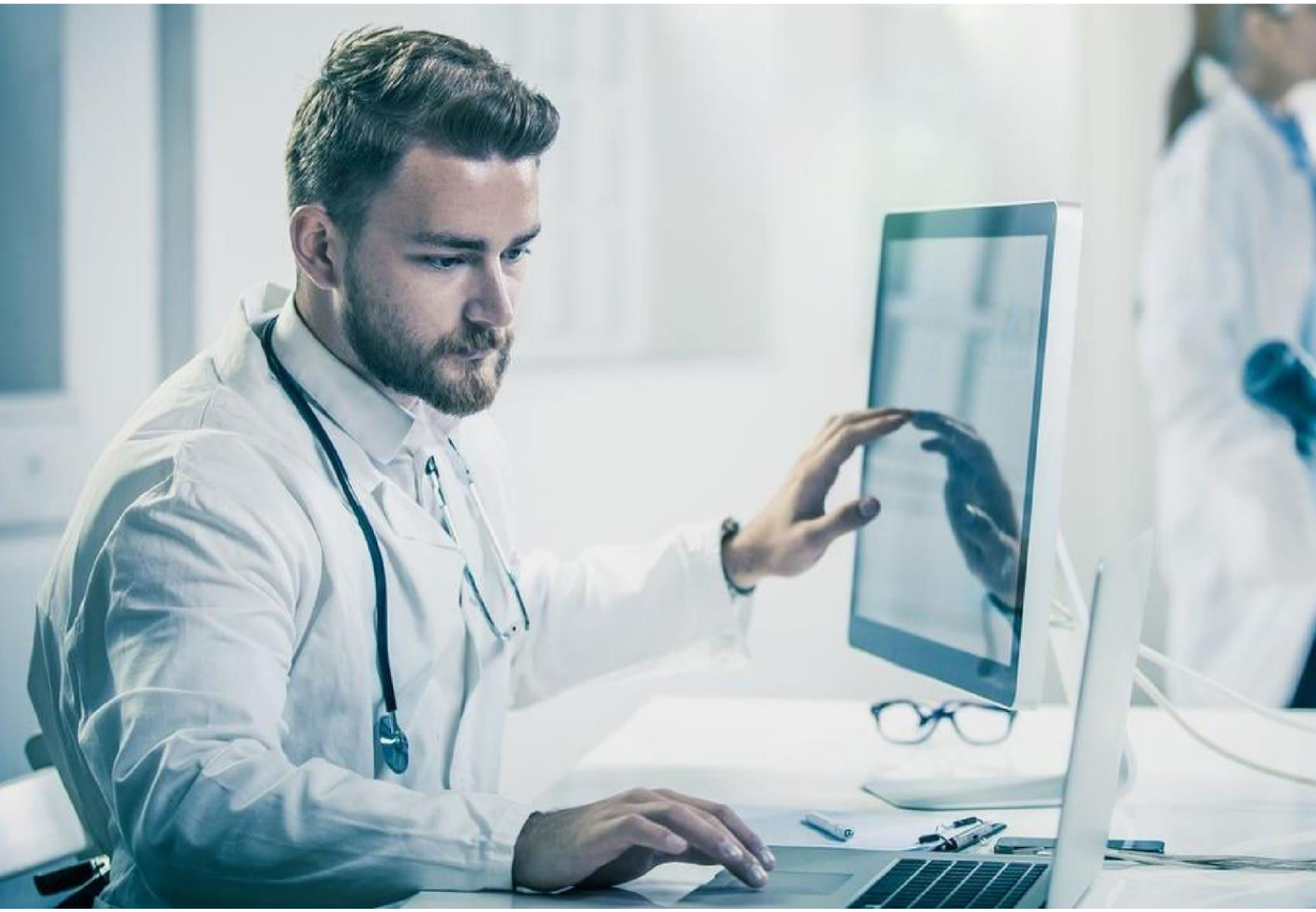
INTEROPERABILITY IN HEALTHCARE COMMUNICATION



THE CHALLENGE OF INTEROPERABILITY AND SECURE MESSAGING

Interoperability describes the extent to which systems and devices can exchange data, and interpret that shared data. For two systems to be interoperable, they must be able to exchange data and subsequently present that data in a manner that can be understood by a user.[1] Typically, this exchange is thought of in terms of how one EMR or large complex system can exchange records with another. However, by limiting interoperability to this definition, a lot of important exchanges are ignored which could expand the discussion and improve patient outcomes.

While it might seem semantic, we do need to embrace a more robust definition of interoperability. True interoperability means that we focus on the exchange of information across all sectors of healthcare. A greater understanding of the term means that we realize interoperability is not just the exchange of information between EMRs; it also includes the exchange of information over secure messaging platforms. For interoperability to reach its true potential, it needs to make room for secure messaging platforms and consider the role messaging plays in the exchange of digital information in healthcare.

There are many parties at the table who are taking part in the interoperability discussion such as public health and home health. For these agencies, and many others, the need for instant access to patient information will grow. To enable this growth we need to open healthcare to more powerful exchanges of healthcare information – which is what interoperability is about.

THE GOAL OF THIS WHITEPAPER IS TO:

- Further define interoperability
- Highlight the importance of interoperability in healthcare
- Note the role of secure messaging in interoperability
- Highlight the advantages secure messaging can bring to healthcare interoperability

[1] http://www.himss.org/library/interoperability-standards/what-is-interoperability

WHAT IS INTEROPERABILITY?

Interoperability describes how well distinct systems and devices can exchange data and information with one another. For two systems to be interoperable, they have to be able to exchange information and present in a way that it is readable by the recipient.

The chart below shows the three levels of health information interoperability that HIMSS defined in 2013:

Foundational Interoperability	• Basic level of interoperability • Data from one information technology system can be received by another • The receiving system does not need to be able to interpret it.
Structural Interoperability	• Intermediate level of interoperability • Data exchanges between information technology systems can be interpreted at the data field level • Clinical or operational purpose and meaning of the data is preserved.
Semantic Interoperability	• Highest level of interoperability • Two or more systems can exchange information • Exchanged information can be used • Electronic exchange of patient summary information among caregivers and other authorized parties via potentially disparate electronic health record (EHR) systems

2

Unfortunately, healthcare often focuses on semantic interoperability rather than the advantages that can be accrued from foundational interoperability. Semantic interoperability is identified as the "ideal state".[3] According to the literature, semantic operability is where healthcare needs to focus.

But an understanding of "true interoperability"[4] realizes the need to focus on the transmission of data across *all* sectors of the health care system. This means that true interoperability will also look to foundational interoperability and not only focus on data from EMRs being sent to other EMR systems. Additionally, interoperability will realize the importance of also paying attention to data from EMRs being sent via secure messaging to physicians on-call and lab results from radiology being sent to the physician on-call.

WHY IS INTEROPERABILITY IMPORTANT

Interoperability is important because it helps reduce the time it takes to have useful conversations between providers as well as between doctors and their patients. As one source put it:

> [N]**ot only does interoperability enable more coordinated care, but as healthcare delivery and payment increasingly shifts to value-based care, interoperable health IT is integral to the effective communication that will**

[2] http://www.himss.org/library/interoperability-standards/what-is-interoperability

[3] http://blog.healthlanguage.com/3-ways-semantic-interoperability-helps-improve-your-view-of-patient-data

[4] http://www.modernhealthcare.com/article/20160713/SPONSORED/160719952

help improve the quality of care, better the health of communities, and lower per capita costs.[5]

In order to provide coordinated care and effective communications, interoperability must support technologies that allow for these sorts of easy communications to happen

Coordinated care and effective communications are crucial for effective patient care, whether that is care of for chronic conditions or for conditions with multiple health service providers. Interoperability enables safer transitions of care, which leads to better patient outcomes over all.

CHALLENGES OF INTEROPERABILITY

One of the challenges of interoperability that must be highlighted though while discussing its benefits is the security rules that inevitably set up barriers to true sharing of information. HIPAA rules demand a closed system to ensure the security of patient information. That means, users can only send information to individuals on a preapproved list of individuals.

While this HIPAA standard does make sending information more secure, it also inevitably limits who you can send information to. The challenges to achieving semantic interoperability transcend the technical, as there are cultural, social, policy and economic barriers to data sharing as well.

Ideally, any system of interoperability which is adopted is able to provide the appropriate level of HIPAA-compliance as well as the ability to enhance the communication around a patient's care coordination.

WHAT IS THE ROLE OF SECURE MESSAGING IN INTEROPERABILITY

Secure messaging defines a HIPAA compliant and encrypted messaging platform that allows physicians and nurses to exchange text messages and images during a patient's care. Patient information can only be exchanged by authorized users who have been trained and approved by the hospital.

At its core, interoperability is about providing better care faster. It's about improving workflow and improving patient outcomes. To achieve these ends, healthcare officials must include secure messaging as a vital part of the interoperability discussion. Secure messaging is key as it democratizes information exchange and makes it possible for all authorized personnel to receive and exchange necessary information which will improve patient care.

THE NEED TO PROMOTE SECURE MESSAGING

Given the lofty goals of interoperability and the technical challenges presented to it, a simpler step to improving information exchange is through establishing secure messaging. While achieving the full breadth of semantic interoperability is desirable in the long run, significant gains can be achieved by using HIPAA secure messaging to promote the exchange of patient information which inevitably improves outcomes.

In 2016, the University of Pennsylvania's School of Medicine conducted a study[6] on approximately 11,500 patients at two hospitals. After bringing HIPAA-secure text messaging to select floors at the hospital, the average patient length-of-stay declined in the first month from 6.0 days to 5.4 days. Over the course of one year, after controlling for patient characteristics and trends, researchers found that patients whose providers used mobile secure text

[5] http://www.modernhealthcare.com/article/20160713/SPONSORED/160719952

[6] https://www.pennmedicine.org/news/news-releases/2016/april/patients-had-shorter-hospital

messaging left the hospital about 0.77 days sooner, equivalent to about a 14 percent reduction in their overall hospital stay.

The interoperability shown by secure messaging here is not a one off as numerous journals have highlighted how the ability to easily access and exchange patient information dramatically improves the speed with which a patient is cured as well as the speed with which the patient is released from the hospital.

HIPAA-compliant secure messaging is a much less technically challenging platform to bring on board than EMR interoperability. However, in order for secure messaging to achieve the importance in interoperability that EMR integration does, there needs to be a shift in focus that allows secure messaging's importance to be realized. Healthcare needs to bring its zeal to secure messaging in order to get physicians to communicate more easily as this will significantly advance patient outcomes.

CONCLUSION

Recognizing the importance of interoperability is crucial for any professional working in the healthcare industry. Given that so many of our systems and pieces of equipment are connected with one another over wired and wireless networks, we all need to stay on top of interoperability developments.

As noted in this whitepaper, one of the key ways to advance interoperability is by bringing secure messaging into the discussion. Interoperability ***needs to*** include secure messaging platforms so healthcare can better enable the seamless discovery, exchange and utilization of health information. This greater understanding will advance our ability to integrate systems but also to expand the ability of healthcare employees to exchange information more freely.

You can see how our secure messaging platform can help healthcare interoperability by downloading a trial of our smartphone application.

ABOUT ONPAGE

OnPage is a cloud-based, enterprise grade communication platform. We provide HIPAA complaint clinical communications that connect healthcare personnel through two-way messaging and critical alerting. Enhance clinical workflow through automated alert escalation and the digital scheduler that manages alerting during on-call shifts. OnPage helps improve patient care through better, intelligent communications.

TO LEARN MORE, VISIT OUR WEBSITE OR CALL: ONPAGE.COM/CONTACT-US 781-916-0040

Visit iTunes or Google Play from your smart phone or tablet to download the OnPage app.

Available on the App Store

Get it on Google play