Returning To Normalcy: Operational Radiology RecoveryIn Academic Radiology Departments Following The COVID-19 Pandemic

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Abstract:

With an emphasis on various recovery domains, including managing appointment availability, patient safety and workflow changes, and operational data and analytics, this article provides a current snapshotof how radiology departments nationwide are planning recovery from the baseline of the coronavirus disease 2019 pandemic. 114 academic radiology departments received an email survey via the Society of Chairs of Academic Radiology Departments list server. Three main areas are described using best practices and shared experiences based on data provided by the 38 survey participants:

(1) recovery planning, (2) establishing a new normal, and (3) forecasting and measuring. The common strategies and preparations academic radiology departments have made to reopen imaging in the post-coronavirus disease 2019 world should be known by radiology practices. All of this should be carried out while preserving a secure and patient-focused setting and getting ready to lessen the effects of any upcoming pandemics or outbreaks.

Keywords: Radiology, COVID-19, pandemic, recovery,practice management.

Introduction

Following the first reported case of coronavirus disease 2019 (COVID-19) affecting a patient in the United States on January 20, 2020, 33 states had issuedstatewide stay-at-home orders by the beginning of April. Health systems rushedto meet the demand for critical care patients as the virus spread throughout thenation, expecting massive increases in the volume of COVID-19-related cases. For the sake of patient and staff safety, many medical services, including screening studies and elective or non-time-sensitive surgical procedures, were halted. This was done in order

to accommodate a predicted large-scale increase in COVID-19 patients, which may or may not have materialized based on local epidemiology and incidence. Radiology departments are safely and successfully resuming operations and recovering from the workflow and volume impacts of the COVID-19 pandemic following these sharp declines in volume brought on by the stay-at-home orders and the COVID-19 pandemic (Vagal, 2019).

Government-mandated lockdowns in most places have prevented most non- time-sensitive diagnostic imaging and procedures and kept most people at home. Transitioning from an unprecedented multiweek decline in services to a new normal without any pertinent historical data or a roadmap for how to proceed is the challenge facing radiology in terms of reviving our workflow. During the shutdown, a considerable number of imaging studies were postponed, rescheduled, or cancelled. In addition to competing with currently scheduled exams, these now need to be rescheduled within a dynamic framework of intricate safety and regulatory requirements. New expectations for spacing, testing, and cleaning must be incorporated into imaging workflow, and these adjustments must be consistent and made explicit to patients, referring physicians, administrators, health systems, and employees. People are reluctantto leave their homes, and they are even less willing to go back to the hospital where they might get COVID-19 (Chen, 2019).

Planning for Recovery :

Departmental focus started to shift toward recovery planning during the height of the coronavirus pandemic, as volumes drastically decreased and only time-sensitive examinations were conducted. Uncertain timelines and regulations for the safe reopening of facilitiesmade it difficult to prioritize and reschedule due to the unexpectedly high backlog of orders. A significant number of exams had been put on hold, and other new orders that had been started during the pandemic were also postponed unless they were deemed urgent. In order to safely and effectively bring these patients back for care, manyinstitutions recognized the need to review and prioritize these orders and started taking steps to do so (James, 2012).

Establishing a New Normal:

Health systems had to make sure that both patients and staff felt safeand informed while giving priority to the examinations that needed to be scheduled. A new 6-foot physical distance between each person was now required by state law and regulations. Each department triedto accommodate increased patient volumes from

a significantly increased backlog, and this increased physical distance now created a related space capacity constraint that needed to be taken into account. In order to comply with the new, more time-consumingcleaning protocol guidelines and the increased physical distance,waiting areas, patient flow, and safety precautions had to be modified.In order to make sure that these changes were understood andaccepted, health systems had to take patient-directed communications into account as they evaluated and implemented these changes (James, 2012).

Testing for COVID-19 in specific cases and assessing patients for symptoms prior to any imaging test or procedure were part of the process of establishing the new normal. In order to ensure that appropriate testing was finished prior to services, potentially aerosolizing procedures required extra care and attention. This allowed for the scheduled availability of higher level personal protective equipment, which is required for aerosolizing procedures inpatients with COVID-19 when they are absolutely necessary (Vagal, 2019).

84% of respondents mandated COVID-19 testing for patients undergoing potentially aerosolizing procedures, 58% used telephone screening questionnaires prior to the appointment, and 87% took patients' temperatures when they arrived at the facility. As of the survey, none of the respondents had instituted universal COVID-19 testing procedures for all appointments in radiology. In addition to requiring COVID-19 testing for all interventional radiology procedures,one respondent mentioned that the health system had improvedsonographer safety by installing a physical barrier that resembled a curtain on the ultrasound units.

At Henry Ford Health System, it was decided that more shifts and longer hours would be required to handle the post-COVID-19 surge asthe number of patients returning to the system rose. In order to accommodate the new early morning, evening, and weekend hours, more technologists and radiologists were needed.

Recommendations:

- One of the biggest challenges is figuring out how to compete with currently scheduled exams and take in cases that were postponed during COVID-19-related shutdowns. To track the scheduling and completion of this backlog of exams, radiology departments have implemented a number of metrics and strategies. The most widely usedmetric is the actual completed examination rate.
- Radiology departments should closely monitor locally relevant data and trends regarding new infections as pandemic "hotspots" continue to change geographically. This can be used to inform any new actionsthat need to be taken as well as the recovery status. Real-time data

should inform the use of analytical tools whenever feasible. These canbe used to help direct the recovery efforts of specific departments.

- As radiology departments reopen, it's critical to consider strategies to lessen the impact in the event that this happens again. In the short andlong term, workflow modifications like temperature screening, waiting room modifications, and schedule modifications can increase worker and patient safety. Since memories are fleeting, we will have fewer things to rediscover during the next pandemic if we can prepare aheadof time.

Conclusion:

Over the course of the pandemic, telemedicine has grown significantly. Despite the logistical and technical challenges of quickly implementingremote reading systems, many respondents expressed gratitude for the ability to protect their radiology workforce and the increased capacity that remote reading provides.The changes brought about by the COVID-19 pandemic are not going away. Some were able to teach residents and conduct "virtual read-outs" using teleconferencing technology, despite the fact that remote teaching capabilities varied. According to one respondent, the radiologist's job will need to evolve further beyond merely handling examination lists. Communication, adaptability, and flexibility are crucial above all else. Not always when medical facilities are ready, patients will return when they areready.Imaging volume and procedures in radiology departments have significantly decreased as a result of the COVID-19 pandemic. We've started to bounce back from the initial barrage. We are aware of the data to track and the next course of action. We don't know what will happen next. However, as we get ready to ramp up, we must remember the past and carefully consider how to lessen the impact in the event that this happens again.

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