HYLAND HEALTHCARE | EBOOK

FORTIFYING YOUR EMR FOR CRISIS MANAGEMENT

Is your EMR ready for the next pandemic?

CONTENTS

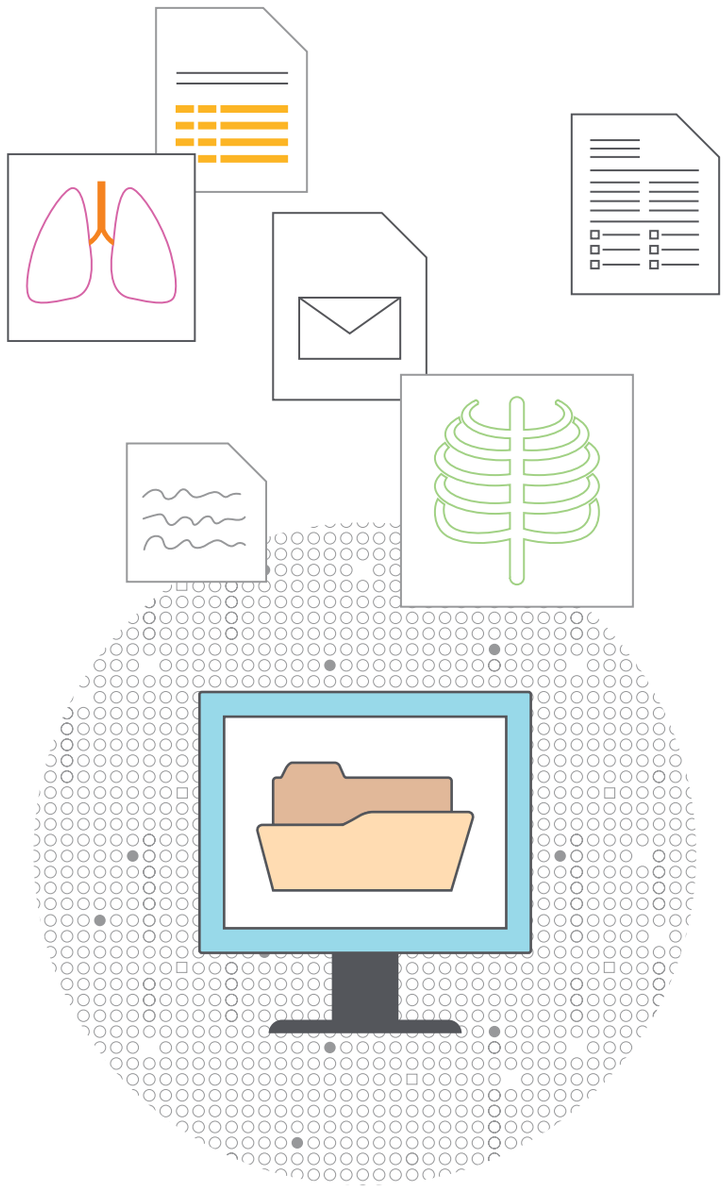
(click to jump to a chapter)

Wake-up call or amplifier?

For healthcare professionals, COVID-19 isn't a wake-up call. It is an amplifier. An amplifier of the challenges staff and clinicians were already confronting, from doing more with less — fewer resources, reduced staff, tightened budgets — to accessing critical patient information quickly.

In terms of technology need, the electronic medical record (EMR) helped bridge the gap. But access to unstructured data, like clinical narratives, lab results and a wealth of medical images — images from digital cameras, smartphones and scopes, for example — was a challenge prior to COVID-19 that was only magnified by the pandemic.

Now, as healthcare gets a firmer grasp on our new normal, the industry is gaining a new perspective on what constitutes a truly optimized EMR.



It all begins with information.

"While there continues to be national debate about how best to manage our global crisis, there seems to be one thing most experts agree on: Having good data is key to planning and public health decision-making," says Dirk Stanley, MD, CMIO, UConn Health, in a healthsystemCIO.com post.[1]

The EMR is a critical conduit to that information. Some healthcare organizations leverage the technology to communicate updates to staff, streamline the testing process, build data-driven dashboards to aid decision-making and more.[2]

But where some found success, others encountered obstacles like limitations on tracking suspected or confirmed COVID-19 cases from an outside facility. Some organizations discovered increased documentation issues, such as the lack of access to unstructured data like personal notes and clinical photography.

Without that complete patient picture, care suffers — typically by way of speed to diagnosis and treatment. And as the novel coronavirus has demonstrated time and again, a brisk, informed response is key to fighting the pandemic — any pandemic.

Fortifying your EMR becomes crucial. Connecting unstructured content and medical images to this core clinical platform is a crucial step.

"Starting now and lasting until forever, your health and healthcare will be determined, to a remarkable and somewhat disquieting degree, by how well the technology works."

— ROBERT WACHTER
The Digital Doctor: Hope, Hype, and Harm at the Dawn of Medicine's Computer Age

The need for an EMR (r)evolution

Looking back, worldwide mobilization efforts by healthcare organizations to respond to the COVID-19 pandemic were inspiring.

Hospitals leapt into action. Some rushed to move as many employees as possible to remote working status: As many as 5,000 in a matter of days for one hospital system.[3] Others shifted high-risk patients from one hospital to another facility, and developed new systems for symptom screening tracking, patient flow and clinician/patient interaction. Some providers even took steps to ensure their radiologists could perform diagnostic reads of medical images remotely, tackling challenges like image resolution, bandwidth and security while enhancing productivity and promoting social distancing.

The ability to act quickly to protect frontline healthcare workers and enable them to easily access the information needed to do their jobs proved to be a make-or-break proposition for most healthcare organizations in light of the pandemic.

Healthcare technology continues to play a vital role in fighting the outbreak, and in many ways is driving innovation. Telemedicine, not much more than a concept some healthcare organizations were just beginning to explore (only one in 10 patients used the service before the pandemic), is now standard practice for most providers. For example, usage for one telemedicine app has grown by more than 158 percent.[4] Smartphone apps are also helping track disease spread and provide contact tracing while artificial intelligence is helping epidemiologists issue the first COVID warning and identify new drug treatment candidates.[4]

The EMR is feeling the pressure to evolve as well. The pandemic has magnified EMR technology challenges doctors and staff historically grappled with, but previously found ways to work around. That amplification comes from a steady stream of sick patients with varied symptoms and a medical history that might reside in multiple areas of a healthcare system or outside that system altogether.

Some believe the EMR is ripe for more than an evolution, but a revolution. One in which the technology would allow for greater insights, such as burgeoning symptoms, comorbidities, risk factors and geographic locations.

They are looking for a truly connected healthcare ecosystem.

THE EMR AND INFECTION PREVENTIONISTS

COVID-19 brought the role of infection preventionist (IP) to center stage. These specialists ensure healthcare workers and patients follow standards to prevent infectious disease spread within the healthcare setting. They search for infection patterns within the system, provide education, advise decision makers and more. When the coronavirus pandemic emerged, IPs were out in full force, and the EMR was one of the key technologies they used to battle the disease.

Their work provides inspiration for how the EMR could mature over time. IPs hope that future EMR solutions will allow for:

Rapid notification of suspected or confirmed pandemic patients
A standard, centralized EMR view or dashboard for all healthcare departments would amplify the ability to share not only pandemic patient information, but other pertinent information as well.[5]

Tracking suspected or confirmed cases from outside facilities or during a previous hospital visit
Increased visibility and inter-communication between health system EMRs would improve patient care and medical response, protecting both patients and staff by initiating isolation protocols.[5]

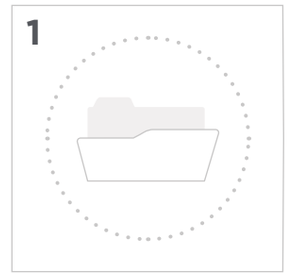
Triggering automatic implementation of isolation orders
Without this information, nurses cannot provide the appropriate patient care to pandemic patients, nor can they then pass this information on to frontline or overnight workers.[5]

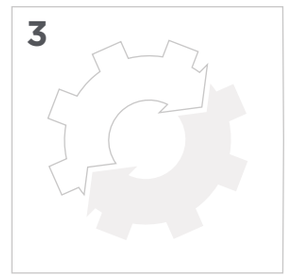
IPs may get their wish, as API-based integration and clinical intelligence solutions grow and expand. These systems, integrated with and enhancing the EMR, will allow for accelerated implementation of AI-based systems, more intuitive interfaces and the ability to connect disparate systems and collect unstructured data, making it all available in the blink of an eye.[6]

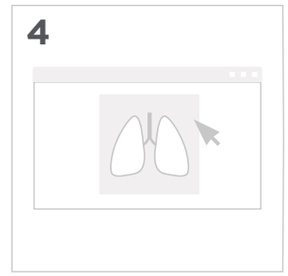
Fortifying your EMR now

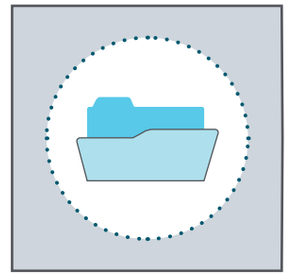
There is little doubt the evolution of the EMR will be astounding. Future technology will help provide “international standards for interoperable applications that use health, social, economic, behavioral and environmental data to communicate, interpret and act intelligently upon complex healthcare information to foster precision medicine and a learning health system.”[8]

If nothing else, COVID-19 has taught us that waiting for the future isn’t always a luxury we can afford. Healthcare organizations need to reinforce the EMR now. While it may sound like a tall order, there are practical steps organizations can take today to fortify the EMR for whatever the future may bring.









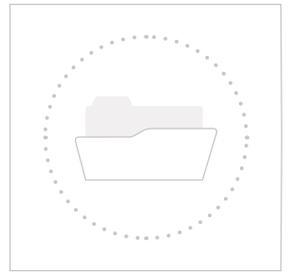
STEP 1:

Develop a connected healthcare solutions strategy

A connected healthcare solution includes a suite of content services and enterprise medical imaging tools that allow healthcare providers to create a platform for capturing, consolidating, managing and exchanging unstructured content throughout a healthcare enterprise. It leverages open, vendor neutral technologies to enable providers to harness unstructured content from all corners of the healthcare enterprise, regardless of the originating system, and place it at the fingertips of clinical stakeholders by linking it to the EMR.

Much like an EMR serves as an enterprise clinical platform for structured patient information, a connected healthcare platform serves as an enterprise system for unstructured content. When combined, healthcare providers enjoy the benefits of a comprehensive record that provides complete visibility into a patient's medical history. All the data and content clinicians need to make informed medical decisions are easily accessible. No more searching for related documents or imaging studies. No more making diagnoses based off incomplete information.

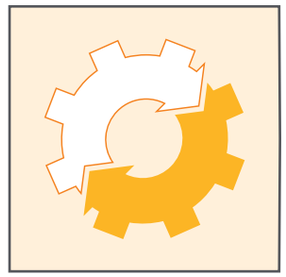
Content services + enterprise medical imaging + EMR = EHR 2.0



STEP 2

Implement an enterprise-ready content services platform

A content services platform should provide a single foundation for the management of clinical and business documents throughout the healthcare organization. This content services platform should be based on open standards to enable easy integration with existing legacy systems while consolidating clinical documents in a single archive for easy access, management and retention. Organizations should be able to deploy the platform enterprise-wide and customize it to meet the specific needs of each department. Automated workflows should be able to be created to ensure time-sensitive information gets to the right people to support faster, more informed decisions. Furthermore, the right platform should easily integrate with any EMR, allowing for the core clinical platform to become even more valuable and content-rich.

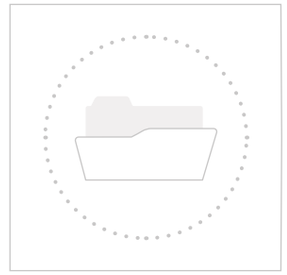


STEP 3:

Improve healthcare safety and quality by adopting automation

In the early days of the pandemic, many headlines focused on PPE scarcity, hospital bed shortages and a lack of ventilators. These new dilemmas placed added stress on an already overwhelmed healthcare workforce. The last thing clinicians and other healthcare staff members want to worry about during times like these is clinical documentation, content workflows and other administrative tasks. Process automation solutions can simplify workflows and help reduce clinician burnout.[7] For example, healthcare providers can use a content services solution to automate clinical document workflows or create dynamic e-forms to streamline patient information capture and routing. This type of technology reduces the amount of manual labor required by clinical staff to collect and track this data and ensures information is easily accessible in a digital format.

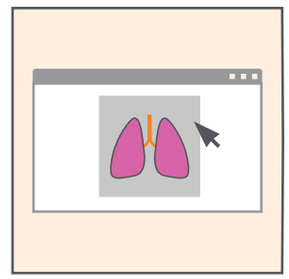
Process automation can also extend beyond the clinical frontlines to support health information management (HIM) staff and other administrative departments. For example, an automated medical records classification solution can automatically capture and identify various document types — with the option to assign visit numbers and patient identifiers — and then route those exceptions to staff to review. By automating time-consuming, error-prone documentation tasks, the solution expedites information availability while freeing HIM staff from an administrative burden.



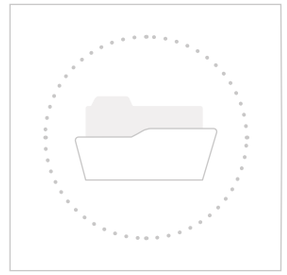
STEP 4:

Tame your growing medical image population

Medical images represent the most significant portion of clinically-relevant data often absent from the EMR. Making images available to staff and physicians in the context of the patient record is instrumental in enabling informed clinical decisions and improving patient care. Those images may be stored not only in radiology and cardiology picture archiving and communications systems (PACS), but also in a variety of specialty systems and mobile devices.



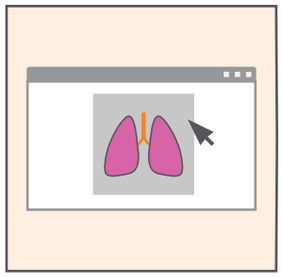
Enterprise imaging technologies such as a Vendor Neutral Archive (VNA) and universal image viewer help healthcare organizations gain control of medical images. An independent VNA provides a single repository that seamlessly communicates with relevant IT systems and uses industry-accepted standards to remove proprietary data formatting. A VNA can ingest DICOM images from PACS and a multitude of visible light images in their native file formats from image-intensive specialty departments such as dermatology, gastroenterology, ophthalmology, wound care and more. This vendor- and file-agnostic capability provides a foundation for enterprise-wide image access and exchange via the EMR.



Adding a web-based universal viewer allows images stored in the VNA to be easily accessed and viewed at the point-of-care via the EMR or remotely via any mobile device with browser access. This will arm physicians with the quick referential image viewing capabilities they need to make informed clinical decisions.

A universal viewer with advanced visualization capabilities can also untether radiologists from their PACS workstations, enabling them to interpret and edit images from anywhere with a diagnostic grade monitor. The ability to do this becomes highly relevant during a pandemic, when stay-at-home orders force imaging techs to work remotely.

Image acquisition and connectivity software can also help healthcare providers close encounter-based imaging gaps in their imaging record. This can become vital during a pandemic when use of portable x-ray and ultrasound devices are leveraged more frequently to limit patient movement and control the spread of disease. Ensuring images captured at the point-of-care are included as part of the enterprise imaging record so they can be viewed alongside other diagnostic images is instrumental in assessing a patient's condition and informing ongoing care and treatment.



STEP 5:

Make the EMR portal a true conduit to the patient

While the COVID-19 pandemic is likely to subside, healthcare changes that it helped trigger — including the growth of the remote workforce, telemedicine and virtual care — are likely here to stay. In a healthcare environment where more care is conducted in cyberspace, the ability to provide a wider variety of health information to patients in a digital format via the EMR patient portal becomes a key component to facilitating communication and improving the overall care experience.

Enabling patients to access, complete and sign electronic forms and submit historical clinical documents and images via the patient portal prior to a virtual on in-person visit will become table stakes. Providers can make their EMR patient portals even more valuable by making a patient's diagnostic medical images available via the platform through integration with universal viewing technology. When patients can access their medical images online, it facilitates exchange of these assets with other providers and makes patients more active participants in their ongoing care.

Conclusion

EMR technology continues to evolve. Before the coronavirus pandemic, EMRs provided healthcare professionals with more complete patient information, leading to quality of care improvement, stronger communication between providers and their patients and colleagues, reduction in errors and more efficient workflow — which allowed physicians to accommodate more patients or spend more time with the patients they serve.[9]

COVID-19 has impelled the EMR to evolve further, to become an "open, searchable library of a patient's medical life … a kind of intranet: Flexible, programmable, easy to use."[10] Integration with content services and enterprise imaging solutions furthers this evolution and helps strengthen the EMR by connecting it to the larger healthcare ecosystem and the unstructured information in those systems. It makes clinical documents, DICOM studies, point-of-care images, video and more accessible to clinicians via the EMR interface — fortifying this core clinical platform by making it a more valuable tool in the delivery of care.

SOURCES

1. Determining COVID-19 status in an EMR (June 2020) Stanley, Dirk

2. Case Study: How one hospital optimized their EMR to manage the COVID-19 pandemic (2020) Advisory Board

3. Tales from treating COVID-19: Building PCs from scratch and implementing software solutions in days (May 2020) Tennant, Tom

4. The top 5 practical digital health technologies in the fight against COVID-19: An infographic (May 2020) The Medical Futurist

5. The electronic medical record and COVID-19: Is it up to the challenge? (August 2020) Pryor, Rachel RN, MPH; Atkinson, Connie BSN; Cooper, Kaila RN, MSN, CIC; Doll, Michelle MD, MPH; Godbout, Emily DO, MPH; Stevens, Michael P. MD, MPH; Bearman, Gonzalo MD, MPH. American Journal of Infectious Disease

6. Physicians deserve better software: COVID-19 has shown why medical records need to adapt (July 2020) Limoli, Craig; Papathomas, Georgia MedCityNews

7. Healthcare automation matters more than ever during a pandemic (July 2020) Steger, Andrew HealthTech

8. Electronic health records: Then, now and in the future (2016) Evens, R.S. Yearbook of Medical Informatics

9. Do electronic medical records improve quality of care? Yes (2015) Manca, Donna P MD, MCISc, FCFP Canadian Family Physician

10. What the coronavirus crisis reveals about American medicine (April 2020) Mukherjee, Siddhartha The New Yorker

Hyland®

HEALTHCARE

Learn more at **HylandHealthcare.com**