

Economic Impact of the Omicron variant on Radiology Practices in India.

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Abstract:

The COVID-19 pandemic had a severe impact on radiology practices across India. Although the CT chest and chest radiographs had a spike during the 1st and 2nd wave of covid in the country, the Omicron variant has significantly less effect on the lungs thus reducing CT chest and chest radiograph imaging. This is good for the patient who has significantly lesser mortality. However, the fear of the Omicron variant has caused a significant decrease in imaging of non-covid related illnesses due to hesitancy among patients to come to the hospital during the pandemic for non-covid illnesses in the fear of getting covid in hospitals. This is causing a severe delay in the imaging of non-covid illnesses, their diagnosis, and treatment, which itself is a silent pandemic of sorts. Hospital preparations to expand covid crisis capacity are further diminishing the amount of appropriate medical imaging that can be safely performed. Although economic recessions generally tend to result in decreased health care expenditures, radiology groups have never experienced an economic shock that is simultaneously exacerbated by the need to restrict the availability of imaging.

Outpatient-heavy practices have felt the biggest impact of these changes, but all imaging volumes have decreased. Anecdotal experience suggests that radiology practices have 50%–70% decrease in imaging volume, depending on the location of practice and the severity of the COVID-19 pandemic in each region. Administrators and practice leaders must be proactive with practice modifications and financial maneuvers that can position them to emerge from this pandemic in the most viable economic position. It is possible that this crisis will have lasting effects on the structure of the radiology field.

Summary

The Omicron pandemic will further stress radiology practices throughout the country to an extent not previously encountered; practices will have many variables to consider and important decisions to make in order to ensure financial viability.

Keywords: Omicron, Covid-19, Radiology, Economic Impact, India.

Introduction:

The coronavirus disease 2019 (COVID-19) pandemic is having a profound impact in India. This is continued into the year 2022 due to the Omicron variant. It is the most serious public health crisis in most of our lives and the most significant geopolitical event of our generation. The necessary policy response to quell its spread and the resultant downstream effects have had substantial detrimental effects on the economy; economic activity in many sectors has evaporated. Stock market indexes have fallen significantly from their pre-pandemic highs (1), and unemployment has risen substantially(2). As the front line of this response, academic, private, and community care systems are all experiencing a substantial loss in revenues in addition to increased expenditures from facility modifications and increased staffing. With nationwide

community spread, no region will escape the stresses of this event, though some will have more time to prepare.

The ideal policy response to minimize the loss of life and economic hardship is not yet clear given the limited and incomplete data that we have to date (4). What can be said with relative certainty is that the 1-2 years will require close coordination between the public sector, health care delivery systems, and individual behavior. The goal is to spread out the demand for COVID-19-related health care, to provide health systems sufficient time to increase capacity; if successful, we will prevent or limit the amount of hospitals that are overwhelmed and stretched beyond capacity. Whether this capacity is reached will be determined by how demand and supply change in the coming months.

The demand for health services is driven by the government policy response and individual behavior. Central and state governments have enacted varying levels of mandatory closures and shelter-in-place orders. These policy responses affect the demand for health services independent of COVID-19-related sequelae. Shelter-in-place orders have dramatically cut the number of traffic collisions and led to decreased crime across the country. Suspension of collegiate, scholastic, and community athletics has resulted in less trauma. Social distancing recommendations help minimize the transmission of other communicable diseases such as influenza. Although the net effect of these policies is decreased demand of health care services(which is good), there are exceptions; increased domestic violence and exacerbation of mental illness are all potential sources of higher demand for certain health services. Perhaps even more troubling, reduced rates of admission for heart attacks, strokes, and other common emergencies suggest that patients may be avoiding necessary care out of a fear of going to the hospital (5).

The supply of health care is altered directly by our care delivery systems. Hospitals are actively expanding their capacity for basic and critical care beds. Important resources such as personal protective equipment and drugs must be preserved and sourced, often at extraordinary expense. In addition, hospitals must be cognizant of their potential to inadvertently worsen local outbreaks through nosocomial transmission (6). These precautionary maneuvers necessitate curtailing of non-urgent and elective care, including medical imaging. Some radiologists, including trainees, are being redeployed to other roles throughout the health care continuum. These measures free up physical resources for bed expansion, prevent the use of personal protective equipment that will be needed to care for patients with COVID-19 and limit additional transmission potential.

The net decrease in demand for non-COVID-19-related health care and concomitant capacity expansion are encouraging developments for the collective public health response. However, their combination is also financially devastating for many medical specialties, including radiology. Although economic recessions tend to result in decreased health expenditures (7), the health care industry has never experienced an economic shock that is simultaneously exacerbated by the need to restrict its supply of certain services. There is much uncertainty about whether the economic recovery from this crisis will be U-shaped or V-shaped, and the final extent of these macro-level recession effects on reimbursement will ultimately be determined by the recovery path the economy takes.

The omicron spread has its greatest impact on screening services (mammography [9], lung cancer screening), but the effects will be felt throughout the specialty, including interventional procedures (10). Unsurprisingly, imaging volumes are already down (11). Outpatient imaging has seen the most precipitous decrease, but lower imaging volumes in the emergency and inpatient setting have also been observed. Although these reductions will affect all radiology practices, outpatient-focused radiology groups will see the greatest impact in lost revenue. Outpatient imaging has the

most favorable revenue profile; patients are more likely to be commercially insured and their disease acuity is lower. Suspension of outpatient imaging is a necessary part of efforts to reduce disease transmission. Thus, outpatient imaging has been stopped before resources would be strained by a surge in COVID-19 cases and before inpatient and emergency settings experience demand-related reductions in volume.

Models of COVID-19 case growth and historical hospital resource usage (12) can be combined with real-world experiences to estimate the length of crisis response in specific regions. Preliminary data from our multispecialty radiology practice are consistent with a greater than 70% drop in outpatient imaging. As a comparison, emergent and inpatient imaging volumes have decreased approximately 50%. These observations are in line with global volume metrics reported by radiology software companies (14). Assuming six months to recover from peak case growth before easing back into normal operations, this would result in approximately 6-8 months of dramatically reduced imaging revenue. Ultimately, each practice will be differentially affected on the basis of local public policy, their outpatient imaging volume, technical fee collection, and patient demographics. Radiology practices may be looking at subnormal revenue for a minimum of 6 months. Without a breakthrough pharmaceutical intervention (eg, COVID-19 drug), there will be an ongoing threat of disease resurgence (15). Combined with the varying efficacy of mitigation techniques (16), the potential timeline for disruption to normal practice could be significantly longer. It is not out of the question that some degree of lockdown could continue for the next 6 months or longer; however, responsible policy decisions coupled with increased testing may allow for some semblance of normal operations even during that period.

How well practices can recover from this nadir will be influenced by payors; patient demographics will again be key. Central and State budgets are incurring substantial unexpected expenditures thanks to their COVID-19 response and major revenue shortfalls secondary to lower sales and income tax receipts. Commercial insurers are likely to reap short-term benefits from steady premium collections despite decreased benefit claims during the crisis. When elective imaging volumes eventually return to normal, preauthorization processing times may be prolonged as insurers try to clear a backlog of deferred examinations.

Recovery efforts will require Government assistance. Radiology groups should be given loans, loan guarantees, and other investments through the Central and State governments. They can also defer paying the taxes through the end of 2022. Multiple other provisions can provide relief to small businesses, but these are not specific to medicine or radiology.

It is too early to elucidate the short-term and permanent implications for radiology practices that will stem from this pandemic. In the near term, practices should expect substantial temporary cuts in revenue. If fortunate enough to not yet be severely affected, practices could consider expanding hours to complete examinations that had been scheduled in the near future.

Practices should evaluate their overhead expenses and devise strategies to reduce these on a semi-permanent basis. They will want the ability to quickly restore or exceed baseline capacity once the pandemic subsides. Minimizing the disruption to staffing in the short term will be crucial to that end. Staffing challenges can be addressed through a combination of reduced working hours, temporary salary cuts, bonus suspensions, furloughs, and, in the direst of circumstances, layoffs. Anecdotally, some organizations are already decreasing salaries and implementing increased scrutiny of new hires, if not explicit freezes on new staff (22). Depending on the depth of the recession, recovery of imaging volumes, and potential delays in the retirement of more senior radiologists, the job market for newly minted radiologists may become less appealing.

As we enter the Omicron variant of this pandemic, the economy and radiology practices themselves are likely to look different. The overall economy could remain suppressed, including imaging services. Will some imaging that was previously routine now be considered superfluous? How will long-term physician referral and ordering patterns change?

The pandemic will likely result in long-term or even permanent alterations to radiology practice. On a micro level, practices could be permanently redesigned as radiologists become more comfortable reading remotely. Large practices will be particularly well-suited to expand radiologist hours well beyond the current 9–5 workday with staggered shifts, allowing for higher overall volumes and providing increased flexibility to patients who prefer off-hour examinations. Any permanent increase in remote reading will have important effects on resident training and department collegiality. On a macro level, stimulus funding will help some outpatient-focused businesses avoid bankruptcy, but for many, it will not be enough. Radiologist income is likely to fall, and some practices may be forced to operate in the red. Market conditions could accelerate corporatization trends in radiology (23) as the combination of distressed practices, historically low-interest rates and access to capital create an attractive environment for private equity buyouts. Practices that do survive may more seriously consider true affiliation or merger agreements with large health care systems.

In conclusion, the general uncertainty surrounding the extent of the Omicron variant of Covid-19 belies the implications it will have for radiology practices. Incomplete data complicate long-term modeling. Haphazard and disjointed public directives may lead to longer or multiphase crisis responses. Antibody testing may uncover far greater prevalence than we understand today. Pharmaceutical interventions could arrive faster than anticipated. The economic recession could turn out to be less deep than anticipated or morph into a full-blown depression. It is our hope that legislators can offer additional help for the unpredictable times ahead. Although hospitals have been designated to receive government funding to date, it is likely to be short of what is required to prevent hospital and practice bankruptcies. Ultimately, it will be a combination of the publicly provided aid and individual

managerial decisions by radiologists that determine what our practice environments look like in 2022 and beyond.

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