In January 2009, the U.S. Department of Health and Human Services (HHS) published a final rule mandating that all entities covered by the Health Insurance Portability and Accountability Act (HIPAA) implement the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD-10) for medical coding. The ICD-10 code set updates the 9th revision with significantly more codes overall, more characters per code, and greater specificity in what can be coded. As a result, ICD-10 is expected to increase the overall granularity of healthcare data, which has important implications for quality measurement, public health reporting, biomedical research, and performance improvement.

The scope and complexity of the transition are significant. In addition to needing complex technical updates to existing health information systems, implementation of ICD-10 necessitates changes in workflow and procedure as staff must familiarize themselves with the larger code set and its numerous new classifications for diagnoses and other clinical information. Organizations have also had to manage uncertainty around the compliance deadline for implementing ICD-10, which has been delayed more than once for a variety of reasons. Enforcement of ICD-10 implementation is currently slated to begin on October 1, 2015, two years later than the date listed in the final rule.

In May and June of 2014, with the support of the American Health Information Management Association (AHIMA), eHealth Initiative conducted a survey of healthcare organizations to assess the anticipated impact of the transition to ICD-10. Specific areas of focus included readiness for testing and implementation, anticipated financial, clinical, and operational impacts of the transition, and the strategic implications of an expanded code set. In all, 454 responded to the survey.
RESULTS

Demographics
Survey respondents were primarily from healthcare delivery organizations (73%). Among these, acute care hospitals (30%) and clinics/physician practices (25%) were most common. While physician practices tended to be smaller, 58 percent had only one to four physicians; hospitals varied in size. The roles of respondents at their organizations ranged from managers (32%) to directors (24%) to executives (16%). Ten percent were clinicians.

Testing
As organizations implement the ICD-10 code set, testing is imperative to ensure that trading partners can ultimately accept the ICD-10 coded transactions. Testing for ICD-10 can be a complex task involving both internal and external resources, as organizations must validate their own workflows around coding and the ability of their trading partners to receive and process transactions.

End-to-end testing is an important internal validation tool in which all components of a system are tested in an environment that closely mirrors real-world scenarios. In all, 65 percent of respondents indicated that they could begin end-to-end testing prior to the fourth quarter of 2015, when compliance is set to begin. Of these, a majority (63%) will be ready to conduct testing in 2014, while the rest will wait until 2015. Ten percent of all respondents currently have no plans to conduct end-to-end testing, and 17 percent don’t know when their organization will be ready for testing.

Organizations with no plans to conduct end-to-end testing often cited a lack of knowledge as the reason to forego testing (36%). Nearly half (45%) of these organizations are clinics/physician practices, possibly indicating a knowledge gap around ICD-10 implementation and testing for those organizations with fewer resources. By contrast, only two of the acute care hospitals responding to the survey had no plans for end-to-end testing.

While many organizations are poised to perform internal testing, the external testing picture is cloudier. Respondents frequently indicated that they are not aware of when their key business partners will be prepared to conduct testing. Respondents were more likely to know when larger partners such as clearinghouses, IT vendors, acute care hospitals, and health plans were prepared to conduct testing. More of these larger organizations have also indicated to their partners that they will be prepared for testing in 2014 than smaller organizations such as physician practices.

Impact of ICD-10
Respondents indicated a mix of concern and optimism about the impact of ICD-10. For example, 35 percent believed that their organization’s revenue will decrease during the first year of ICD-10 compliance. Only six percent thought their revenue would increase and 14 percent viewed compliance as revenue-neutral. Nearly half the respondents are unsure about the impact or ICD-10 on revenue (18%) or have not yet conducted revenue impact assessments (27%). Moreover, a number of respondents expressed concern about the impact of ICD-10 on common clinical and administrative processes. Respondents indicated that coding (59%) and documenting (42%) patient encounters and adjudicating reimbursement claims (41%) would be more difficult under ICD-10.

Again, smaller practices may have a more difficult time adjusting. Across the board, a higher percentage of clinics and practices indicated that it would be more difficult to complete common clinical and administrative practices than acute care hospitals. Sixty-one percent of clinics and physician practices believed that documenting patient encounters would be harder, as compared to 35 percent of acute care hospitals. Likewise, for adjudicating reimbursement claims, 54 percent of practices thought ICD-10 would make the process more difficult, versus 40 percent of acute care hospitals.
However, respondents also expressed support for the long-term benefits of ICD-10. More respondents believe ICD-10 will make managing population health and conducting clinical, health services, or translational research easier rather than harder. They also believe that ICD-10 will ultimately improve the accuracy of claims (41%), quality of care (29%), and patient safety (27%). Organizations plan to leverage the increased specificity of the code set for claims processing and billing (63%), quality improvement (63%), performance measurement (52%), and outcome measurement (41%). Compared to data from a similar survey in 2013, the percentage of respondents planning to use ICD-10 for quality improvement, performance measurement, and outcomes measurement has increased, suggesting that organizations may better recognize the potential benefits of ICD-10 as they grow more familiar with the code set.

Challenges
Given the overall complexity of ICD-10 implementation, which requires internal workflow and process changes, extensive testing to ensure compatibility, and coordination among external partners, it is not surprising that respondents cited a number of challenges to implementation. Chief among these were claims processing (58%), clinical workflow and productivity (56%), lack of staff (49%), change management (48%), and vendor/partner readiness (47%). Respondents are clearly particularly concerned about the impact of ICD-10 implementation on their staff.

To mitigate challenges to staffing such as reduced coder productivity as they familiarize themselves with the new code set, 70 percent of organizations are planning to conduct additional training and practice prior to the compliance date. Some respondents are planning to fill gaps in other ways, such as contracting with outsourced coding companies (33%) or purchasing computer-assisted coding technology or similar tools (32%). More of the larger organizations with greater resources such as acute care hospitals and integrated delivery networks are pursuing these potentially costly solutions than smaller organizations.

Organizations are also leveraging the delayed compliance deadline to better prepare themselves to efficiently use ICD-10. Sixty-two percent are utilizing the delay to improve clinical document integrity, 59 percent will train more staff on ICD-10, 47 percent will continue dual coding, and 39 percent will conduct more robust testing.
DISCUSSION

These survey results suggest a number of reasons to be optimistic about the transition to ICD-10. Despite numerous delays and difficulty preparing systems and processes for ICD-10, a wide variety of organizations of different sizes and capabilities are far enough along in the process that they are capable of performing end-to-end testing prior to the compliance deadline. While end-to-end testing may ultimately reveal new glitches or errors that will need to be addressed, organizations must already have made substantial investments in bringing systems and staff up to speed to be able to test in an end-to-end environment.

Likewise, there is widespread recognition that although ICD-10 may burden providers and organizations now, it has tangible benefits that may be realized in the long term. Evolving healthcare payment and delivery models, like accountable care organizations, necessitate improved capacity for measuring performance, cost, and outcomes. Respondents recognize that the increased specificity of ICD-10 is likely to have a positive impact in these areas, which may ultimately help to increase revenue as organizations become better equipped to meet requirements for value-based reimbursement.

Unfortunately, the survey findings also demonstrate the persistent challenges related to ICD-10 implementation. In particular, smaller organizations appear less equipped to address the rigor of end-to-end testing or implement solutions to mitigate the impacts of ICD-10 on staff productivity. In addition, prospects for widespread external testing are murky. Many of the survey respondents are unaware of the state of readiness of their peers and business partners, indicating a lack of communication and collaboration about the transition.

As organizations work toward meeting the new October 1, 2015 compliance deadline, they should consider the following recommendations:

- **Test early and frequently**—Testing should occur during all stages of implementation, not only in an end-to-end environment. Stakeholders should test systems as they work with their vendors to make upgrades and communicate with all of the individuals involved in the claims pathway to ensure that the system functions properly for all roles involved. Furthermore, testing should not focus only on the technical systems, but also the workflows, processes, and supporting elements necessary to use the systems properly.

- **Collaborate**—Stakeholders should reach out to peers and other organizations in their region to share best practices. Regional collaboration may also help improve testing capabilities. Some clearinghouses have worked with multiple clients at the same time to send batches of test claims and streamline the testing process.

- **Mitigate risk prior to implementation**—Strategies such as dual coding can help organizations mitigate the risk of the impact of ICD-10 by familiarizing staff with the new code set in advance of implementation, thus improving coding accuracy and productivity. Documentation improvement can similarly help prepare staff for the increased specificity of ICD-10 and highlight areas where documentation will need to change. Because the impact of ICD-10 will not be uniform across an organization, operational and/or financial impact assessments can reveal potential variation across service lines and enable the organization to more appropriately target resources prior to implementation.

With these strategies, organizations at all points along the readiness curve will be better equipped to handle the demands of ICD-10 implementation and ultimately leverage the code set to improve performance, efficiency, and quality of care.