HYLAND HEALTHCARE | ARTICLE

KEY RADIOLOGY CONSIDERATIONS DURING A PANDEMIC

Hyland®

COVID-19 has had an unprecedented impact on healthcare providers around the globe. Responding to the pandemic has been a crash course in emergency preparedness, and as a result, the industry has learned many lessons that it can apply now and in future public health crises.

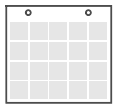
The radiology department is of significant importance to the overall operations of a health system and it serves a major role in the diagnosis and treatment of many contagious diseases. This is particularly true in the case of COVID-19. This pandemic has impelled this specialty to outline key considerations for radiology preparedness for a pandemic.

According to *Radiology*, a publication by the Radiological Society of North America (RSNA), radiology preparedness is a set of policies and procedures directly applicable to imaging departments designed to:

- Achieve sufficient capacity for continued operation during a health care emergency of unprecedented proportions
- Support the care of patients afflicted with a pandemic contagion
- Maintain radiologic diagnostic and interventional support for the entirety of the hospital and health system.[1]

Largely, this effort involves ensuring the safety of healthcare workers and patients by limiting their exposure, effectively treating patients infected with the contagion and sustaining radiology department operations. Let's take a closer look at some of the key steps to follow in each of these areas.

ENSURING THE SAFETY OF HEALTHCARE WORKERS AND PATIENTS



Postpone elective imaging procedures – This can be a difficult financial proposition for the radiology department and the health system at large, given that elective imaging procedures contribute significantly to the provider's revenue stream. However, it is important that providers take this step during a pandemic to limit the exposure of healthy patients to the contagion while freeing up modalities (and hospital beds) for those infected with the illness. Frost & Sullivan estimates that imaging volumes have decreased by 50 percent on average across all modalities during COVID-19 as a result of these imposed delays on elective imaging procedures. Outpatient imaging has been most severely impacted followed by inpatient and Emergency Department imaging.

Use personal protective equipment (PPE) – The use of PPE by all staff members that interact with patients is vital. This includes receptionists, clinicians and technicians. Patients should also be issued masks upon check-in.

Screen – Screening of patients for the contagion should be performed prior to patient exams. This includes at the time of scheduling as well as upon arrival at the hospital entrances and radiology desks. Patients that present with symptoms of the contagion should be rapidly isolated.

Be selective with diagnostic imaging – Imaging procedures are only suggested for those patients where imaging will impact management of the disease. In the case of COVID-19, it should not be used as a screening tool, but instead used to rule out other diagnoses (e.g., pulmonary embolism) that can be treated. It can also be used to track advancement of the illness to determine if further treatment or intervention is necessary (e.g., intubation).

Decontaminate – Standardized decontamination and sanitation procedures should be adopted for all imaging equipment, work surfaces and patient wait areas.

Enable remote work where possible – Radiology departments should enable employees that don't have direct interaction with patients to work from home to adhere to social distancing guidelines.

[1] Radiology Department Preparedness for COVID-19: *Radiology* Scientific Expert Panel, March, 16 2020

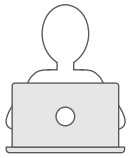
Radiology departments should seek ways to enable remote reading and allow radiologists to diagnostically interpret medical images from home or another remote location using a web-based image viewer with advanced visualization features.

EFFECTIVELY TREATING INFECTED PATIENTS

Isolate – The health system needs to ensure it has ample facility space to properly isolate and care for patients that have tested positive for the contagion. In some instances, this should extend to dedicated imaging modalities for the infected.

Bring imaging to the patient bedside – Imaging of infected patients should be performed in areas with less foot traffic and with fewer critically ill patients. When possible, portable imaging modalities (e.g., X-rays and ultrasounds) should be leveraged to conduct imaging at the patient bedside as opposed to bringing contagious patients to the radiology department for imaging procedures. Future access and of these point-of-care images for assessment and follow-up may require some worklist integration between the portable modalities and the enterprise PACS and/or VNA.

SUSTAINING RADIOLOGY DEPARTMENT OPERATIONS



Establish remote diagnostic interpretation capabilities – With the exception of those that need to be onsite to perform patient procedures such as biopsies, most radiologists have little to no direct patient contact. The primary reason these specialists are required to come into the hospital or office is to read images on dedicated PACS workstations. Radiology departments should seek ways to enable remote reading and allow radiologists to diagnostically interpret medical images from home or another remote location using a web-based image viewer with advanced visualization features. Remote reading provides the following benefits:

- Allows radiologists to adhere to social distancing guidelines and limits their exposure to the contagion.
- In the event a radiologist needs to be quarantined, but is outwardly healthy, it allows him or her to continue to be a productive team member by working from home.
- Contributes to enhanced departmental productivity by enabling reads to easily be performed remotely 24/7, at the times most convenient to the radiologist or during off hours to support surges in case load.
- Prepares the radiology department for post-pandemic imaging procedure surges.

As mentioned, COVID-19 has resulted in a 50 percent decrease in elective imaging procedures. Frost & Sullivan estimates that a return to relative normalcy will increase elective imaging procedures by 10- to 15-percent above pre-COVID-19 volumes. At the same time, radiology departments will likely be unable to offer the same throughput that they did prior to COVID-19. For example, many may need to implement staggered scheduling to avoid overcrowding while continuing to maintain heightened sanitation regimens. Remote reading helps provide the convenient off-hours interpretation capabilities necessary to ensure the turnaround times are met to effectively address this surge in demand.

Enable virtual collaboration and care coordination – A pandemic creates a need to maintain social distancing and reduce the number of in-person meetings. Radiology departments should invest in technologies that make it possible for radiologists to collaborate with their colleagues on imaging studies virtually. The rise in telehealth and virtual visits during a pandemic and beyond also places a premium on collaborating with patients virtually. Systems where a patient's medical images can be electronically shared with and accessed by the patient via an EMR portal or other secure web-based location can help streamline care coordination and delivery while limiting the exchange of physical media such as film, CDs or DVDs.

Optimize encounter-based image consolidation and visibility – A pandemic creates an increased reliance on portable imaging modalities (e.g., portable X-ray and ultrasound) to control the spread of the contagion by limiting the movement of infected patients throughout a healthcare facility. A radiology department must guarantee that a system is in place that ensures the images captured on these portable modalities are integrated with other patient images on the enterprise PACS or VNA. This is crucial, not only for collective image review to assess condition progression or recovery, but also to ensure proper procedure reimbursement.

Look to the cloud – By reducing the number of elective procedures, a pandemic places a significant economic strain on all areas of a health system. Radiology departments are particularly hard hit. The reduction in incoming revenue makes capital expenditures a difficult proposition during these times. Radiology departments should look to move to transition to operational expenses where possible. Web-based technologies that are hosted in the cloud and follow subscription payment models not only help radiology departments weather the financial storm a pandemic creates, they also allow you to implement new solutions or scale existing ones quickly. This can come in handy when ramping up new surge facilities.

Lean on AI – Artificial intelligence (AI) can also be a valuable tool to radiology departments during a pandemic, particularly when it comes to accelerating imaging processes. In the case of COVID-19, AI was used to quickly and effectively distinguish COVID-19 from community acquired pneumonia on a chest CT scans.

COVID-19 has made the healthcare industry aware of the vital importance of pandemic planning to public health. This requires healthcare delivery organizations to adopt and embrace an ongoing culture of infection control. For radiology, this means establishing ways to deliver optimal imaging and treatment while reducing unnecessary movement and congregation of patients within the hospital environment. What the future holds with regard to COVID-19 may be unclear, but healthcare providers now have more clarity on what is necessary to effectively function and care for patients during a pandemic.

Learn more at **HylandHealthcare.com/EnterpriseImaging**

Hyland®