

Radiology Preparedness at a Level I Trauma Center Safety Net Hospital in the Time of COVID-19

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Purpose

- ▶ To discuss the operational challenges presented to our radiology department by the COVID-19 pandemic and highlight implemented measures.



NUMC: A COVID-19 Safety Net for Nassau County

- ▶ Our hospital services an indigent and minority population, which has been especially hard hit by COVID-19.
- ▶ The state-wide quarantine significantly impacted outpatient volume, which decreased by approximately 90%.



Effects on Department

- ▶ It was essential for us to rethink the daily operations of our entire department in order to meet the increasingly pressing needs of the hospital created by the pandemic.
- ▶ To address the impact of the surge in COVID-19 patients, we held daily multidisciplinary huddles with clerical and clinical staff.
- ▶ We foremost needed to alter the distribution and need of services we provide and to ensure the safety of our staff.
- ▶ All imaging modalities saw a dramatic decrease in usage.
- ▶ We triaged pre-existing appointments according to level of urgency.
- ▶ Screening mammograms were deferred, while preserving patients who needed stereotactic biopsies, with highly suspicious lesions by BIRADS criteria.
- ▶ MRI and Ultrasound outpatient examinations decreased significantly.



Effects on Department

- ▶ We continued consultations through teleradiology services.
- ▶ Specific inpatient IR services increased, such as Shiley dialysis catheter placement in the many COVID-19 patients who developed renal failure.



Preparing our Staff

- ▶ We informed all staff to consider every patient as COVID-19 positive, and instructed them in proper doffing and donning of PPE and handwashing techniques.
- ▶ We also constructed protective barriers around reception areas.
- ▶ Despite several staff members falling ill, we were able to maintain essential services through creative redeployment.
- ▶ Our institution has also provided resources to better ensure the mental health of personnel.



Restructuring of the Hospital

- ▶ Multiple inpatient floors were converted to dedicated COVID care units.
- ▶ We restructured our staffing matrix to provide increased coverage on nights and weekends.
- ▶ To handle the increased demand for chest CT and plain chest films, we implemented structured reporting with new COVID-19 templates.
- ▶ Teleconferences and webinars were provided to our radiology residents and attending staff focusing on the coronavirus.



Resident Redeployment

- ▶ Our radiology residents were redeployed to newly created COVID-19 teams, to assist with patient care on the floors.
- ▶ It was necessary to redistribute the workload among the remaining residents.
- ▶ Nurses and technologists were reassigned within our department, as well as to the hospital command center.



Protecting Our Department

- ▶ In order to prevent cross-contamination with COVID-19 positive patients, we reserved one of our CT units for outpatients.
- ▶ Portable X-Ray machines were designated for use on high volume COVID-19 floors staffed by dedicated teams of radiology technologists.
- ▶ We used clear plastic wrap to protect our portable machines from surface contamination.
- ▶ Signage was posted to redirect patient traffic within the radiology department.
- ▶ To further protect the department, all COVID positive sonograms were performed bedside, utilizing modified targeted protocols to minimize staff exposure.
- ▶ Safety zones were created within the department by redirecting patient flow.
- ▶ Obtaining PPE for our radiology staff was extremely challenging, especially for N-95 masks.
- ▶ To protect our radiologists, we converted a remote site on the hospital campus to a reading room, while maintaining a skeletal staff on-site.
- ▶ A dedicated pager was implemented by our department for use by clinicians to preserve communications.



Conclusion

- ▶ As the COVID-19 census declines, restoration of departmental operations is paramount.
- ▶ A multiphasic reopening includes rescheduled clinic visits and expanded hours of operation to handle the expected surge of deferred cases.
- ▶ Some of the measures which we instituted will be maintained such as separation of COVID and non-COVID work areas.
- ▶ As a safety net hospital, our facility cares for an underserved population in the context of budgetary limitations.
- ▶ The COVID-19 crisis required many changes, including workflow and safety issues, which placed additional strain.
- ▶ The landscape has now changed forever and things will not return to the way they were prior to the pandemic.
- ▶ We will continue to see more COVID-19 patients and many of the initiatives we began will likely be permanent.

