The US is approaching a crossroads regarding the diagnostic coding system that is used in all patient records and information exchanges that support patient care, research, quality measurement, and payment. In 2022, the International Classification of Diseases, 11th Revision (ICD-11)¹ came into effect. In addition, the World Health Organization (WHO) has ended support for the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10). The US adopted the International Statistical Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) in 2015 after a favorable cost-benefit projection and despite recommendations by some prominent health informaticists that adoption should be delayed and planning should begin immediately to ensure a smooth transition from ICD-9-CM to ICD-11.² In any case, the mandated adoption of ICD-10-CM further solidified the dependence of the US health care system on the ICD system.³

Unfortunately, concerns were justified about the costs, difficulties, and disruptions associated with the conversion to ICD-10-CM and about the limited direct clinical benefit to be derived from its expansion compared with ICD-9-CM. For example, in the current study by Zhu et al,⁴ an increase in the number of available codes for inflammatory arthritis from 14 to 425 only increased the number of codes reported in more than 1% of cases from 4 to 9. The perceived failure to produce promised clinical benefits combined with a rocky transition has left the health care community skeptical about the value of participating in yet another ICD transition less than a decade after adopting ICD-10-CM.

In response to a recent Request for Information by the National Committee on Vital and Health Statistics, 35 comment letters provided insights and ideas about how the US should approach a possible transition from ICD-10-CM to ICD-11.⁵ These responses were almost uniform in their acknowledgement of the need to avoid problems that arose in the transition to ICD-10-CM but provided little insight into how to reduce the transitional burdens beyond careful evaluation of whatever undescribed system the US chose to adopt. They also revealed substantial gaps in knowledge about the nature and potential of ICD-11; thus, the responses may not assist the government in making the best use of an exciting and challenging opportunity to revolutionize the acquisition, organization, and analysis of clinical data in the US.

Several responders to the Request for Information pointed out that the Department of Health and Human Services has not provided specifics or guidance to the industry regarding timing, support tools, or even the content of ICD-11 that would be mandated for compliance with Health Insurance Portability and Accountability Act requirements and reimbursement under Medicare.⁶ This uncertainty about content might have arisen from the structure of ICD-11, which departs substantially from previous versions of the ICD.¹

On the upside, ICD-11 has a flexible clinical and research friendly structure that is aligned with advances in information technology. It includes a multidimensional foundation that assigns unique Uniform Resource Identifiers to entities representing unique standalone concepts (eg, diseases, disorders, signs, or symptoms) and to extensions that modify these concepts (eg, severity, causation, and anatomic location). Although ICD-11 retains some precoordinated codes that convey multifaceted compound concepts, its structure and syntax also provide for postcoordination, a new feature to the ICD that supports the customized combination of concepts and modifier codes to capture previously inaccessible clinical nuance. In place of the dependence of ICD-10 on a hierarchical listing of standalone codes, ICD-11 provides a medium through which nuanced clinical information can be conveyed.
can be translated back and forth using natural clinical language and unique computer-friendly clusters of codes.1

By use of the foundational structure of ICD-11, the WHO created and disseminated the ICD-11 for Mortality and Morbidity Statistics (ICD-11-MMS) along with supporting tools that reflect the original uses of the ICD. ICD-11-MMS has a monohierarchical structure of 4- to 6-character coded entities that classify specific primary concepts in the foundation with aggregation of some entities into single Y codes as in previous ICD revisions, thereby reducing the number of directly accessible hierarchically coded concepts by approximately two-thirds.1 The ICD-11-MMS is well suited to code and analyze causes of death because complete clinical information is available to coders and subsequent changes in clinical status are irrelevant. On the other hand, the suitability of ICD-11-MMS for typical morbidity uses is still being debated. One reason for rejecting ICD-11-MMS for morbidity is that most clinical and research applications deal with situations in which precise knowledge of a patient’s clinical status influences current clinical interventions, which, in turn, may alter a patient’s future clinical course. Analyses of this bidirectional feedback loop, which is integral to clinical practice, requires data that capture a level of clinical nuance that exceeds the capability of historical classifications and ICD-11-MMS.

Although some countries have adopted the WHO’s ICD releases for numerous health care applications, nations with complex health care information systems, such as the US, Canada, Australia, and Germany, historically created their own parochial clinical modifications (e.g., ICD-10-CM). These mutually incompatible modifications rest on the most recent WHO release with modifications updated and maintained by individual nations. Because the WHO has ended support of ICD-10, retaining a modification of ICD-10 places the entire burden of maintenance on the creator of the modification and will result in that nation’s drift away from international compatibility. On the other hand, wholesale adoption of ICD-11-MMS will, in many respects, represent a loss rather than an improvement in available clinical nuance. A third alternative would be to develop a new clinical modification of ICD-11, which would entail all the problems of the transition to ICD-10-CM.

A fourth alternative approach would be to enrich ICD-11-MMS by accessing the full foundation, including all the clinical concepts as well as its compatible domains of patient status measures and health care interventions (services). Such a full-on adoption of the enhanced MMS could help to achieve a comprehensive clinical information and digital exchange system that is grounded in electronic health records (EHRs) and other clinical data sources and serves various vital systemic functions, such as communication between collaborating clinicians, digital quality measurement, and claims reimbursement, without recreating or sacrificing content where it is needed. In short, the US must decide whether it is time to invest considerable resources and effort into a 21st-century information system that could overcome such hindrances as asymmetric information for decision-making, faulty risk adjustment in performance evaluations and payment formulas, and burdens imposed by current coding and documentation practices.

Inevitably affecting the results in the current study by Zhu et al4 are a pervasive lack of motivation and an excessive burden when it comes to manually selecting the most suitable ICD-10-CM codes. Being grounded in EHRs, ICD-11 could limit necessary human involvement in the coding process to review and oversight; in fact, automation could limit the necessary human role to ensuring the validity of the clinical concepts expressed in the EHR or in natural clinical language and not require extensive or specific knowledge of the lengthy (and often ugly) code clusters themselves. At the same time, payers and regulators should anticipate and use the value of clinically nuanced data flows and upgrade their quality measures, prior authorization requirements, and payment models to better capture the specific clinical contexts in which patients are being treated and managed.
REFERENCES


