

What You Should Know: HIE-Based Image Sharing and the COVID-19 Pandemic

Health Information Exchanges are supporting the front lines in the COVID-19 battle

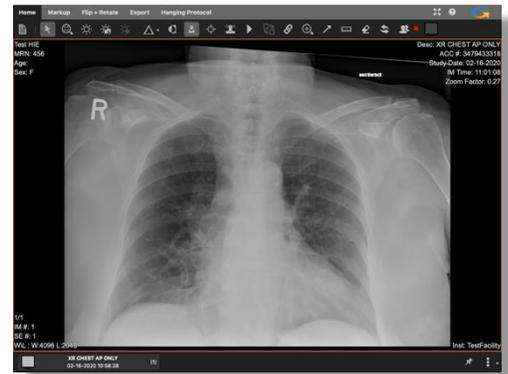
eHealth Technologies is deeply grateful to all who are working on the front lines of the battle to protect our communities during the COVID—19 crisis. Our partner Health Information Exchanges in particular have emerged to assume critical support role for the front lines during this profoundly challenging time by enhancing and expanding their services in several key areas:

- ✓ Providing **alerts & notifications** to care providers for patients who are suspected, cleared, or confirmed to be infected with the virus that causes COVID-19.
- ✓ **Reporting** COVID-19 clinical data to state and local health departments to assist with surveillance and management.
- ✓ Supporting **telehealth** visits by assuring clinical information is available at the point of care, wherever it may be.
- ✓ Supporting **temporary hospitals** by providing them with access to patient records by way of the HIE clinical portals, to assist with diagnosis and treatment.
- ✓ Adapting **consent rules** to facilitate telehealth visits as well as more widespread alerting.
- ✓ Creating or supporting **COVID-19 dashboards** that leverage aggregated data from a variety of sources for the purposes of tracking potential or actual outbreaks, disease prevention maps, etc.

Medical imaging is an important tool for diagnosing and treating of COVID-19

Medical Imaging (X-Ray and CT in particular) has been the subject of considerable attention related to the COVID-19 pandemic for both testing and treatment.

- ✓ Chest x-rays are valuable tools to identify likely COVID-19 infections almost immediately, while lab tests may not be available for days.
- ✓ CT images are highly sensitive to COVID-19 and can often be used to identify the presence and severity of infection.



eHealth Technologies is assisting wherever possible

eHealth Technologies occupies a unique position at the intersection of both of these domains, HIEs and medical imaging. This enables us to provide a wide variety of capabilities including:

- ✓ Provisioning a unified community-wide, diagnostic quality, web-based image viewing platform that is available “on demand” for all HIE constituents.
- ✓ Enabling access to/query of virtually all historical medical images and imaging metadata in the geographies covered by HIEs (see attached listing).
- ✓ Receiving and acting on alerts and events issued across the HIE by locating and delivering related images where needed.
- ✓ Delivering seamless access to medical images in conjunction with HIE user interfaces and workflows, leveraging existing MPIs, and respecting established consent rules, access controls, and user privileges.

Following are several specific use cases that can be adopted where appropriate by leveraging our image sharing platform – *eHealth Connect® Image Exchange*. Our eHealth Technologies team members stand ready to work with all of our HIE partners to leverage these capabilities in support COVID-19 efforts.

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HIE image sharing use cases for COVID-19 diagnosis & treatment

Care providers who need access to medical images for **primary reading or secondary viewing at temporary hospital sites** that have been set up to treat COVID-19 patients can access them in conjunction with their patient records directly from within the HIE's clinical portal. This is possible because *eHealthViewer*[®], which is a 510(k) Class II medical device that is approved for primary diagnosis, has already been integrated into these portals.

eHealth Technologies can **respond to alerts** that HIEs have already established, **automatically locating relevant images** such as chest x-rays and CTs that might reside on external PACS locations across the region, making them accessible when and where needed – automatically within minutes. As an example, patients presenting with respiratory issues, or patients testing positive for COVID-19, can be confident that external relevant imaging studies that would support further diagnosis or treatment will be swiftly located and delivered to their care providers quickly and efficiently.

eHealth Technologies can **collect, curate and present imaging studies** to HIE constituents so they can interpret them for the purpose of identifying likely COVID-19 cases, leveraging our Emergent Workflow module much like what we can do for stroke or trauma. Utilizing medical imaging as a secondary testing tool can be particularly helpful when COVID-19 lab test results may take days to be returned.

Providers can be provided **access to relevant images from across the community** within minutes when certain specific situations occur – such as when a patient presents with **COVID-19 symptoms**, receives a **positive or negative COVID-19 test result**, or when an **imaging report has been issued diagnosing or confirming COVID-19**. This means, for example, that a chest x-ray that was performed in another location before COVID-19 was suspected can be easily checked again to determine if the infection might have occurred much earlier, or to better understand disease progression.

eHealth Technologies can facilitate more efficient COVID-19 reporting to state and federal authorities by assisting HIEs to **automatically include access to the associated imaging studies as embedded links**, saving time for both the sending and the receiving staff.

Care providers can be provided with **reports or notifications** for their COVID-19 patients that summarize **relevant imaging studies from across the HIE that might facilitate diagnosis and treatment**, including secure links from which the images can be viewed directly from within their EMR.

eHealth Technologies can facilitate **current or future research** because we are able access multiple years' worth of historical imaging across an entire community for COVID-19 patients and can present access to those images to researchers in a highly useable manner.

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In summary, whether in response to an alert, an HIE user query, a need to report clinical data to state or local authorities, or any sort of workflow trigger, eHealth Technologies can locate relevant imaging studies from across the community. The Image Exchange platform can automatically make these imaging studies available to care providers in a wide variety of ways, such as:

- ✓ Routing them directly to one or more specific PACS, perhaps at a key academic institution in the region, for access by their staff.
- ✓ Presenting them on a common worklist that could include markers denoting patients with positive COVID-19 test results.
- ✓ Packaging and delivering reports or notifications that summarize the patient's testing status, where images reside, what types of images were performed, and including links to relevant imaging studies.
- ✓ Making medical images viewable in full diagnostic quality within the context of a patient's longitudinal health record for any care provider with access to the HIE.