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# Admin & Ops Literature Review

## Impact of Urgent Care Centers and Telehealth in the ED

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### Background: Emergency Department Volumes

The number of emergency department visits has gradually increased over the past few decades.<sup>1</sup> Increasing ED visits poses an issue when system capacity is reached and acute unscheduled care services are no longer able to handle patient volumes. This can lead to issues including ED crowding, increased cost, greater pressure on existing services, and longer wait times.<sup>1</sup> According to the article “Why Do People Choose Emergency and Urgent Care Services? A Rapid Review Utilizing Systematic Literature Search and Narrative Synthesis,” 6 identifiable factors lead to patients’ decisions to pursue ED visits:

- Access to and confidence in primary care
- Anxiety and value of reassurance from emergency-based services
- Views of family and friends
- Convenience
- Cost
- Perceived urgency or need for emergency medical services or hospital care<sup>2</sup>

The following literature review examines 2 methods that may reduce ED visits for non-emergent cases: telehealth and urgent care centers (UCCs). Use the QR codes to find the full text.



### The Impact Of Urgent Care Centers

#### *Impact of Urgent Care Openings on ED Visits to Two Academic Medical Centers Within an Integrated Health Care System*

In this study, researchers analyzed medical records from visits to 2 EDs and correlated them to the use of UCCs by patients with similar presentations who lived within close proximity. Using logistic regression, they found at one of the EDs there was a statistically significant reduction in the likelihood of ED visits for low-acuity conditions by patients living within 1 mile of a UCC with an adjusted odds ratio of 0.87 (95% confidence interval 0.78 to 0.98). Further analysis showed a statistically significant temporal relationship between time since UCC opening and the



likelihood of a low-acuity ED visit. There was approximately a 1% decrease in the odds of a low-acuity complaint presenting to an ED for every month that the nearby UCC was open (odds ratio 0.99; 95% confidence interval 0.985 to 0.997).<sup>3</sup>

#### *Comparing Utilization and Costs of Care between Emergency Departments and Urgent Care Centers*

Using Blue Cross Blue Shield of Texas claims data, the authors compared the types and costs of emergency and urgent care services delivered by EDs and UCCs between 2012 and 2015. Treatment costs were similar for visits to freestanding EDs compared to hospital-based EDs. The average cost of a visit to a UCC was significantly lower, at \$168 compared to the average visit cost at freestanding EDs or hospital-based EDs, which were \$2,199 and \$2,259 respectively. There was



significant overlap in the presenting chief complaint of patients presenting UCCs, which have the ability to provide similar treatment for low-acuity conditions, compared to EDs, suggesting there could be improvement in resource usage and cost savings with delivery of acute care.<sup>4</sup> UCCs began as early as the 1970s and have rapidly expanded, primarily in urban settings.<sup>5</sup> Many low-acuity ED visits can be handled by a UCC, where the cost to the patient and the hospital would be reduced while still providing sufficient care.<sup>4,6</sup>

### The Impact of Telehealth Telemedicine Use Decreases Rural Emergency Department Length of Stay for Transferred North Dakota Trauma Patients

In this study, a cohort of adult trauma patients treated in North Dakota Critical Access Hospital was evaluated using multivariable generalized estimating equations. They examined associations between telemedicine consultation and outcomes, including transfer of trauma patients, timeliness of care, use of imaging in trauma patients, and patient mortality. Telemedicine utilization was independently associated with decreased length of stay in the ED (30 min, 95% confidence interval [CI] 14-45 min) for patients who were ultimately transferred to another hospital. Telemedicine availability was associated with an increase in the probability of interhospital transfer (adjusted odds ratio [aOR] 1.2, 95% CI 1.1-1.4) and more rapid transfer to the ED accepting the transferred patient. Interestingly, telemedicine availability was also associated with an increased total combined ED length of stay (LOS) (15 min, 95% CI 10-21 min), and greater usage of computed tomography scans in trauma patients (aOR 1.6, 95% CI 1.3-1.9).<sup>7</sup>



### Impact of Emergency Department Tele-intake on Left Without Being Seen and Throughput Metrics

In this study, the authors attempted to evaluate whether tele-intake at the time of presentation would reduce “left without being seen” (LWBS) rates and ED throughput measures. In this pre- and post-implementation study at an urban community hospital, tele-intake providers performed an initial triage history and physical examination, documented their findings, and initiated orders in the medical record system. The 6-month tele-intake period was then compared to the year prior to the introduction of the telehealth intake providers. Total ED volume was similar in both study periods (19,892 patients vs. 19,646 patients). The 24-hour LWBS rate was reduced from 2.3% (95% confidence interval [CI] = 2.0% to 2.5%) in the pre-implementation period to 1.69% (95% CI = 1.51% to 1.87%;  $p < 0.001$ ) after implementation of this intervention. Overall, median door-to-provider time decreased from 19 minutes to 16.2 minutes ( $p < 0.001$ ), but median ED length of stay for all patients minimally increased from 184 minutes to 184.3 minutes in the same period ( $p < 0.001$ ).<sup>8</sup>

### Conclusion

Emergency departments have faced challenges as patient volumes have increased and sometimes surpassed capacity, leading to department overcrowding, boarding of inpatients, increased length of stay, and more patients leaving without being seen. During the past few decades, UCCs have expanded rapidly as an alternative for the treatment of acute conditions with lower acuity.<sup>5</sup> Studies on the usage of urgent care centers have found the opening of a UCC is associated with a lower likelihood of patients with low-acuity conditions presenting to the ED, and this effect increases over time. Additionally, the usage of urgent care centers can reduce costs to patients and



the healthcare system while providing similar care for low acuity conditions. More studies are needed to determine whether this is a viable solution, but it offers hope that placing more UCCs within a populated area may help combat overcrowding.

Another service primarily targeted at lower acuity patients is telehealth, which has grown with advances in technology and become more widespread with the COVID-19 pandemic. Telehealth has a wide range of applications and can also be used within the ED. While telemedicine does not seem to greatly impact ED overcrowding, it does help to improve throughput metrics in addition to reducing the time for transfer of critical patients in a rural setting. Though there are potential challenges with the usage of telemedicine, including regulatory changes, economic considerations, and cultural barriers, this tool has the potential to help address issues in the delivery of care in the ED and improve access to care.<sup>9</sup>

The development of urgent care centers and telehealth systems has been found to have significant impacts on care in the ED in a variety of ways. These studies highlight some ways in which implementation of UCC and telehealth can impact the ED and patient care. Though there are challenges that must be addressed as they become more widespread, they also represent an opportunity to improve access to acute care and patient throughput.

### EMRA Resources

#### Urgent Care Guide

Free in EMRA Alumni Member kits, the Urgent Care Guide ensures setting-appropriate care and clear disposition recommendations to confirm which patients should be sent to the emergency department, who can be discharged with follow-up care by their family doctor, and what might require follow-up with specialists.

#### Telehealth Appointments in EM

A 2-part video series offers pearls and pitfalls to conducting a good telehealth appointment, along with examples of how to do virtual physical exams. ★