Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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PCC and nationally did not increase when compared to previous years. However, the number of exposures listed as occurring in “own residence” increased significantly from March through May 2020 when compared to the year prior, particularly in the age group six to twelve years. This is important for emergency physicians to be aware of as many predictions call for “a second wave,” as with the usual course of other coronaviruses. Additional stay-at-home orders to help mitigate spread of the virus may occur, along with an increase in school-aged children with reported poisonings.

104 Associations between Neighborhood Disadvantage Measures and COVID-19 Case Clusters

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Study Objectives: The spatial distribution of COVID-19 remains to be described, though there is growing evidence of an increased burden among already disadvantaged populations and neighborhoods. Understanding the pattern of population risk is critically important for health systems and policy makers responding to the pandemic. Our aims were: 1) to describe the association between neighborhood factors and incident cases of COVID-19; and 2) to examine the changes in cases over time. We hypothesized that there would be an association between disadvantaged neighborhoods and case clusters.

Methods: We analyzed data from patients presenting to a large health care system in Boston, MA from 2/5/20 to 5/4/20. Patient mailing addresses were geocoded to census tracts within a 20-mile radius of Boston. COVID-19 incidence per census tract was calculated using Empirical Bayes smoothed rates to adjust for small area estimation. Clustering of cases at the census tract level were assessed using local Moran’s I, accounting for multiple comparisons. Quantile local spatial autocorrelation was used to determine the spatial association between neighborhood demographic and disadvantage measures (from the American Community Survey) and census tracts with high incidence of COVID-19. Poisson regression models were used to assess the independent associations between neighborhood factors and COVID-19. Finally, we mapped the distribution of cases in the study area over time.

Results: As of May 4, 2020, there were 9,898 patients in the study area who had been treated in the health care system for COVID-19. The overall crude incidence was 31.8 cases per 10,000 population; adjusted incidence per census tract ranged from 2.3 to 405.1 per 10,000 population. Two case clusters were identified in the Chelsea/Everett and Lynn areas (p=0.007). We found statistically significant co-location of the top quintile of cases with several neighborhood factors (all p<0.05): % of population Hispanic (n=72 census tracts), black (n=36), uninsured (n=33), receiving Supplemental Nutrition Assistance Program (SNAP) benefits (n=39), and living in poverty (n=23). In the adjusted model, factors associated with increased incidence of COVID-19 were a higher proportion of Hispanic population (aIRR 1.24, 95% CI 1.21-1.28) and households receiving SNAP benefits (aIRR 1.08, 95% CI 1.02-1.13). The distribution of cases varied over time, but with persistently high incidence in communities north of Boston.

Conclusion: We found a significant association between neighborhood disadvantage measures and high incidence rates of COVID-19. Limitations include case ascertainment challenges due to access to testing and possible selection bias from use of a single health care system. These results suggest that policy makers should consider health inequities as they respond to the ongoing pandemic and plan for future health needs.

105 Studying the Impacts of To-Go Medications for Vulnerable Populations Discharged from the Emergency Department during the COVID-19 Pandemic

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Study Objectives: Emergency departments (EDs) function as a safety net for vulnerable populations who lack reliable access to health care, including those who face housing insecurity and who lack or possess limited insurance. These groups commonly utilize emergency care for low acuity conditions including asthma, pneumonia, cellulitis, and urinary tract infections, which can be treated with short courses of steroids or antibiotics, respectively. However, vulnerable patients face multiple barriers to filling prescriptions including cost, transportation and wait times at the pharmacy. Providing these patients with full courses of pre-packaged medications has the potential to improve medication compliance and health outcomes. The COVID-19 pandemic has created unique challenges for discharging patients with low acuity conditions from the ED. Not only have vulnerable and disadvantaged populations been affected disproportionately by COVID-19, but also, barriers to filling prescriptions are now compounded by pharmacy closures and social distancing. In the face of increased demand for medications used to treat respiratory disease and infection, the goal of this work was to examine a potential solution to enhancing patients’ access to medications during the COVID-19 pandemic.

Methods: In a large urban academic hospital in Boston, a "to-go" medication program was used for patients discharged from the ED during the local surge of the COVID-19 pandemic (March 2020 - April 2020). Patients diagnosed with asthma, cellulitis, COPD, pneumonia, or urinary tract infection who did not require hospitalization received pre-packaged to-go medications free of charge prior to discharge. A monthly report was generated for each to-go medication through the electronic medical record. Retrospective chart review was conducted to obtain de-identified demographic information for those patients. Microsoft Excel was used to generate descriptive statistics. This study was approved by the Institutional Review Board of Partners Healthcare, Boston.

Results: A total of 50 patients from March 13 - April 30, 2020 were discharged with to-go medications. Demographics are listed in Table 1. During the surge of the COVID-19 pandemic at our institution, 66% of patients who received to-go medications were diagnosed with a respiratory illness. Of the patients in the to-go medications program, 56% did not have private insurance, 26% did not speak English as their primary language, and 30% were undocumented.

Conclusion: The "to-go" medications program has the potential to improve medication adherence while also reducing infection transmission by promoting social distancing through avoiding pharmacy visits. In future research, we aim to continue to analyze the effects of this program on vulnerable populations in order to improve equitable access to health care for all as well as to study how this program affects ED return visits and by extension overall hospital costs.

Table 1. Demographics of Patients who Received To-Go Medications

| March - April 2020 | % (n) |
|-------------------|------|
| **Sex**           |      |
| Female            | 46% (23) |
| Male              | 54% (27) |
| **Age**           |      |
| 19-49             | 52% (26) |
| 50-64             | 26% (13) |
| 65 - 99           | 22% (11) |
Study Objectives: Symptomatic cholelithiasis is frequently diagnosed in the emergency department (ED), but there has been little published data on the outcomes of this patient population, in particular, the timing of cholecystectomy and complications such as recurrent symptomatic cholelithiasis, choledocholithiasis, or pancreatitis. The primary objective of this study was to compare cholecystectomy and complication rates at one year after the diagnosis of symptomatic cholelithiasis in the emergency department, specifically in regards to age, race, sex, and payer status.

Methods: This was a retrospective chart review at a single academic medical center, with approximately 64,000 annual ED visits. All patients with an initial ED diagnosis of cholelithiasis between 2012 and 2018 were included. Outcomes after ED diagnosis were followed out to one year and included return ED visits, cholecystitis, pancreatitis, and cholecystectomy. Descriptive statistics were used to summarize demographic and clinical characteristics of the patients. Chi-square tests evaluated associations of patient characteristics with outcomes. Age was dichotomized at 45 (the median for this sample) and ED visits within 1 year were categorized: 0 visits and ≥1 visit. Analyses were done using SAS, Version 9.4. P<0.05 was considered statistically significant.

Results: Over a 6-year period, 2398 patients were included. 1588 (66%) were female, 1610 (67%) white, 409 (17%) Hispanic, and 252 (11%) were black. The mean age and return ED rate were 48 and 0.14. Individuals who identified as black had statistically significant increased ED return visits and were less likely to undergo cholecystectomy compared to other races (16% vs. 11%, p=0.012; 60% vs. 69%, p=0.004, respectively). Those with Medicaid/Medicare or no insurance, had decreased rates of cholecystectomy and an increased incidence of cholecystitis at one year, when compared to individuals with commercial insurance (63% vs. 76%, p<0.0001; 4% vs. 2%, p=0.004, respectively). Males and individuals over the age of 45 were less likely to undergo cholecystectomy (65% vs. 70%, p=0.015; 63% vs. 74%, p<0.0001, respectively).

Conclusion: This is one of the largest studies to date looking at outcomes after ED diagnosis of cholelithiasis. Differences in ED return visits, cholecystectomy rates, and cholelithiasis suggest social disparities in individuals with Medicaid/Medicare or self-pay, and those of black race.

107 Improving Transitions of Care for Patients Initiated on Buprenorphine from the Emergency Department

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Study Objectives: Opioid use disorder (OUD) is on the rise nationwide with increasing emergency department (ED) visits and deaths secondary to overdose. Although previous research has shown that patients who are started on buprenorphine in the ED have increased engagement in addiction treatment, access to on-demand medications for OUD is still limited, in part because of the need for outpatient linkages to care. The objective of this study is to describe emergency and outpatient providers’ perception of local barriers to transitions of care for ED-initiated buprenorphine patients.

Methods: Purposive sampling was used to recruit key stakeholders, who identified as physicians, addiction specialists, and hospital administrators, from 10 EDs and 11 outpatient clinics in King County, Washington. Twenty-one interviews were recorded and transcribed, and then coded by two team members in order to verify accuracy of the thematic analysis. Interview guides and coding were informed by the Consolidated Framework for Implementation Research (CFIR), which provides a structure of domains associated with effective implementation of evidence-based practice.

Results: From the 21 interviews with emergency and outpatient providers, four major barriers emerged around transitions of care for ED-initiated buprenorphine patients—stigma, X-waiver shortage, referral incoordination, and loss to follow-up. Interviewees desired a protocolized “standard of care” for the treatment of ED patients with OUD to destigmatize the condition and increase patient self-identification and mission-driven practice. Additionally, participants highlighted the need to increase program capacity through promoting X-waiver training and creating a central repository of outpatient providers in order to streamline referrals. Lastly, interviewees aspired to increase retention of patients in outpatient treatment by having low-barrier scheduling, walk-in appointments, navigation services, and care coordination.

Conclusion: There are a number of barriers to translating evidence-based practice around the transitions of care for ED-initiated buprenorphine patients to an urban community setting. Next steps for implementation of this intervention include increasing the number of X-waivered providers, creating a central repository for streamlined referrals and follow-up, and funding navigation services.

108 A Randomized, Placebo-Controlled Study of Metoclopramide + Diphenhydramine for Acute Post-Traumatic Headache

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Study Objectives: We conducted a randomized, placebo-controlled study to determine whether intravenous metoclopramide 20mg IV + diphenhydramine 25mg (M+D) was efficacious for acute moderate or severe post-traumatic headache.

Methods: This was a double-blind study conducted in two emergency departments. The primary outcome was improvement in pain on a 0-10 scale between time 0 and one hour later. Secondary outcomes were sustained headache relief for 48 hours and score on a 22-item post-concussive symptom scale, on which higher scores indicate more severe symptomatology.

Results: 416 patients were screened for participation and 160 were randomized, 81 to M+D and 79 to placebo. Baseline characteristics were comparable between the groups. By one hour, placebo patients reported mean improvement of 3.8 (SD 2.6) while M+D improved by 5.2 (SD 2.3). The 95% CI for difference of 1.4: 0.7, 2.2. Sustained headache relief was reported by 18/76 (24%) placebo patients and 24/78 (31%) M+D patients (95% CI for 7% difference: -0.7, 21%). One week after the ED visit, the mean PCSS score in the M+D group was 14, and 21 in placebo (95% CI for difference of 7: 0, 15).

Conclusion: M+D was more efficacious than placebo with regard to relief of post-traumatic headache in the ED though this benefit was not sustained beyond the ED visit. Patients who received MCP reported fewer post-concussive symptoms one week later.

Table 1. Continued.

| ICD-10 Diagnosis  | March - April 2020 % (n) |
|-------------------|--------------------------|
| Pneumonia         | 38% (19)                 |
| Asthma            | 4% (2)                   |
| All respiratory dx| 66% (33)                 |
| UTI               | 12% (6)                  |
| Cellulitis        | 12% (6)                  |
| Other - non respiratory | 10% (5)  |

Hour of Discharge

- 8 AM - 8 PM: 64% (32)
- 8 PM - 8 AM: 36% (18)

Housing Status

- Domiciled: 70% (35)
- Undomiciled: 30% (15)

Insurance Status

- Private: 44% (22)
- State / Public (ie, Medicare, Medicaid): 48% (24)
- Uninsured / self-pay: 8% (4)

Language Preference

- English: 74% (37)
- Spanish: 24% (12)
- Other: 2% (1)