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Authors

Stenson, Bryan

Chiu, David

Joseph, Joshua

et al.

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# 17 Modeling Advanced Practice Provider Productivity in the Emergency Department

Bryan Stenson; David T. Chiu; Joshua W. Joseph; Leon D. Sanchez; Peter S. Antkowiak

**Objectives:** In this study, we examine APP productivity to determine if a similar pattern applies to that of residents and attendings, with the hypothesis that hourly productivity decreases after the first few hours of the shift.

**Background:** APP productivity follows a similar pattern to previously described behaviors in both residents and attendings. This further confirms the results of prior studies that productivity is a dynamic process that needs to be considered when adjusting staffing models. Additionally, this pattern by APPs at a community hospital provides additional validation of this model outside of academic institutions or training environments.

**Methods:** This is a retrospective cohort study from 7/1/21 through 6/30/21 at a single suburban community hospital in the northeast. APPs work ten hour shifts from 10AM to 8PM, nearly every day. APPs also provide coverage for approximately 5 shifts per month from 3PM to 11PM. Timestamps of initial patient contact are automatically logged by the electronic health record, and then analyzed to determine in which hour of the shift this occurred. A mixed linear model was performed with the hour as a categorical variable, and day of the week, month and year as covariates. Data was grouped by individual shifts.

**Results:** A total of 345 10-hour shifts were worked by five APPs over the one year studied. There were 64 additional afternoon shifts which were excluded due to the shorter length and lower frequency. Two APPs worked the vast majority of the shifts, and the other three provided per-diem coverage. A mean of 13.3 patients (SD 2.7) were seen per shift. In the first hour, APPs saw an average of 2.67 patients (95% CI 2.59-2.76). Each hour demonstrated a statistically significant decrease relative to the first hour ( $p < 0.001$ ), with the highest magnitude over the second (-0.58 (95% CI -0.69 — -0.47)) and third (-0.98 (95% CI -1.09 — -0.86)) hours. This downward trend continued throughout the rest of the shift; however, the magnitude of this difference after the sixth hour was not significant. There was no effect by day of week, month or year.

**Conclusion:** APP productivity follows a similar pattern to previously described behaviors in both residents and attendings. This further confirms the results of prior studies that productivity is a dynamic process that needs to be considered when adjusting staffing models. Additionally, this pattern by APPs at a community hospital provides additional validation of this model outside of academic institutions or training environments.

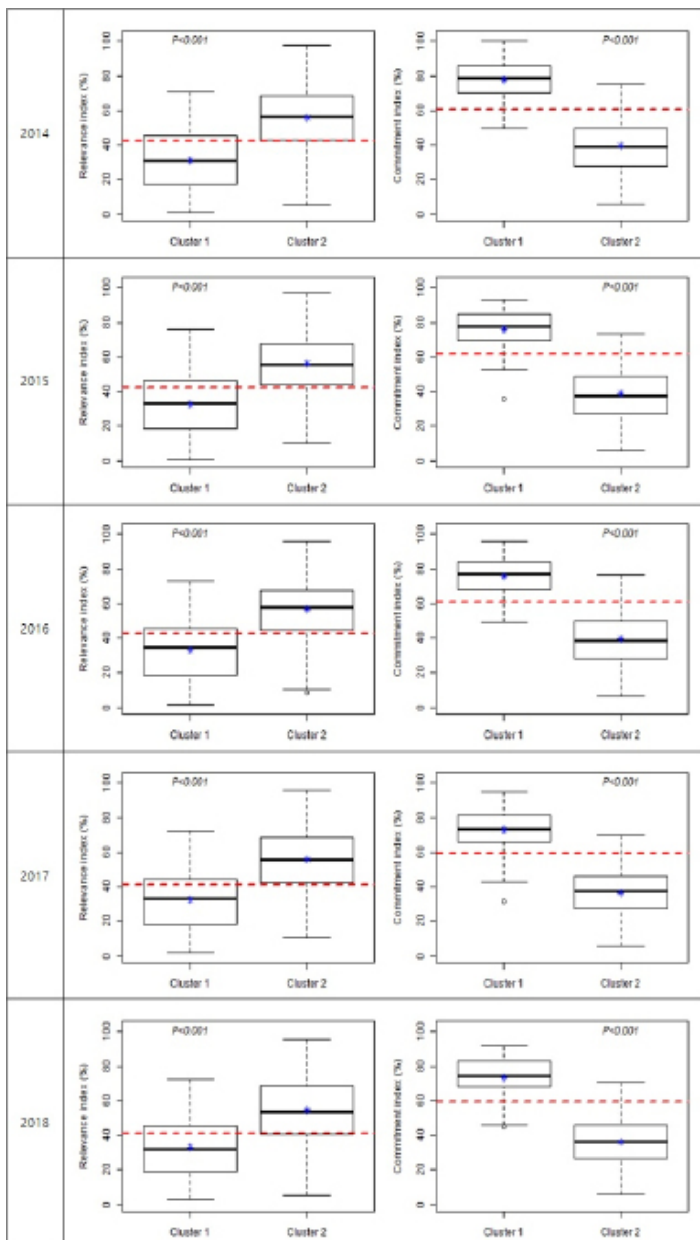


Figure 2.

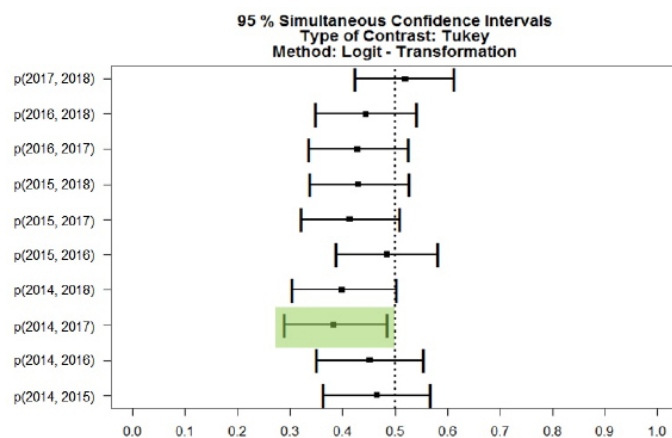
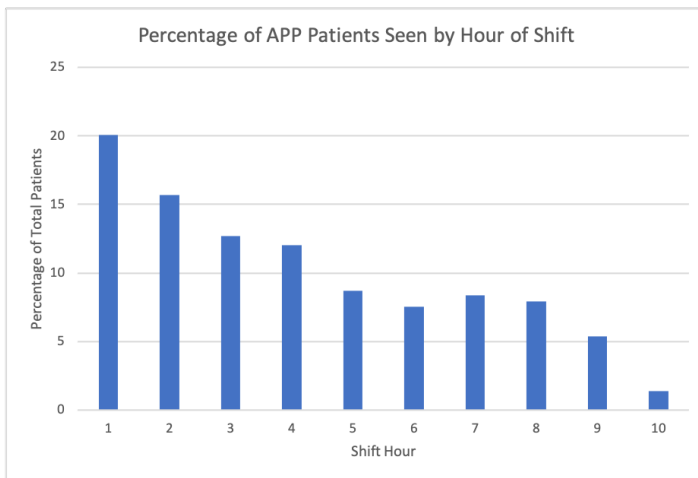


Figure 3.



**Figure 1.** Percentage of APP patients seen by hour of shift

## 18 Impact of a Best Practice Alert on the Implementation of Expedited Partner Therapy

Andrew Gutting; Emily Ager; Fahmida Ahmed; Keith E. Kocher; *Rachel Solnick*; Roland C. Merchant; Zoe Curry

**Objectives:** The objective of this study was to determine if an ED-based electronic health record (EHR) Best Practice Alert (BPA) increased the ordering of expedited partner therapy (EPT) for sexually transmitted infections (STI) in adult patients.

**Background:** US EDs have reported increases in STI visits and positivity rates, mirroring record level increases in STI incidence in the general population. EPT is an evidence-based practice recommended by public health experts for treating sexual partners of STI patients. EDs typically evaluate patients for STIs without their sexual partner present, thereby providing opportunities for EPT. However, EPT is infrequently used in US EDs.

**Methods:** This pilot study was part of a quality improvement initiative conducted between August and October 2021 in an academic tertiary care ED located in the Midwest. An EPT BPA was randomly displayed in the EHR to clinicians when they empirically treated adult ED patients for STIs with antibiotics. Differences in proportions of EPT ordering were calculated for STI visits between BPA exposed vs. unexposed, ED clinician type, and testing-confirmed vs. not confirmed STI status.

**Results:** Of the 52 adult ED patients empirically treated for STIs during the study period, their mean age was 30 years old, 56% were female, 48% White and 40% Black, and 31% had Medicaid. Testing-confirmed STI prevalence was 27%. EPT was ordered less often during BPA unexposed (8%;

95% CI 1-25) than BPA exposed (42%; 95% CI 23-63) STI visits, for a mean difference of 35% (95% CI 13-56). EPT was ordered during 41% of STI visits involving residents, as compared to 7% of physician assistant visits ( $p=0.07$ ). EPT was not ordered more often for testing-confirmed vs. not confirmed STI visits (21% vs. 26%;  $p=0.7$ ).

**Conclusion:** Displaying an EHR BPA greatly increased EPT ordering for patients empirically treated for STIs, although not consistently across all clinician types. Because suspected cases of STIs may be less common in some EDs depending on the populations they serve, BPAs may be a useful tool to bolster the implementation of EPT practices.

## 19 Metal Detectors Improve Patients' Sense of Safety in the Emergency Department

Devon Fiorino; *Joshua Easter*; William Peter Kehr

**Objectives:** We aimed to assess the impact of metal detectors on patients' feelings of safety in the ED.

**Background:** National guidelines recommend hospitals attempt to prevent weapons from entering EDs. Metal detectors have been shown to reduce the number of weapons coming into EDs. However, there are concerns that they are unwelcoming to patients and might discourage them from seeking care. Less than one third of hospitals in the United States utilize metal detectors. The most recent ED based studies of patients' attitudes towards metal detectors were over 25 years ago, and patients' perceptions of safety likely have evolved during this time.

**Methods:** We surveyed a convenience sample of patients and their companions >18 years of age, who had undergone metal detection at the entrance of our suburban, academic ED from 2019-2021. Using tailored design, we developed survey questions with a consensus panel of physicians, nurses, and patients. We pilot tested the survey with cohorts of medical students and patients. Respondents anonymously reported their answers to questions on a 5 point Likert scale online in Qualtrics. Descriptive statistics were calculated, and chi square tests were utilized to compare groups.

**Results:** The survey response rate was 78%, with 303 patients completing the survey. Most (71%) non-respondents were due to clinical care needs preventing participation. Approximately two thirds of participants were patients (67%) and female (61%) with nearly all respondents in the ED for non-traumatic concerns (83%). Nearly one third of respondents (31%) had a colleague or family member that had been the victim of physical assault, 16% had previously witnessed physical violence in the ED, and 29% had a weapon in their home. An abundance (91%; 95% CI: 87 – 94%) of respondents reported that metal detectors improved their sense of safety in the ED. Slightly over half of respondents (52%; 95% CI: 46 – 58%) indicated the presence of metal detectors