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Invited Commentary

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The COVID-19 pandemic has left no area of medical practice untouched, and in the spring of 2020, many medical centers were forced to scale back or stop routine medical care in the interest of preserving the healthcare workforce and hospital resources and to slow the spread of the novel virus. In a timely report to *Journal of the American College of Surgeons*, Van Haren and colleagues[1] report their single-institution experience with the impact of COVID-19 on lung cancer screening at a large academic center in the US. Looking at rates of lung cancer screening both before and after an institutional lockdown, they identified a > 40% decline in new patient screening volume, as well as a marked decline in follow-up studies. Equally concerning is their finding that once the institution completed phased reopening, the volume of patients

screened did not recover to anywhere near prepandemic rates. This suggests a dangerous lasting impact on an already fragile preventive care program.

Although lung cancer screening has been advocated for nearly 2 decades, with clear benefits shown by reports from The International Early Lung Cancer Action Program,[2] the National Lung Screening Trial,[3] and the Nederlans-Leuvens Longkanker Screenings Onderzoek (NELSON) trial group[4] widespread adoption has been slow-going. In 2013, the US Preventive Services Task Force gave formal lung cancer screening recommendations, yet currently only a fraction of patients that are eligible undergo screening.[5,6] As a result, tremendous effort and resources have been allocated to increase lung cancer screening rates, including educating primary care physicians and development of close working relationships with state and federal government agencies. Despite such efforts, only an estimated 1.1% to 3.9% of adults that are eligible under the current US Preventive Services Task Force guidelines are properly screened.[7] With meager population screening rates to start with, it is no surprise that Van Haren and colleagues[1] noted diminished new patient screening CT scans in the midst of an unprecedented pandemic.

As leaders in surgical oncology, we must then look at both the root cause of low screening rates in a post-pandemic world, as well as take an active role in developing their solutions. Van Haren and colleagues[1] noted a 25% increase in the "no-show" rate and parsed out the subgroup data to show key target demographic characteristics for intervention: younger patients, current smokers, female patients, and African-American patients. Many of these key demographic characteristics overlap with those of patients most at risk for mortality from COVID-19 infection. Even so, we must continue to ask why our patients are delaying cancer screening, routine follow-up, and treatment. If the answer is fear, then we have an obligation to work as a system to make sure COVID-19 and non-COVID-19 care can co-exist safely. An excellent baseline is the Society of Thoracic Surgeons COVID-19 Task Force statement outlining 3 central pillars of cardiothoracic care during the viral pandemic: protecting the patient, protecting the healthcare team, and protecting the institution.[8,9] Although early health system suspensions were designed to protect reserves of healthcare workers (and institutional resources), the focus in a post-pandemic world must shift toward the former 2—patients and healthcare team. Although numerous guidelines have addressed surgical care, there is a paucity of data on viral transmission in the outpatient setting. There are even fewer data on strategies to convince patients that it is safe to resume care and to enroll in screening measures, even ones that have demonstrated survival benefit, such as low-dose CT. Simply put, all of the health checkpoints, personal protective equipment, and equipment sterilization protocols are useless unless we can find a way to communicate to patients that they are safe to enter the building.

Although we have certainly learned significant amounts about preventing and treating COVID-19, the unintended fallout in surgical oncology is only just beginning to reveal itself. Mortality rates among patients with prostate, breast, and colorectal cancer have all increased. Given that, we can presume this will be the case with lung cancer; especially as the likelihood of 5-year survival when presenting with intervenable stage I disease vs advanced disease is nearly 55% greater.[10] This is corroborated by the current report that observed a 21% increase in the number of patients with lung nodules suspicious for malignancy once their low-dose CT screening program reopened.[1] Follow-up data from the Van Haren group on the number of true lung malignancies and final staging will be important for our shared knowledge. With oncologic care delayed and potentially more advanced disease at time of presentation, the true morbidity and mortality rates of the viral pandemic might be vastly underappreciated.

In short, continuing care during and after COVID-19 suspensions has shed light on very challenging aspects of US preventive care The long-term repercussions of the 2020 shutdowns have only begun to emerge. Until they are fully known, we would strongly advocate that health systems rapidly resume screening operations, increase community outreach emphasizing patient safety during preventive care, and use extreme caution in limiting or cancelling diagnostic procedures. Cancer does not stop because of a pandemic; delayed preventive care can have the unintended fallout of impacting where along the Kaplan-Meier survival curve our patients might fall.

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