The COVID-19 pandemic affected health care delivery throughout the US in unprecedented ways. Specifically, facilities readjusted their schedules to accommodate more patients who required ventilators and intensive care and decreased or eliminated routine surgical procedures and patient visits that would interfere with the predicted surge in patients with COVID-19. Because decisions regarding how to maneuver a rapidly evolving situation were left to individual states, there was a heterogeneous approach to triaging patient visits based on acuity.

In a cohort study, Miglioretti et al1 proposed using patient risk factors and clinical indications to identify subgroups that had the highest likelihood of breast cancer. All patient indications (including screening and diagnostic indications) were stratified into 5 risk groups ranging from very high risk (>50 cancers detected per 1000 mammograms) to very low risk (<5 cancers detected per 1000 mammograms). The authors reported that by performing examinations for only very high- or high-risk groups, mammography volume could be limited to 12% and still detect 55% of breast cancers. The examinations that were classified in the high-risk or very high-risk category included additional imaging evaluation after a screening examination, evaluation of a lump, evaluation of symptoms other than a lump in individuals with a history of breast cancer, and short-interval follow-up or diagnostic examination for symptoms other than a lump in women 60 years or older without a history of breast cancer. These data are particularly interesting because all patients were risk stratified instead of the traditional binary assignment of patients into screening and diagnostic categories. Superficially, one might automatically consider a patient undergoing diagnostic examination at higher risk than a patient undergoing screening. However, based on these data, this assumption is incorrect. For example, screening of women with a history of a high-risk lesion and no personal history of breast cancer yielded a cancer detection rate (CDR) of 12.7 cancers per 1000 mammograms. This rate was higher than that among women younger than 70 with a personal history of breast cancer who underwent short-interval follow-up of a probably benign finding (CDR, 7.3 cancers per 1000 mammograms).

However, in the context of an acute crisis when a rapid reduction in patient volume is needed, it often is impractical for clinicians to sift through patient records to capture the information needed to triage. Furthermore, asking nonclinical schedulers to be adept at culling data at this level at the time the patient calls to make an appointment is unrealistic. Although a series of predetermined questions could be asked of the patient regarding their personal history and reason for examination to ease the burden on schedulers, this system is vulnerable to patients who provide inaccurate or incomplete information.

The Society of Breast Imaging as well as the American College of Breast Surgeons and the American College of Radiology recommended postponing all screening examinations until the pandemic was under control.2,3 Triaging mammographic examinations based on screening and diagnostic examination types seems more efficient and attainable. Schedulers automatically have this information in the examination order from the referring physician. Similarly, for already scheduled examinations, most electronic medical records can sort patients by either screening or diagnostic indication and automate rescheduling. In a study by Sprague et al,4 of 401 548 examinations, the mean CDR for all diagnostic mammograms performed was 34.7 cancers per 1000 mammograms. In contrast, when 1 682 504 screening mammograms were studied, the mean CDR
was 5.1 cancers per 1000 mammograms. In addition, if more clinical information is available or substantially reduced capacity is necessary, diagnostic mammograms can be further subdivided by clinical indication, which is usually provided by the referring physician. For example, the CDR for evaluation of a palpable lump was found to be 64.5 cancers per 1000 mammograms compared with 10.2 cancers per 1000 mammograms for short-interval follow-up examinations. This CDR was markedly different from that using the proposed categorization in the study by Miglioretti et al, which suggested inclusion of patients only at very high or high risk. In addition, this method requires knowledge of more specific clinical history, such as personal history of breast cancer, years since diagnosis, and history of a high-risk lesion, with an end result of excluding patients with 45% of the cancers.

Although this model uses risk of breast cancer to prioritize those to be seen in the clinic, the risk of complications from COVID-19 may also be an important factor to consider. An older patient is at a higher risk for breast cancer and is also at a higher risk for COVID-19–related complications. On the other hand, a younger woman with early detection of a breast cancer by screening mammography who is less likely to die of infection with SARS-CoV-2 would gain more life-years than an older patient.

In addition, there is no algorithm to account for each patient’s perceived risk of breast cancer or COVID-19. In the early period of the pandemic, some patients avoided emergency care even for serious conditions such as strokes and cardiac arrests, leading to potentially preventable morbidity and mortality. The downstream effect of delaying cancer diagnosis may similarly lead to unintended consequences but may take longer to become apparent. A model that assumed a 6-month disruption of care in screening and treatment of breast and colorectal cancer because of the pandemic demonstrated that approximately 10 000 excess deaths may occur over the next 10 years in association with the disruption. Similarly, a model used to estimate the effect of breast cancer screening interruption in Canada predicted that a 3-month interruption could decrease cancer detection by 7% and a 6-month interruption could decrease cancer detection by 14%. Thus, focusing efforts on the operations of accommodating as many patients as possible, such as extending clinic hours, would be preferable.

Furthermore, many breast examination facilities offer only screening and surveillance examinations owing to the lack of availability of radiologists or other operational constraints. Subcategorizing patients based on risk may lead to underuse of facilities that could accommodate more patients. For example, a screening-only facility offering appointments to patients with moderate to very high risk of breast cancer would be minimally used (4.8% of all patients).

Miglioretti et al examined a large data set to identify a subgroup of patients who may be most likely to benefit from breast imaging in a setting where capacity is limited. The CDRs in various clinical settings provide valuable data points that could be potentially helpful in further understanding patient risk of developing breast cancer. However, these data should be used with caution as the only barometer for whether a patient merits cancer screening during a period of rationing. Finally, the practicality of this process during the COVID-19 pandemic and extrapolation to other emergent settings are less obvious.
REFERENCES


