As health care systems look to resume normal operations during the Covid-19 pandemic, we must understand why patients are concerned about seeking care. This understanding will help guide strategies to ensure patient safety. In a survey of more than 1,300 patients at Vanderbilt University Medical Center, they said their biggest fear in returning to routine health care is the risk of getting sick from other patients. Under the appropriate circumstances and with key safety measures in place, patients are expressing a guarded willingness to reengage the health care system and resume routine care. As was the case before the pandemic, patients primarily will place their trust in health care providers.

The first confirmed Covid-19 infection in Tennessee was reported on March 5th, 2020. Seven days later, a state of emergency was declared to try and contain the spread. Immediate limitations were placed on the performance of elective procedures and surgeries. State and national medical societies urged the temporary cessation of all nonurgent medical care. Stay-at-home orders were instituted and testing centers were opened across the state.

To date, these measures have largely been successful in limiting the number of infections and preventing a health care surge in Tennessee. As of June 23, 2020 there have been 35,553 confirmed cases of Covid-19 in the state and 531 deaths. Tennessee has exceeded minimum testing targets based on state population and has one of the lowest Covid-19 related death rates in the country. However, with relaxation of stay at home restrictions and opening of businesses, Tennessee has experienced a slow but steady increase in infection rates.

Around the world, efforts to control the Covid-19 pandemic have upended the delivery of routine health care. Focus has shifted to treating those infected and conserving health care resources. Because of either provider/hospital recommendations or their own concerns, patients have delayed or cancelled scheduled health care visits. There is some evidence that patients may be delaying
seeking medical care for emergent conditions due to fear of becoming ill. Though a massive telehealth initiative has allowed safe and effective access for thousands of patients, this technology remains a solution for only a limited subset of patient encounters.

The opportunity now exists to resume normal health care operations. The key question is how to move in this direction in a systematic way while prioritizing patient safety. As part of the plan for reopening our medical center, we asked our patients for their input. Understanding patients’ concerns will allow health care systems to develop appropriate protective measures.

Advise Vanderbilt was launched in 2015 to provide a forum for a much greater number of patients to engage and interact with medical center leadership. This on-line advisory panel comprises approximately 5,000 VUMC patients, representing a broad cross-section of our community. As part of the transition to more regular health care services, the Advise Vanderbilt panel was surveyed to review patient concerns about resuming routine health care during the Covid-19 pandemic.

Our data includes 1,331 completed survey responses, with the majority being females (69%) and individuals over the age of 50 (82%). Our survey respondents tended to have at least some level of college education or advanced degree. Notably, there is a low percentage of African American and other minority representation on Advise Vanderbilt. We are attempting to increase participation with social media recruitment campaigns targeted to specific zip codes that have large minority populations, and by expanding the number of languages in which we offer the survey materials (currently English, Spanish, and Arabic). (Table 1)

Table 1.

| Respondent Race              | Count of Respondents | % of Respondents |
|------------------------------|----------------------|-------------------|
| White/Caucasian              | 774                  | 58%               |
| African-American             | 25                   | 2%                |
| Hispanic                     | 70                   | 5%                |
| Mixed Race                   | 2                    | 0%                |
| Asian/Pacific Islander       | 3                    | 0%                |
| Native American              | 2                    | 0%                |
| Other                        | 4                    | 0%                |
| Prefer not to answer         | 15                   | 1%                |
| Blank (no fill)              | 436                  | 33%               |
| Total                        | 1331                 |                   |

Source: VUMC Advise Survey

Health care Avoidance

More than half (55%) of survey respondents admitted to delaying routine health care during the Covid-19 pandemic. Not surprisingly, the primary motivator was anxiety about contracting Covid-19. The other most commonly cited reasons were maintaining compliance with government mandated stay-at-home restrictions and following advice from a member of the health care team. (Figure 1).
Early evidence suggests that persons under quarantine or stay-at-home restrictions are at increased risk for anxiety and depression. Concerns about becoming ill or hospitalized no doubt compound the Covid-19 mental health burden. As stay-at-home restrictions are relaxed, allaying these fears will be requisite to reengaging patients.

**Facilitating Return to Routine Health care**

Survey respondents were asked to grade the concerns impacting their decision to reenter the health care space once stay-at-home restrictions were lifted. The highest level of concern was associated with the risk of getting sick from other patients, where 59% of respondents gave a rating of 8-10. Otherwise, there was an even distribution of level of concern regarding cleanliness of facilities, risk of getting sick from hospital staff, and availability of proper protective equipment. (Figure 2.)
To better estimate the length of time required for patients to feel comfortable, survey recipients were asked to gauge the amount of time they would wait before seeking various health care services including elective procedures and surgeries. Regarding normal care, only 39% of respondents reported no hesitancy in seeking these services immediately. Respondents were more cautious when considering undergoing elective procedures and surgeries, with less than 20% willing to have these procedures immediately and the majority (63-70%) expressing desire to wait at least four weeks. For serious conditions, 81% of respondents said they would seek care immediately. (Figure 3.)
Specific Implementation Measures

Respondents reported what measures would make them feel most safe should they require health care at a hospital or outpatient clinic. Six specific interventions were suggested as being most valuable to assuaging fears about contracting Covid-19. The most commonly listed precautions were implementation of appropriate infection control measures, maintenance of social/physical distancing in waiting rooms, and screening of all potential contacts, whether it be clinical providers, staff or fellow patients (Figure 4).
In addition to these protocols, Vanderbilt University Medical Center initiated mandatory mask wearing while on campus. All visitors (patients, staff, providers) undergo daily temperature checking and symptom review. Covid-19 testing is mandatory within 72 hours prior to any procedure. Individuals testing positive are asked to monitor at home for symptoms and have their procedure rescheduled. Formal structured protocols, while at times cumbersome, demonstrate a commitment to the safety of patients as well as the entire healthcare team.

**Importance of Information Source**

Covid-19 related news coverage has been comprehensive, if not overwhelming. We asked our survey cohort to rate the level of importance of several information sources when considering the safety of resuming healthcare services. Respondents felt the medical center and their doctor were by far the most important sources. The medical center and a respondent's physician were given an importance level of 8-10 by 79% and 77% of respondents, respectively. The next most credible source of information for survey respondents was the Centers for Disease Control (CDC). Conversely, mass media was regarded as a critically important new source by only 6% of the cohort (Figure 5).
Moving Forward During the Covid-19 Pandemic

Medical centers have had to prioritize identifying and caring for patients with Covid-19 related illnesses. Around the world, efforts such as social distancing and stay-at-home restrictions have been successful in flattening the Covid-19 curve and decreasing the rate of new cases.\textsuperscript{6,7}

A flatter curve assumes the same number of people will get infected but over a longer period of time to prevent the health care system from getting overloaded. The risk of contracting Covid-19 will persist as we divert health care resources back to elective care and will cause fear and anxiety among our patients. One measure that has mitigated this risk is the widespread adoption of telehealth.\textsuperscript{8} By using telehealth platforms, clinicians can connect with patients for a variety of indications. At VUMC, we were conducting less than 50 telehealth visits daily prior to March, 2020; we are now seeing around 2500 telehealth encounters daily. We also continue other measures such as social distancing, markedly reduced patient volumes across the medical center, and universal donning of PPE.

The results of the Advise Vanderbilt survey demonstrate that many patients are ready to reenter the health care space, but only under circumstances that protect them from contracting the illness, specifically from fellow patients. Our results suggest that these concerns are not location-specific;
patients were just as concerned with protections at a satellite office as at the main campus where the sicker Covid-19 patients were hospitalized and receiving care. Transmission is thought to occur primarily through droplet spread or contact with contaminated surfaces. Patients need assurance that all efforts are being made to limit transmission.

Though there is willingness among patients to seek urgent health care, the survey responses demonstrate hesitancy about routine care and even more so for undergoing elective procedures and surgeries. Less than 20% of respondents would undergo a procedure immediately and approximately one-third would undergo a procedure over the next month. There are many potential explanations for these results. It is known that airway management through intubation may generate aerosols and increase risk of transmission to staff. The potential for cross-contamination in the perioperative setting may be a cause for reluctance.

Medical centers and physicians are the key players in impressing upon patients the importance of seeking necessary health care services in a timely manner.

Nearly 10% of survey respondents plan to wait longer than six months to resume routine care or care for existing nonurgent conditions. Taking appropriate precautions to prevent infection with Covid-19 must be balanced against the risks associated with inadequate preventative health care. Major medical societies including the American Medical Association are in favor of boosting telehealth services during the Covid-19 pandemic. Eventually, however, to varying degrees, in-person evaluations will need to resume. Medical centers and physicians are the key players in impressing upon patients the importance of seeking necessary health care services in a timely manner. Long-term success will hinge on patient trust that all necessary precautions are being taken to preserve their wellbeing.

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