

training by a radiologist could accurately measure RV/LV ratio on CTPA. In this study, we assessed whether medical students could accurately measure RV dilatation on CTPA.

Methods: We conducted a post hoc analysis of a retrospective cohort study of adults undergoing management for acute PE at 21 community Emergency Departments across Kaiser Permanente Northern California (KPNC) from 2013 to 2015. We created a sample of 120 patients from the original 2,387 patients, stratified to contain an equal number of patients from each of the five Pulmonary Embolism Severity Index classes. The sample had a proportional ratio of home/short stay to hospitalized patients. Four medical students measured RV and LV diameter on CTPA after a series of brief training sessions from an emergency medicine physician and an interventional radiologist. We used Cohen's kappa statistics, Bland-Altman plots, and Spearman's rank correlation to assess interrater reliability, comparing the student measurements with those of the radiologist.

Results: Of the 120 CTPAs, 108 images were accessible and constitute the study cohort. Among the 108 CTPAs, 79 (73%) showed RV dilatation and 29 (27%) did not. The kappa statistic for the presence of RV dilatation of the medical students compared to the radiologist showed moderate agreement for three medical students (kappa (95% CI): 0.46 (0.21-0.70), 0.49 (0.31-0.68), 0.50 (0.32-0.68)) and fair agreement for one medical student (kappa (95% CI): 0.29 (0.10-0.47)). The average interrater differences in RV/LV ratios (SD) between the four medical students were -0.04 (0.19), -0.05 (0.26), 0.04 (0.29), and 0.24 (0.26). Spearman's rank correlation coefficients were 0.76, 0.75, 0.68, and 0.70, respectively, indicating moderate correlation ($p < 0.001$ for all).

Conclusion: With brief training, medical students were able to identify RV dilatation on CTPA in moderate agreement with that of a radiologist. Further study is needed to determine whether medical student accuracy could improve with additional training.

551 | Barriers and Facilitators to the Outpatient Management of Pulmonary Embolism: A Qualitative Study

Lauren M. Westafer¹, Peter K. Lindenauer¹, David R. Vinson², Eric Boccio³, Erica Jessen⁴, Michael Zampi

¹University of Massachusetts Chan Medical School - Baystate, ²The Permanente Medical Group, ³Yale University School of Medicine, ⁴Baystate Medical Center

Background and Objectives: Studies estimate that 30-50% of patients diagnosed with acute pulmonary embolism (PE) may be eligible for outpatient management; however, less than 5% of patients are discharged from US emergency departments (EDs). As the proportion of patients varies substantially by hospital, we sought to explore the barriers and facilitators to the outpatient management of PE.

Methods: In this qualitative study, we recruited a purposeful sample of ED physicians using maximum variation sampling to include those who routinely discharge >15% of PEs and those who rarely,

if ever, discharge patients with PE. We conducted semi-structured interviews, which were recorded and transcribed. We asked about management of acute low-risk PE and barriers and facilitators to the outpatient management. Using a directed qualitative content analysis approach, 2 members of the research team performed blinded coding of the transcripts in an iterative process, with an initial codebook developed based on the Consolidated Framework for Implementation Research.

Results: We interviewed 22 ED physicians from 10 institutions across the US. Participants universally noted follow-up and lack of insurance as major barriers to outpatient management. However, participants working in the same setting reported a variable influence of these outer setting barriers on their ability to discharge patients with low-risk PE. Individual-level factors, particularly belief about the value of hospitalization and knowledge of the safety data of outpatient PE management, were also noted as important. Participants unanimously reported that institutional support in the form of a protocol would facilitate outpatient management through the establishment of a local standard of care and increase self-efficacy.

Conclusion: Individual and institutional-level factors may serve as important targets for implementation strategies for outpatient management of PE. Future efforts to promote outpatient management of low-risk PE should be informed by these barriers and facilitators.

552 | ASTHMAXcel ED: An Easily Adopted Mobile Platform to Improve Health Literacy After Emergency Department Discharge

Carlo Lutz¹, Sunit Jariwala², Eddie Irizarry², Benjamin W. Friedman²
¹Montefiore Medical Center, ²Albert Einstein College of Medicine

Background and Objectives: Poor health literacy and care transitions worsen asthma burden in the United States. The ASTHMAXcel mobile platform had high patient satisfaction and improved asthma knowledge, quality of life, and asthma control in clinic patients. An Emergency Department (ED) version intended for self-guided learning after discharge emphasizes medication and environmental best practices. This study aims to show high acceptance of ASTHMAXcel ED in discharged ED patients.

Methods: This prospective, open label, mixed methods study was conducted in two large urban Bronx, NY ED's. Inclusion criteria were age ≥ 18 years, English literacy, smartphone access, and discharge with asthma exacerbation. ASTHMAXcel ED was downloaded onto participant cell phones. User acceptance was measured with a Unified Theory of Acceptance and Use of Technology (UTAUT) questionnaire administered 4 weeks after discharge, with agree/neutral/disagree responses. UTAUT addresses Behavioral Intentions or future intention to use (BI), Performance Expectancy or perceived usefulness (PE), Effort Expectancy or ease of use (EE), Social Influences (SI), and availability of necessary infrastructure or Facilitating Conditions (FC). The association of PE, EE, SI, and FC with BI was measured with Spearman's correlation. Open-ended user feedback was thematically coded.

