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.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
26 Changes in Emergency Department Use Associated with Medicaid Expansions under the Affordable Care Act
Shearer EJ, Budnoff K/Stanford School of Medicine, Stanford, CA; Stanford University, Stanford, CA

Study Objectives To determine whether changes in emergency department (ED) use associated with Medicaid expansions differ between states undergoing waiver and traditional expansions.

Methods: Cross-sectional difference-in-difference study to compare ED use between expansion and non-expansion states, and within expansion states, between traditional and waiver expansion states, in the four years prior to expansion (2010-2013) compared to the three years post-expansion (2014-2016). Among expansion states, the post-expansion period was defined based on each state’s date of Medicaid expansion. Consistent with prior work, four states (New York, Delaware, Massachusetts, and Vermont) and the District of Columbia were excluded, as these states already offered Medicaid coverage similar to the expansion level prior to 2014. In addition, Pennsylvania and Rhode Island were excluded from analysis, as these states underwent both traditional and waiver expansions at different time points.

We use data from the National Health Interview Survey (NHIS), a nationally representative cross-sectional survey consisting of adults from all 50 states and the District of Columbia. Participants: 37,658 adults aged 19-65 with incomes <158% of the federal poverty level.

The main outcome measures were ED use within the last 12 months and ED use two times or more in the last 12 months.

Statistical Analytic: Multivariate regression with interaction variables were used to calculate difference-in-difference estimates. Regressions were adjusted for several confounders available in the NHIS dataset, including age, sex, and family type, as well as for fixed effects at the state and interview year levels. A two-tailed t-test was used to determine if differences between coefficients in states undergoing traditional or waiver expansions were statistically significant, with significance set a priori at p<0.05. The NHIS complex survey design was taken into account by using Stata’s survey commands, as well as by weighting according to sampling design. Standard errors were clustered at the state level.

Results: Compared to non-expansion states, individuals in states across all expansion types were more likely to report any ED use in the previous year (2.8, p=0.05) and visiting an ED 2 times or more (2.0, p=0.05). Individuals in states undergoing traditional expansions were also more likely to report visiting an ED 2 times or more in the previous year (2.3, p=0.04) but were not more likely to report any ED use (1.7, p=0.25). Conversely, among individuals in waiver states, increase in any ED use approached significance (5.2, p=0.06), but use of EDs 2 times or more in the previous year did not statistically significantly increase (0.8, p=0.69). The differences between traditional and waiver states in ED use once and ED use 2 times or more in the previous 12 months did not meet significance (p=0.22 and p=0.50, respectively).

Conclusion: Three years post-expansion, there appears to be no difference between traditional and waiver expansion states in any ED use or more intensive ED use associated with Medicaid expansions under the Affordable Care Act. However, early evidence suggests states undergoing waiver expansions may be less effective at reducing any ED use, but more effective at reducing intensive ED use. Future studies should continue to examine these outcomes as these trends may evolve over time.

27 Correlation of Inflammatory Markers with Clinical Outcomes in Initial Cases of COVID-19 Admitted in the Bronx
Barrett B, Pampville S, Yang FJ, Friedman B/Montefiore Medical Center, Bronx, NY

Study Objectives: For several weeks in March and April 2020, New York City was the global epicenter of the COVID-19 outbreak. Minority populations in the Bronx were disproportionately affected. Clinical practice changed significantly, with clinicians ordering many non-routine labs and inflammatory markers from the emergency department (ED) on patients with suspected COVID-19 in a frantic attempt to gain more information about the disease and the patient. The objective of this study is to assess the utility of these laboratory tests in predicting poor clinical outcomes.

Methods: This was a retrospective case series including all admissions of adult and pediatric patients >= 16 years with COVID-19 who presented to one of five EDs between March 9, 2020 and April 4, 2020 in the New York City borough of the Bronx. The population was largely Black and Hispanic. Included were 1,122 laboratory-confirmed cases of COVID-19, and 22 COVID-19-negative cases in which the clinical suspicion for false remained high. Laboratory confirmation of COVID-19 was performed with reverse-transcriptase polymerase chain reaction (RT-PCR) assays on nasopharyngeal swab specimens. The lab values analyzed were lactate dehydrogenase (LDH), white blood cell count (WBC), absolute lymphocyte count (ALC), D-dimer, ferritin, procalcitonin, erythrocyte sedimentation rate (ESR), and C-reactive protein (CRP). Clinical outcomes included death, ICU admission, and need for renal replacement therapy (RRT). Each variable was manually extracted from electronic health records. The first lab value within 48 hours of arrival to the ED was recorded. We determined inter-rater reliability for 10% of the data. We report Spearman’s ρ and p values for each variable and clinical outcomes. P <0.05 was considered statistically significant.

Results: The mean age of our patient population was 62.0 (SD 16.1). Thirty-two percent of patients self-reported Spanish/Hispanic/Latino ethnicity, 42% reported their race as Black or African-American, 9% reported their race as non-Hispanic white, 2% reported their race as Asian, and 13% reported their race as mixed or other. We observed the following statistically significant associations between the laboratory values and patient death, ICU admission, or need for RRT: procalcitonin (0.44 for death), Ferritin (0.38 for ICU admission, 0.29 for death), CRP (0.29 for death), D-dimer (0.28 for death, 0.15 for ICU admission), 0.12 for RRT). ALC and creatinine were also significantly correlated with outcomes. WBC was not consistently or meaningfully associated with outcomes. ESR and ferritin did not show significant correlation with outcomes. Inter-rater reliability was 96%.

Conclusion: Procalcitonin, CRP, and D-dimer are correlated with clinical outcomes like death, admission to the ICU, and the need for RRT. WBC, ESR and ferritin were not meaningfully associated with outcomes. If these tests are being ordered for their prognostic value, we suggest ED providers not order these latter tests routinely in patients with suspected COVID-19.

28 Analytical Validation of a Novel Point-of-Care Coagulometer for DOAC and Heparin Testing
Bahluru SH, Jiang X, Chen L, Wang Y, Osmari D, Mootoo D, Zapppe S, Ansell J/Montefiore Technology Inc., Danbury, CT, Perosphere Technologies Inc., Danbury, CT, Hofstra Northwell School of Medicine, Hempstead, NY

Study Objectives: While use of the direct oral anticoagulants (DOACs) and low molecular weight heparin do not currently require routine coagulation monitoring, this can be highly desirable in at-risk patients, including those suffering major trauma or requiring emergency surgery. However, a point-of-care (PoC) device for the rapid measurement of clotting times in these patients is currently not available. The current study characterized the performance of Perosphere Technologies’ PoC Coagulometer to DOAC- and enoxaparin-induced anticoagulation, as well as characterizes instrument precision, via a methods comparison to manual whole blood clotting time (mWBCT).

Methods: For each study, whole blood samples from healthy volunteers were spiked with either 0 (sham), 30, 75, 150, 300 and 400 (apixaban, edoxaban) or 450 (rivaroxaban) ng/mL of a DOAC, or 0 (sham), 1, 2, 3, 4, and 5 μg/mL for enoxaparin, in randomized order. A single concentration was tested per day, over 6 days, and samples were tested on 5 PoC Coagulometers and by 5 operators performing mWBCT, simultaneously, for comparison. To assess the agreement of PoC Coagulometer and Manual WBCT measurements, the percent rise of clotting time using Manual WBCT was dichotomized as: 1 when %Rise >10%, and 0 when %Rise <10%. Each of the five PoC Coagulometers used in the study was randomly paired with one of the five operators for Manual WBCT. The ROC analysis was performed for each anticoagulant using percent rise of clotting time from PoC Coagulometer against the binary status categorized by manual WBCT’s percent rise.

Results: Across all concentrations, the sensitivity of the PoC Coagulometer was significantly higher when compared to mWBCT, with absolute values of mWBCT measuring roughly twice those of the PoC Coagulometer. A strong linear correlation was observed for these methods, with R^2 values of nearly 1. For individual subjects, mean baseline clotting time, and % rise of clotting time relative to baseline at the lowest and highest anticoagulant concentrations tested for each subject, for both Perosphere Technologies’ PoC Coagulometer and Manual WBCT measurements are compared in Figure 1. The sensitivity of the coagulometer proved to be roughly double that of manual WBCT across the range of concentrations tested. Similarly, the correlation coefficient of clotting time between the two methods for individual subjects yielded R > 0.98, indicating a strong correlation between the two methods for individual subject for each anticoagulant.

For each individual anticoagulant, the AUC of the ROC curve for coagulometer-operator pairs yielded values of 0.1 to close to 1 (pair 1 data are shown in Figure 1). Similarly, the other four

Volume 76, No. 45 : October 2020

Annals of Emergency Medicine S11