basic building blocks of the bundled-payment model) are assigned by a "grouper" program based on ICD diagnoses (in addition to procedures, age, sex, discharge status, and the presence of complications or comorbidities) [9], an interesting approach would be to associate DRG codes composed by unspecific diagnoses with a percentual decrease in the average reimbursement. Conversely, hospitals and physician groups with a percentage of specific ICD codes substantially above the national average could be rewarded with a percentual bonus increase in the payments.

As in the present time reimbursement is directly related to CPT codes and not diagnostic (ICD) codes, there seems to be little incentive for physicians to employ additional time and efforts to improve the specificity of the selected clinical diagnoses. Although the proposal above is not the only solution, it seems clear that, unless a better system including specific incentives and disincentives carefully planned to foster the desired behavior on the part of individual physicians, it is unlikely that the full potential of the ICD-10 code in terms of the increased granularity of collected information would be actually realized. However, as the ICD-11 will soon replace ICD-10 (it is expected to be officially implemented on January 1, 2022 [10]), there is still enough time for those in leadership positions in the field of healthcare coding and reimbursement to undertake active measures so that the extensive efforts in mapping additional differential clinical diagnosis in each ICD edition does not

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E-mail address: tobias.mattei@health.slu.edu

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end up again, for most practical purposes, lost during the translation into the clinical practice.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.xnsj.2020.100032.

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