

system could provide additional resources not available in rural communities and prevent unnecessary transfers.

Study Objectives: To create a virtual extension of a large, academic ED through layering acute service tele-consultations, tele-stroke, tele-psychiatry, and tele-toxicology, onto the backbone of our TE consultations.

Methods: Using our existing TE consultation process, the emergency physician in the hub ED evaluates the patient in the rural, spoke ED via audiovisual connection in typical fashion. For this proof of concept study, the emergency physician determines if an acute service consultation is required. If so, the tele-consultation occurs and the physician from the acute service offers recommendations. All TE patients are eligible. **Primary outcome:** transfer avoided as determined by emergency physician. **Secondary outcomes:** 30-day ED visits or hospital readmission and clinical outcomes measures as pre-determined by each specialty. Descriptive statistics, chi-squared, and Mann Whitney U tests used, as appropriate.

Results: A total of 88 acute service tele-consultations have occurred to date with 48 tele-stroke (56%), 21 tele-toxicology (24%), and 19 tele-psychiatry consultations (22%). In these cases, transfers were avoided in 8/48 (17%), 12/21 (57%), and 8/19 (42%) for tele-stroke, tele-toxicology, and tele-psychiatry, respectively, with a median transfer distance of 85 miles (IQR 55, 119). 30-day ED visits and hospital readmissions rates were 3/88 (3%) and 2/88 (2%), respectively.

Conclusion: Our initial results suggest layering acute service consultations onto the backbone of an existing tele-emergency systems has the potential to expand the services available to patients in rural area and limit unnecessary transfers. This could impact the sustainability of rural hospitals and potentially increase resource utilization from physicians in specialties which are limited in healthcare.

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137 Pediatric Telemedicine Care Is Associated With Minimal Increases in Subsequent Emergency Department Visits



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Study Objectives: Telemedicine is an increasingly used yet understudied vehicle to deliver pediatric primary care. Evidence comparing differences in downstream emergency department (ED) visits and hospitalizations following telemedicine visits compared with after in-person visits is needed. It is also important to understand if telemedicine has differential efficacy based on patients' areas of clinical concern as well as its effect on resource utilization. We compared in-person pediatric primary care visits with those that used telemedicine (video or telephone) with regards to downstream emergency department visits, hospitalizations and return in-person visits. We also compared resource utilization at the index visit for the three visit types.

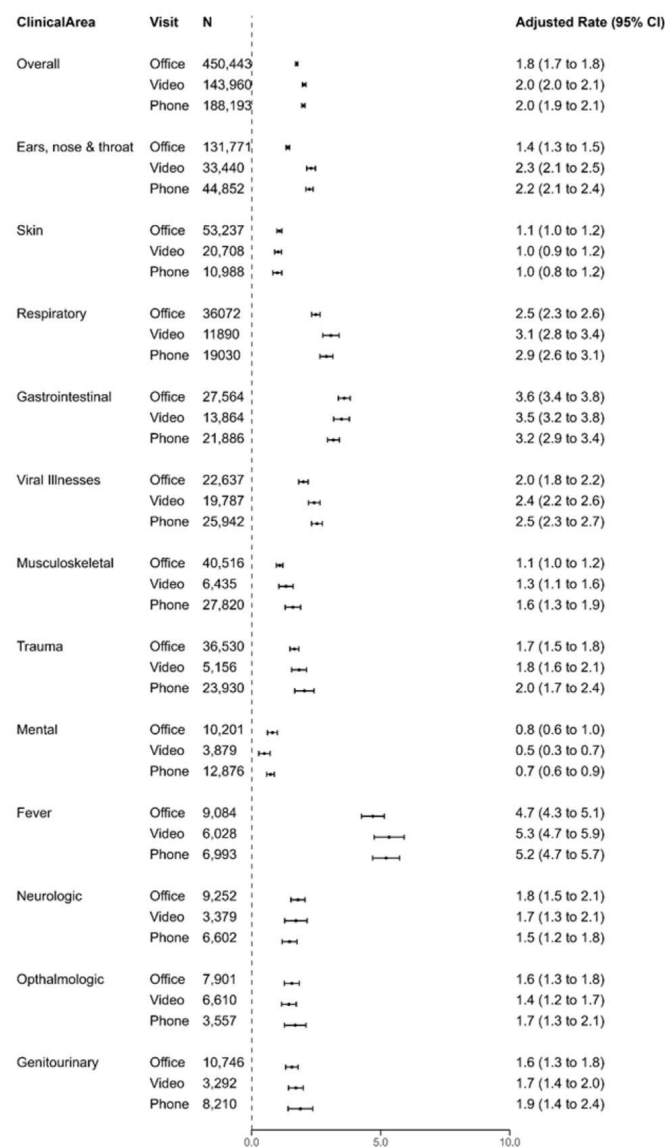
Methods: This was an observational cohort study of pediatric primary care visits in a large integrated health care delivery system offering patient-selected in-person office visits, video visits, or telephone visits for pediatric primary care. We included all patients <18 years of age who had scheduled primary care appointments from January 1, 2022 – December 31, 2022. We determined rates of downstream healthcare utilization (emergency department visits, hospitalizations, in-person visits) within 7 days (including same day in-person visits) after the index telemedicine or office visit, adjusted for patient and clinical characteristics and also stratified our results by area of clinical concern. We also determined resource utilization (medication, laboratory, and imaging ordering) at the index visit for in-person visits compared with video or telephone visits.

Results: Of 782,596 total appointments among 438,638 patients (25% <2 years old, 49% female), telemedicine was used for 332,153 (42.4%) visits. After adjustment, more ED visits occurred 7 days after video visits (2.04%, adjusted difference 0.29%, 95% CI: 0.21% – 0.38%) or telephone visits (2.00%, adjusted difference 0.25%, 95% CI: 0.18% – 0.33%) compared with index in-person visits (1.75%) with negligible differences between 7-day hospitalizations. When stratified by area of clinical concern, otolaryngological concerns prompted the most subsequent ED visits after either a video or telephone visit. More in-person follow up visits occurred after an index video visits (14.4%, adjusted difference 10.1%, 95% CI: 9.9% – 10.3%) or telephone visits (15.1%, adjusted difference 10.8%, 95% CI: 10.7% – 11.0%) compared with index

visits that were in-person (4.3%). After adjustment, there was more medication prescribing for in-person visits (39.8%) compared with video visits (29.5%, adjusted difference -10.3%, 95% CI: -10.56% – -10.0%) or telephone visits (27.3%, adjusted difference -12.5%, 95% CI: -12.5% – -12.7%). There was also more laboratory ordering for in-person visits (24.6%) compared with video visits (7.8%, adjusted difference -16.8%, 95% CI: -17.0% – -16.6%) or telephone visits (8.5%, adjusted difference -16.2%, 95% CI: -16.3% – -16.0%). Imaging ordering was higher for in-person visits (8.5%) compared with video visits (4.0%, adjusted difference -4.5%, 95% CI: -4.6% – -4.4%) and telephone visits (3.5%, adjusted difference -5.0%, 95% CI: -5.1% – -4.9%).

Conclusions: Telemedicine visits were followed by slightly higher rates of ED visits and moderately higher rates of in-person visits with no appreciable difference in hospitalizations. Otolaryngological concerns were associated with more subsequent ED visits after video or telephone visits compared with in-person visits. In-person visits were associated with more medication, laboratory, and imaging ordering compared with video or telephone visits. Telemedicine appears to be an effective vehicle for healthcare delivery in the pediatric population with minimal impact on downstream ED or hospital utilization but was associated with moderately higher subsequent in-person visits.

Figure 1: Adjusted percentage of 7-day return ED visits by index visit type.



No, authors do not have interests to disclose