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state health department data from March 1, 2020 to November 28, 2020. Counties were classified as rural or urban using the current classification by the Federal Office of Rural Health. Daily incident cases and prevalence per 100,000 persons were analyzed as continuous variables. Linear regression was used to assess the temporal relationships between new cases and county type. Descriptive statistics summarized the data.

Results: A total of 400 counties were analyzed with the majority of counties being rural (n=262, 65.5%). No difference was detected in the prevalence of COVID-19 cases per 100,000 people between rural and urban counties (3616.4 Rural vs 3387.6 Urban; $p=0.117$) but there was a linear increase in total cases per 100,000 over the calendar year ($p<.001$). Rural counties demonstrated a significantly higher COVID-19 incidence rate in October (587.2 Rural vs 414.4 Urban; $p<0.001$) and November (919.0 Rural vs 771.6 Urban; $p<0.001$) than urban counties (Figure). However, no difference was observed in the incidence rates for March through September ($p>0.05$).

Conclusions: Temporal data from this epidemiologic study show that the largest increases in COVID-19 cases during the “second wave” were attributed to rural counties. Despite its limitations as a geographic and population-based survey, this data indicates that continued efforts to prevent the rural spread of COVID-19 are warranted.

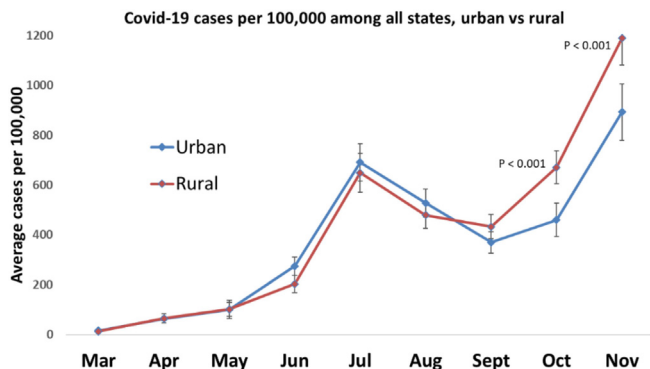


Figure: New cases per 100,000 in Southwest urban (blue) and rural (red) counties by month.

65 Interviews With Emergency Physicians on Telehealth During COVID-19 and its Role in Caring for Older Americans

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Study Objectives: To explore United States (US)-based emergency medicine (EM) physicians’ perspectives with providing telehealth during the COVID-19 pandemic, with a particular focus on meeting the needs of older (>64 years old) EM patients who may have unique challenges with technology use and increased vulnerability to COVID-19.

Methods: We used purposive sampling through social media and listservs to recruit emergency physicians, from all geographic regions and practice settings, who cared for older patients during the pandemic. We conducted 30-minute semi-structured interviews and offered incentives for participation. Initial interview questions elicited general experiences with telehealth during the pandemic, while later questions focused on special considerations for older patients. Interviews were recorded, transcribed and de-identified. We created a codebook a priori, double-coded the interview transcripts, and used framework matrix analyses to identify themes and subthemes.

Results: We interviewed from July to November 2020. Participating physicians (n=15; academic 10/15, community 5/15) practiced in all US regions. Practice locations included metro (7/15), suburban (6/15), and rural areas (2/15). Physicians reported using telehealth in the outpatient setting and within the emergency department (ED), especially during personal protective equipment (PPE) shortages. Several themes emerged: (1) telehealth as a public health tool, (2) its suitability for EM patients, (3) special considerations for older patients, and (4) the future of telehealth. Physicians noted that telehealth was a valuable public health tool, providing access to

accurate, timely information about COVID-19. This assistance was considered integral given changing guidance on testing, hospital capacity concerns necessitating thoughtful triage, and limited availability of PPE. Physicians noted that telehealth improved access to care for EM patients who lived in rural communities, had mental health concerns or mobility challenges, or received home hospital care. Most expressed that telehealth was suitable for low acuity EM complaints, but those with chest or abdominal pain, as well as critical patients, required in-person care to facilitate rapid diagnosis, testing, and interventions. They considered virtual care convenient, efficient and useful for establishing rapport with older patients and caregivers (including for end-of-life conversations). Emergency physicians indicated that telehealth would be beneficial in the future as a complementary method of care rather than a complete replacement of in-person ED visits if reimbursement policies and multi-state licensure concerns were addressed.

Conclusions: Emergency physicians indicated that telehealth should be integrated into health care delivery as a complementary tool to traditional in-person EM care as it was integral to providing public health information, in addition to low acuity complaint diagnosis and treatment. Although technological barriers existed, many older adults could access and benefit from virtual care.

66 Impact of COVID-19 on Home-Based Community Paramedicine and High-Risk Elder Patients

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Study Objectives: Using paramedics to evaluate and treat medically complex elderly patients in the home setting has implications for community health, cost, and patient satisfaction. We aim to determine the impact of COVID-19 on Tandem, a home-based community paramedicine program (HBCPP) that provides comprehensive solutions for geriatric patients with highly trained community integrated paramedics, nurses, and social workers.

Methods: This was a retrospective cohort analysis of elderly patients (>65 years) who triggered emergency medical services (EMS) dispatch with urgent medical calls over a two-year study period within the Grand Rapids metropolitan out-of-hospital area. HBCPP members were compared to non-members (control group) in terms of demographics, Charlson Comorbidity Index (CCI), presenting complaints, out-of-hospital inventions, transport to the emergency department (ED), and length-of-stay (LOS). Chi-squared and t-tests were used to compare the two study groups across key demographic and outcome variables.

Results: During the two-year study period, there were nearly 4500 EMS calls from elderly patients with high acuity conditions which include: fever, altered mental status, fall, dysuria, cardio-pulmonary complaints, and fatigue/weakness. The average age was 79.4 + 9.7; 49.1% were female. A total of 969 and 471 urgent HBCPP assessments were completed in 2019 and 2020, respectively. In both years, HBCPP members had increased comorbidities compared to control population: hypertension (61% vs. 14%), diabetes mellitus (39% vs. 19%), and congestive heart failure (17% vs. 4.0%). In 2019, members had reduced ED transport compared to control (15.0% vs. 73%) ($p<0.001$) with higher admission rates (51.7% vs. 20.4%) and identical length of stay (LOS) (4.6d vs. 4.6d) ($p<0.001$). In 2020, Tandem patients had reduced ED transport (11.7% vs. 88.3%) with increased average LOS (5.4d vs.5.0d). For HBCPP patients not transported to the ED they had a 17% chance of ED evaluation within seventy-two hours in 2019 and 13% in 2020. Our home based-community paramedicine program experienced decreased emergency department utilization rates during the COVID-19 pandemic in 2020 compared to 2019 (11.7% vs. 15.0%) with a subsequent increased LOS. Program members evaluated in the home but not transported to the ED also had decreased 72-hour ED utilization rates. One limitation from this work is we had nearly 50% reduction in the number of urgent assessments completed in the home during 2020.

Conclusion: Our HBCPP was started as a solution for at-risk seniors who have difficulty navigating the health care system to get the care they need. During the COVID-19 pandemic, our results suggest that the HBCPP program reduced ED utilization during 2020 but had longer LOS. Further research into the safety, associated and comparative LOS, and expansion of such programs will be informative on large scale generalizability of such programs.