Four Applications of C-CDA to Consider: The Case for Why C-CDA is Needed to Advance Shared Savings and Interoperability

By Steve Bonney

In an ideal world, the following scenario wouldn't be uncommon: You're attending a conference in another state and suddenly find yourself experiencing shortness of breath and chest pain. After having flown for several hours on a plane, you worry that it could be a blood clot. You go to the nearest hospital where the attending physician simply downloads a record from your primary care physician and other doctors that includes all of your healthcare data, such as your personal and family histories, medications, allergies, surgeries, etc. The physician quickly realizes that you have a history of blood clots, are currently taking birth control medication, and that you recently underwent abdominal surgery. The physician begins treatment immediately—likely saving your life.

The seamless exchange of data in this scenario occurred because the electronic health record systems (EHRs) involved were certified through stage 2 of the "meaningful use" EHR Incentive Program, which requires use of Consolidated Clinical Document Architecture (C-CDA). C-CDA is a standard that specifies the structure and semantics of clinical documents for the purpose of exchange between healthcare providers and patients. Without C-CDA, the exchange of this critical information in the scenario would not be possible in such an efficient way.

Over the last several years, the healthcare industry has witnessed a shift toward shared savings, as evidenced by the expansion of accountable care organizations (ACOs) nationwide. More coordinated care leads to better patient outcomes and lower costs. In addition, the push for health information exchange (HIE) also reflects a larger desire to increase efficiency and share information to reduce duplication of tests and services. Each of these initiatives has the potential to transform healthcare as we know it today—particularly in terms of reduced spending. And C-CDA contributes to getting the information exchanged and more widely used through these initiatives.

According to the Centers for Medicare and Medicaid Services (CMS), health spending is projected to grow at an average rate of 5.8 percent per year between 2014 and 2024. The agency also predicts that health spending will grow 1.1 percent faster than the gross domestic product (GDP) per year over this period, resulting in an increase in the health share of GDP from 17.4 percent in 2013 to 19.6 percent by 2024.[1]

Interoperability is a critical component of the healthcare industry's cost reduction strategy. Yet most efforts have been largely unsuccessful to date. Health Level Seven (HL7) provides a framework for information exchange, which was originally designed to advance interoperability. In reality, however, it only led to vendor-specific customization, lingering communication difficulties, and costly system interfaces. In fact, many industry experts refer to HL7 as the "non-standard standard" because of the disappointing effect (or lack of effect) it has had on interoperability—at least in Version 2.

But that view may now change, since the latest version of HL7—Version 3—includes C-CDA. C-CDA not only supports the exchange of clinical documents between those involved in the care of a patient, but it can also support the reuse of clinical data for public health reporting, quality monitoring, patient safety, and clinical trials. C-CDA can include both structured and unstructured information, and it can be reused in multiple applications.

C-CDA in Action

C-CDA originally emerged as a result of collaborations between the Health Story Project, Integrating the Healthcare Enterprise USA (IHE), and the Office of the National Coordinator for Health IT's Standards and Interoperability Framework. Today, C-CDA is at the core of the national interoperability agenda.

Essentially, C-CDA defines a clinical document as having these six characteristics: persistence, stewardship, potential for authentication, context, wholeness, and human readability. Typical C-CDA documents include discharge summaries, imaging reports, history and physicals, consults, and progress notes.

Today, HIEs are the entities that most frequently use C-CDA. However, as organizations move toward stage 2 meaningful use attestation, the expectation is that more providers will use C-CDA regardless of whether they ultimately connect with a regional or local HIE. To date, one of the largest advancements of C-CDA has occurred not directly in the provider world but rather with the Social Security Administration (SSA).

Before using C-CDA, it took SSA upwards of 89 days to make a disability determination. The administration was burdened by far too many pages of documents to review and analyze from multiple sources—literally reviewing hundreds of millions of documents annually. Eventually, SSA launched Electronic Records Express (ERE), an initiative to offer electronic submission options for health and school records related to disability claims. With ERE, medical providers, school professionals, attorneys, claimant representatives, and others can submit records to SSA for consideration. C-CDA works in the background to drive the exchange of this information and an expedited determination by SSA.

In addition, SSA also partners with HIEs for relevant information. When an HIE submits a C-CDA to SSA, the HIE is reimbursed for that submission. This is a win-win situation for everyone, including the patient whose disability determination may now occur within 48 hours when C-CDA is available for the disability determination systems to utilize.

Four Healthcare-Related Applications of C-CDA

In the world of healthcare, C-CDA is making progress. However, some feel this progress is not occurring quickly enough. Part of the reason may be because HIM professionals and others don't understand the function of C-CDA and how it relates to interoperability. It's helpful to think of C-CDA as the building block for information exchange. C-CDA doesn't specify how HIE should occur, but rather what data elements must be captured, stored, accessed, displayed, and transmitted electronically in a variety of formats. In lieu of costly interfaces, C-CDA makes interoperability a reality. Here are four applications of C-CDA to consider.

C-CDA and coordinated clinical care

C-CDA has the potential to enhance care coordination by serving as a common language between providers. For example, a patient is transferred from a critical access hospital to a level one trauma center. If both providers are using C-CDA, information about that patient can be transmitted immediately—often populating the EHR at the receiving facility before the patient even arrives.

The same could be said for patients referred to the emergency department by their primary care physician or another provider. C-CDA can also be used for post-acute care transfers. Discharge information is immediately converted to a C-CDA document and sent to an HIE or directly to the recipient facility, likely a skilled nursing facility (SNF), where information can be accessed and reviewed. Without C-CDA, patients typically bring their records with them—an inefficient method fraught with potential risk for HIPAA violations. Physicians don't need to waste time and money asking the patient for information or even repeating certain tests.

C-CDA and robust clinical research

Visit www.clinicaltrials.gov and search for a clinical trial occurring in Ackworth, IA—a town with a population of 83—and you'll be hard pressed to find anything. Perform another search for trials in Boston, MA, and you'll come up with 40 pages of options. Ideally, providers and/or HIEs could connect to a clinical trial hub that could accept C-CDA documents and screen individuals for trials nationwide. If patients meet the criteria, their physicians would be notified immediately. Patients and providers would have no other way of knowing about these trials unless they actively searched for them. With C-CDA, an efficient eligibility determination is possible. Without C-CDA, information that could disqualify a research candidate is often revealed once a study is underway, which drives up the cost of research.

C-CDA and lower release of information costs

C-CDA is poised to play an important role going forward in terms of the release and exchange of information. For example, consider a scenario in which a patient enters or uploads information into his or her portal, a C-CDA is populated, and then this information is exchanged with another provider for a second opinion. C-CDA can alleviate patient requests for information, and it can also expedite the release of information process for requests from other entities, such as attorneys, other providers, insurers, or auditors. Costs related to copying, faxing, and sending information reduces dramatically when C-CDA is a reality.

C-CDA and increased physician adoption of EHRs

According to www.healthit.gov, physician adoption of EHRs continues to increase steadily. Seventy-eight percent of physicians use some type of EHR. This is up from only 18 percent in 2001. Yet, many physicians continue to complain about the return on investment and practical applications of EHRs. C-CDA would give physicians immediate access to test results, findings, and information compiled by other providers, thereby helping them to make more informed decisions about patient care. The ability to share information in this way can greatly affect physician satisfaction with EHR technology.

How to Get Involved and Foster C-CDA

There are many ways in which HIM professionals can get involved with C-CDA, including the following:

- Join an HL7 work group, such as the Health Story Project.
- Communicate with your health IT vendor about C-CDA. What is your vendor's strategy to incorporate C-CDA? What is the timing of deployment?
- Work with the C-suite, IT, and physician advisors to identify business opportunities for C-CDA, such as sharing data across settings or deeper participation in HIE.
- Serve as a patient educator. Patients need to understand the implications of C-CDA in terms of reducing duplicate tests and services, thereby reducing cost and exposure to radiation. Once patients begin to demand interoperability, more providers and vendors will likely be open to the idea.

The success of C-CDA depends on HIM input as well as provider and patient demand. As everyone works to improve the quality of healthcare and reduce costs, healthcare professionals and industry stakeholders need to remember this question: Without C-CDA working to enable true interoperability, how will healthcare—as an industry—ever accomplish shared savings?

Note

1. Centers for Medicare and Medicaid Services. "NHE Fact Sheet." 2015.

Steve Bonney (steve@recordsone.com) is executive vice president of business development and strategy at RecordsOne. Bonney is a national author and speaker on the use of natural language processing technology in healthcare.

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