



How Interoperability and Electronic Health Records Will Modernize Healthcare for Providers and Patients

As the healthcare industry adapts to the way patients live today, data access and information sharing (particularly of ePHI, or electronic protected health information) have emerged as two critical considerations. The 21st Century Cures Act (also known as the Cures Act) seeks to address these two concerns through nationwide interoperability. In response, the healthcare community is adapting methods, processes, and toolkits to meet the Cures Act's objectives.

The path to achieving interoperability contains obstacles that will require careful planning and consistent collaboration to overcome. As healthcare providers work to enhance the connections in their practice, patients will reap the benefits. Here's what providers can expect as the healthcare landscape shifts in response to interoperability requirements.

The term "interoperability" has emerged as one of the most important in today's healthcare lexicon. From discussions of patient-centered care strategies to the development of healthcare IT standards, interoperability is at the heart of it all.



21st Century Cures Act Overview

The United States Congress enacted the [21st Century Cures Act](#) in December 2016. The purpose of the early legislation was to increase medical innovations, advancements, and product development. The Cures Act authorized \$6.3 billion in funding to pursue these goals, specifically naming the National Institutes of Health (NIH), the Food and Drug Administration (FDA), and the Department of Health and Human Services (HSS).

Areas of focus include drug research, acceleration of the FDA drug approval process, mental health parity regulation, biomedical research, interoperability, and patient access to data. In just a few short years, the Cures Act has made its mark on healthcare in the United States. For example, due to modifications of the FDA drug approval process and a greater focus on drug development for rare diseases, more specialty drugs have been released to market than ever before.

This modification reveals a stronger emphasis on patient perspectives and outcomes, a common thread through all objectives found in the Cures Act.

Impact on Healthcare Tech

On May 1, 2020, [the final rule of the Cures Act](#) was released with the intent to further advance interoperability, support the access and exchange of electronic health information, and prevent information blocking. Specifically, this phase implements interoperability requirements in which all electronically accessible health information can be acquired and exchanged without any special effort for the users.



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The Office of the National Coordinator for Health Information Technology (ONC-HIT) is responsible for advancing interoperability and creating a common agreement amongst healthcare information networks. The ONC-HIT finalized its [nationwide interoperability roadmap](#) in 2015, which was shaped by input from both healthcare stakeholders and the public. The roadmap establishes milestones that will keep moving the United States closer to the ONC-HIT's goal of a "learning health system" by 2024.

Their [vision of the learning health system](#) is described as "an array of interoperable health IT products and services that support continuous learning and improved health." According to the ONC-HIT, this system should result in "lower healthcare costs, improved population health, truly empowered customers and ongoing technological innovation."



Patient care doesn't exist in a vacuum; physicians often need to share patient data with other providers across multiple EHR platforms.

The legislation seeks to:

- Improve interoperability amongst Electronic Health Records (EHR)
- Create a network to network exchange of health information
- Offer a provider directory those who have adopted the new agreement and related standards



Increased interoperability allows providers to securely access and exchange data with a few clicks.

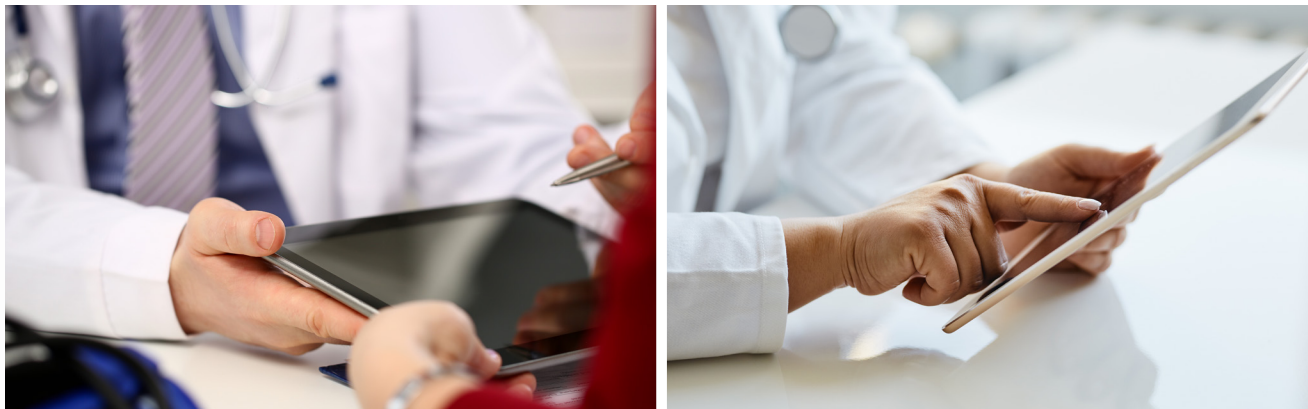
Why Interoperability Matters to Our Healthcare System

The overwhelming majority of office-based physicians use EHRs for patient care, communication, and coordination. From 2008 to 2017, the [adoption of EHRs](#) among providers more than doubled, increasing from 42% to 86%. EHRs have become standard in the healthcare industry in general, with [96% of hospitals adopting a system by 2017](#).

The EHRs used by various clinics, offices, and hospitals vary widely—some larger systems may even use multiple platforms across the organization. These platforms have often been selected based on factors such as government requirements, number of patients, compatibility with other systems, and privacy standards. Each EHR houses critical patient data, which can inform treatment plans and improve outcomes.

However, patient care doesn't exist in a vacuum; physicians often need to share patient data with other providers. If these EHRs cannot communicate with each other electronically, providers are forced to use faxes and phone calls until each party receives the necessary information. Increased interoperability reduces burden and risk since it allows providers to securely access and exchange data with just a few clicks, ensuring patients receive the timely, relevant care they need.

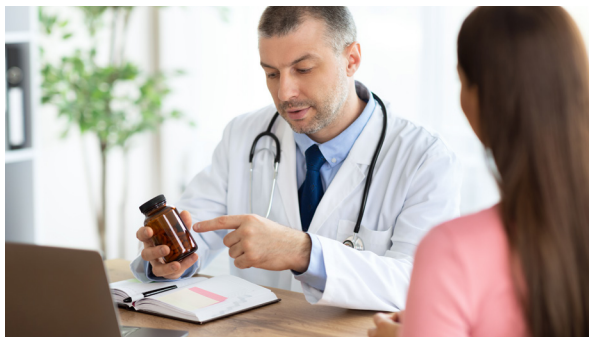
In summary, enhanced interoperability allows providers to securely and seamlessly transfer health information between platforms, while in turn giving patients easier access to and the ability to share health data with their entire care continuum.



Levels of Interoperability

While interoperability is sometimes thought of as merely the exchange of information, it actually contains four distinct levels. The Healthcare Information and Management Systems Society (HIMSS) describes the [levels of interoperability](#) as follows:

- 1 Foundational (Level 1):** Allowing for sharing of data from one information technology system to another. This level does not require the interpretation of data on the part of the receiving technology system.
- 2 Structural (Level 2):** This level defines the format, syntax, and organization of data exchange so it can be interpreted at the data field level.
- 3 Semantic (Level 3):** Formerly the highest level until the HIMSS released the Organizational level, Semantic interoperability allows two or more systems to exchange and use data. This level uses the codification of data and data elements “with standardized definitions from publicly available value sets and coding vocabularies.” By doing so, data can be exchanged across multiple systems.
- 4 Organizational (Level 4):** At this level, data can be shared and accessed between organizations and users securely and seamlessly. It requires the consideration of social, legal, governance, and organizational requirements, robust technical infrastructure, and the integration of end-user processes and workflows.



Making it possible to communicate between systems isn't just a matter of connecting A to B.

What's Holding Us Back from Making Interoperability a Reality?

Despite the benefits of the third and fourth levels of interoperability, most medical practices and systems are still working to meet the requirements of levels 1 and 2, the foundational and structural stages. So, what makes achieving interoperability such a challenge?

First, there are hundreds of EHR systems on the market. These systems vary in their feature sets, user interfaces, functionality, and technical requirements. Making it possible to communicate between the systems isn't just a matter of connecting A to B. It's not a straight line, it's more interconnected, like a spider web. That makes understanding how to exchange information a significant challenge.

Next, there is the matter of information blocking. Some healthcare software vendors make it difficult to share information outside of their systems by charging a fee or preventing it entirely. The Cures Act outlines [practices that constitute information blocking](#) in Section 4004, as well as the eight exceptions. Even if patient data can be shared easily, there is still the matter of making sure it is shared securely. The exchange of information must be carried out in a way that allows access only to the correct parties.

There is also plenty of confusion surrounding HIPAA and interoperability. It is often thought that HIPAA impedes the exchange of patient data. However, as the ONC-HIT shares, HIPAA protects personal information from misuse and allows it ["to be accessed, used, or disclosed interoperably, when and where it is needed for patient care."](#) The ONC-HITs [fact sheet on data exchange](#) outlines how HIPAA, Protected Health Information (PHI), and interoperability can work together.

Achieving comprehensive interoperability will also require the modification of some data. The majority of the world's big data is unstructured, i.e. it can not be read by process-based software. New processes and methods of development will need to be put in place to ensure critical data can be processed and exchanged across systems.

Interoperability: Major Benefits for Patients and Providers

Despite the undeniable obstacles facing full-fledged interoperability, the benefits outweigh the challenges for healthcare providers, patients, and public health in general. Today, we live a meaningful portion of our lives online. Patients often turn to their devices first to search for health information, connect with providers, review test results, and more. Widespread interoperability is an absolute must to ensure current healthcare methods and standards reflect the way patients live and to optimize patient care.



As the U.S. moves closer to the goal of complete interoperability, providers can expect to see the following benefits:

1

Patient-centered care: Patients today seek greater control of their health and show a heightened interest in personalized care. Some experts even refer to healthcare today as the “[age of personalization](#),” where individuality drives patient decisions about their health. Increased access to personal health data will give patients the information and ownership they need to take charge.

[Electronic communications](#) have already made it possible for patients to connect with providers from anywhere, at any time. As interoperability increases, providers can expect to see patients show an increased desire for easy access to all of their medical information. This shift will also support more patient-centered care for providers—access to real-time data at the time of visit with a patient will help to bridge information gaps and develop more comprehensive records.

2

Easier Referrals: Many providers struggle with time-consuming, resource-heavy tasks like coordinating referrals and sharing patient health information with specialists. With interoperability, providers will be able to exchange this information in real-time and make a referral without having to resort to numerous phone calls and faxes. Through more seamless coordination, patients will receive the care they need while specialists can ensure they have the most accurate, up-to-date information.

3

Faster Time to Care: Patients spend a lot of time preparing for doctors' appointments, from scheduling to verifying insurance benefits and filling out paperwork. These tasks are even more intensive for physicians, practice administrators, and their teams. Thirty-eight percent of physicians in the United States spend between 10 and 19 hours a week on paperwork and administrative tasks. Nearly a third of physicians (32%) spend a whopping 20 hours or more on these tasks each week.

Administrative activities often result in redundancies and inefficiencies within the practice. Both patients and staff spend a great deal of time on duplicative tasks (such as sharing medical history or test results) or attempting to track down information from disparate files and systems.

Interoperability will help create a single source of accuracy regarding patient data. When information can be shared securely amongst providers, the result is more accurate and efficient coordination of care. Providers will spend fewer hours reviewing paperwork and more time caring for patients.

4

More Accurate Care and Greater Patient Safety A more efficient level of care will reduce errors. Having a single source of accuracy prevents human errors that often result from redundancies and manual entry. Administrators will no longer need to match multiple pieces of paperwork to patient records. An accurate knowledge base will also give providers a simple, accessible way of reviewing patient history from other healthcare practitioners.

Interoperability is particularly important to prevent "doctor shopping" and to pinpoint potential prescription adherence issues or misuse with patients. It will also assist providers with keeping track of current medications and avoiding potentially harmful interactions or adverse effects. With EHRs, providers can create active medication and medication allergy lists as well as automatically review any potential drug-to-drug or drug-to-allergy interactions. Interoperability will ensure that future providers will have this information on hand to inform treatment plans.

5

Reduced Healthcare Costs All of these benefits will result in more efficiency and productivity in healthcare. The facilitation of data exchange will eliminate redundancies and conserve resources in practices, clinics, and hospitals. In fact, the West Health Institute estimates that interoperability could save the United States healthcare system over \$30 billion a year. Interoperability will result in significant savings as providers can access patient data in real-time, with no need to backtrack or search for information. Moreover, data will be presented in a consistent, convenient format, which will lead to providers making more informed decisions at a faster pace.

6

Better Public Health Data The value of public health data has been pushed to the forefront in the wake of the COVID-19 pandemic. The vast number of disparate systems have made connecting data an incredible challenge. By implementing technology that exchanges and processes data, healthcare officials can collect and analyze public health more accurately and efficiently. This information can then be used to inform treatment plans, policies, and other strategic decisions.



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RXNT is Committed to Interoperability

There are steps providers can take today to move closer to comprehensive interoperability and achieve these key benefits. The majority of physicians use EHRs to drive patient care; however, not all EHRs are created equal. They are an important component in achieving greater transparency and accessibility of health data, but in order to advance the objectives of the Cures Act, they must comply with ONC-HIT requirements and allow for the secure, efficient exchange of data. RXNT is proud to assist healthcare providers with achieving interoperability through our ONC-HIT certified and compliant EHR software. Our product development team is dedicated to the continuous enhancement of our platform to drive interoperability, protected health information, and patient care forward.

If you have questions or would like to learn more about our healthcare software, reach out to our team today by calling [\(800\) 943-7968](tel:8009437968) or emailing us at sales@rxnt.com.