

## Future of Emergency Medicine – Practice

The role of the emergency physician has expanded beyond the traditional emergency department or proverbial emergency room. We offer access to care for all people 24/7/365. As the default “availabilists”, we enable other physicians to maintain circadian schedules and safely perform elective surgeries, maintain regularly scheduled clinics, attend family events and preserve mental health. Emergency physicians have increasingly become the necessary band-aid to ensuring that the rest of the health system can function without dealing with the 24/7 requirements of patient care.

The future of emergency medicine practice carries many uncertainties but several trends have already taken root. First, emergency services will be delivered in a multitude of locations and settings other than the traditional emergency department. Several of these have rapidly expanded amidst the COVID-19 pandemic such as urgent care and telehealth, while other roles for emergency physicians require more substantive changes in practice and scope such as embracing new technologies like portable ultrasound and taking greater accountability for care coordination and long-term patient outcomes. Many of these roles and functions were not common practice for emergency physicians during residency, but our specialty must embrace this change to not only remain economically viable but also professionally fulfilling and socially impactful.

As availabilists within a rapidly evolving healthcare delivery system—we need to focus on the essential role of emergency physicians in creating access to care. Patients desire expert care, on-demand with one stop shopping. Population based data shows that emergency department and urgent care visits were increasing pre COVID-19 pandemic, while primary care visits have steadily declined.<sup>1</sup> A survey of patients by the Advisory Board revealed patients’ main priorities—to see a physician ‘now’ and to not pay a lot for it.<sup>2</sup> As patients increasingly seek convenience and affordability rather than any specific physician, the importance of immediate expert access becomes paramount. Patients simply want care, and emergency physicians are well positioned to meet patients “where they are at” to provide that access.

By nature, emergency physician are troubleshooters. We rapidly assess patients and efficiently deliver care. The goal for our specialty is to solve the unmet need for patients and for payers, while sustaining our own economic models and hospital directives. Emergency physicians are well poised to not only troubleshoot each patient’s needs but also those of the health system as broader forces seek to promote care that is less fragmented and more coordinated, increasingly consolidated, integrated through information

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technology, and perhaps most importantly more accountable in financing. In this future world, emergency physicians, who sit at the nexus between care settings and between primary and specialty physicians, can be the care coordinators of the health system that meet the needs of various stakeholders.

### Telehealth

Care in the future needs to be more convenient and technology-based. While we are open 24/7/365, we are at this point still largely tied to bricks and mortar. The next generation will not go to the doctor, they will use their phones and devices to connect to healthcare, much as they do the rest of their lives. Telehealth has the ability to provide remote care that is convenient, timely, and optimal.

Healthcare today is depicted on the inner wheel in the figure.<sup>3</sup> Patients get sick, seek care, and are either admitted or discharged, ultimately returning to their original, or new, baseline of health. Post-acute care has traditionally been done by primary care and has been heavily emphasized by payers. There is however pre-acute care, which prevents a patient visit. Telehealth showed its worth during the pandemic by improving pre-acute as well as post-acute care.



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Telehealth is a care delivery system that provides a streamlined, cost effective component to emergency care. It is our obligation to provide quality care whether it is from the traditional medical complex or over a video connection. Not surprisingly, patient satisfaction scores with telehealth are higher for most clinicians. There has been a lot of positive media coverage, and it has been largely accepted not only by patients but even legislators who permitted the emergency use of telemedicine amidst the pandemic.

Telehealth allows pre-screening of patients from their own home, during pre-hospital transport, or immediately upon arrival in the ED<sup>3-6</sup>. It greatly reduces the time to receive care. Today, telehealth is used to deliver care for patients with and without COVID-19,<sup>4</sup> providing those time savings independent of chief complaint or symptoms. It also provides savings to the healthcare system. Rather than send the patient for a consultation, tests and images can be ordered remotely. Some provider to provider systems already exist, such as telestroke, allowing patients to be evaluated by specialty neurologists and neuroradiologists, but still allowing the patient to receive their treatment in their local community facility, saving time, transportation cost, and patient waiting times for being seen by a specialist. Consultants do not need to come to the hospital for every patient, and housestaff do not need to evaluate every patient in person.

On the average shift, an emergency physician may see 20-30 patients (often with less than 10 minutes in the room). However, each patient often spends 3-4 hours in the ED. Some of them (up to 5%) may wait too long and leave without being seen.

During COVID, Jefferson built on this model throughout the 14 hospitals system, allowing physicians to see patients via video links and provide care without exposure.<sup>4</sup> Physicians on quarantine could continue to see patients. Family visits were facilitated via the internet so families could visit the patient whenever they wanted, from the safety of their home.

Telehealth was already utilized at Jefferson before Covid. In fact, in the prior 4 years patients had conducted over 100,000 synchronous audio-video telehealth visits with Jefferson providers. During the peak of COVID, there were 100,000 visits every 4 weeks, and other systems likewise experienced significant increases in telehealth utilization during that time.

At Jefferson, patient satisfaction scores are higher with telemedicine.<sup>5</sup> An important question is 'would you recommend this to your friends or colleagues' and is graded from one to 10 and converted to a -100 to +100 scale. Primary care providers run about a three. Cable providers are negative. The JeffConnect on-demand program runs between 70 and 90 every month and our scheduled visit program

runs 50 every month.<sup>5</sup> Google, Amazon and really good urgent care centers run in the 50 to 80 range. A second important question used to assess the telemedicine program is asked 10 days later 'have you already recommended this to a family or friend'. The Jefferson on demand program found that 80% of patients had already recommended it to someone.

There are more options of bringing care to the patient than standard telehealth. Telehealth in the future will have greater tools. It will be possible to do a remote abdominal exam. Holograms and avatars will provide greater access and connection. Augmented virtual reality may offer a means to provide real-time guidance for many procedural skills. Information will include not only the history and physical exam, but environmental factors (humidity and particulate matter), personal activity monitors and even household changes. Even drones will eventually deliver medications.

### Changing Landscape of Rural Medicine

Telehealth must play a pivotal role in rural emergency medicine. The practice allows a single specialist provide expertise to multiple sites simultaneously. Multiple patient-care sites may even connect with a centralized academic hub using telehealth while helping to facilitate more regionalized care.

In the US, the most significant concentration of EDs with 10,000 or less annual visits covers a vast region, ranging from the Canadian border of North Dakota and Minnesota down to Texas and the Gulf of Mexico. Many, if not most if these low volume EDs, lack emergency medicine residency trained/board certified (EM RT/BC) physician coverage, instead relying on a staffing by varying combinations of nurse practitioners (NPs), physician assistants (PAs), moonlighting residents from multiple specialties, or primary care physicians to provide patient care and this is not likely to change in the near future.<sup>7</sup> With high variability in staffing also comes significant variation in education, skills, and experiences within these groups. Telehealth may effectively fill some gaps in education and experience by providing cognitive support for non-EM clinicians lacking the residency training in EM and/or years of experience in an ED, but telemedicine link alone may not fully address deficiencies in psychomotor skills training and experience.

The American College of Emergency Physicians (ACEP) Rural Emergency Care Task Force performed a needs assessment of rural members as well as rural colleagues from SEMPA and AAENP. Many respondents reported the need for telehealth support and standardized training/on boarding of NPs and PAs, to include procedural skills competency assessment with remediation, especially in lower volume EDs where NPs and PAs may provide solo coverage.



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Telehealth incorporated into a system of care, as with Avera in South Dakota or Mayo in Minnesota and Wisconsin, may address the high variability in the knowledge and skills of clinicians covering rural EDs in their systems by providing a variety of services, while adjusting to the specific needs of individual sites and improving quality of care. Rural EDs in the Avera system reported decreased door to doc times and improved triage times with more accurate placement of patients during times with high patient volumes (personal communication, L Vanoveren MD, Avera, Sioux Falls, SD). In the Mayo system, at some rural sites EM RT/BC physicians provide an on-going assessment and confirmation of skill competency and quality of care provided by the newly hired NP/PA for a defined timeframe after the on boarding process via telehealth (personal communication, Steve Jameson, Mayo St. Cloud, MN).

People are moving toward remote patient monitoring, as technology affords patients more engagement in care as well as convenience and the potential for cost savings. It is a practice that has very real, tangible value. For example, it is now possible for everyone to get a three lead EKG immediately on your phone. The cost is under \$100 and remains cheaper than spending a night in the hospital or even receiving a Holter monitor.

### Complexity of Implementation and Use

Despite the promise and advantages of telehealth, there are barriers. One of the few downsides is not having family in the room. Initial equipment set-up costs can also be quite costly, and physician credentialing can take time. If, however, we use telemedicine effectively and we apply it across the spectrum we can inform families better than we were before. There is the fear that automation will detract from the interaction of the physician and his or her patients. But we are capable of attributing human emotions to inanimate objects. You may recall, twenty years ago, when virtual little pets called “Tamagotchi” were on the receiving end of human emotions. If properly fed, the virtual object lived; if left to starve, it died. Younger patients actually disclose more information to avatars and cartoon figures than therapists.

Healthcare is the most information intensive industry in the economy and yet it often uses technology among the least of any industry. And yet - technology has become increasingly accepted across generations of people. Traditionally there has been a misconception that older adults are skeptical towards using advanced technology but recent studies suggest otherwise. One recent study showed that following the implementation of a new telemedicine program at an academic medical center, older patients felt similar to younger adults on the quality and satisfaction of using advanced technology.<sup>8</sup>

Telehealth may erode some of our skills. It may be harder to understand the nuances of a physical exam, or pick up non-verbal cues potentially creating potholes for the telehealth provider when faced with medical malpractice.

Technology always has ‘hiccups’, little technical glitches such as a fluttering audio or paused video. It turns out that patients tolerate these hiccups relatively well. In reality, even with hiccups, telehealth is easier for the patient (no traffic, no parking) and physicians (reduced no-show rates).

We were fully capable of using virtual technology to provide care. Healthcare may be the same. Telehealth is just a healthcare delivery mechanism. Who provides the service, and whether supervision is needed of a PA or NP doing telehealth is not different than in any other clinical environment. This is system management. It is a people process and the tool is telehealth.

### Payment influence on practice

In the past, many believed that if you altered the payment system, you would alter practice. If you based payment on quality, and paid for performance, practice would change. However, experiment after experiment has shown the impact of pay for performance to be negligible on clinical practice for numerous reasons.<sup>9</sup> But perhaps real innovation in care and real change in practice precedes the change in payment. In reality, physicians just want to take good care of patients, and that is the primary motivator. It is that motivation that leads to change and innovation.

In the initial months of the pandemic, ED volumes dropped drastically.<sup>10</sup> They have recovered somewhat, but it may be 3-5 years before those volumes completely return. Regardless of where the new ED visit baseline is formed, the COVID-19 pandemic provided a stress test to fee-for-service based practice and demonstrated economic vulnerabilities to the current practice of emergency medicine.

In absence of new payment models, we have seen very rapid change in practice during the COVID-19 pandemic. The changes to the practices occurred first, and the mechanism to pay for them has followed, or will hopefully follow. The future of emergency medicine may have less to do than waiting for the payment models to change, than changing the practice and having payment change to meet it.

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Practice does precede payment. For example, ultrasound has changed the way we approach acute diagnosis and risk stratification in the ED. POCUS can potentially save money in a visit by avoiding more expensive imaging and reducing time to diagnosis. In the past, when a young person presented with chest pain, a chest xray was ordered to look for pneumothorax or pneumonia. There was a cost involved and the patient often stayed for 2 hours. Ultrasound can exclude the same emergency diagnoses in 5 minutes. That may add value, but perhaps not payment at this time. Despite the lack of clear financial incentives, use of POCUS continues to rise because many believe it is good for the patient. To accelerate these transitions, a payment bridge must be created to help emergency physician groups cross the fee-for-service chasm into more bundled, risk-bearing and population based payments.<sup>11</sup>

There is the question of scaling. Often examples of success in alternative payments for acute care such as the global hospital

budgeting efforts in Maryland are limited to a single state or community. Individual institutions responded with significant changes to their care delivery.<sup>12</sup> But, it is not clear that this can happen throughout the country under a multitude of clinical, economic and cultural contexts.

### The Future

Covid-19 presents us an opportunity to reassess our practice and our payment models. Perhaps the financial deficits incurred by health systems will cause health systems to prioritize payment models that are not heavily reliant on high margin procedures, which we now learned is a poor approach to withstanding an infectious and financial pandemic. Possible, Covid-19 will make payers and health systems diversify their risk and provide quality care to patients wherever and whenever needed. ■



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