Implementing a COPD Screening Algorithm in a VA Tobacco Cessation Clinic
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Problem:
Chronic obstructive pulmonary disease (COPD) is one of the leading causes of morbidity and mortality in the world. At the James J. Peters VA, we have a resident run smoking cessation clinic with a large patient base of current and past smokers, a particular population that would benefit from COPD screening. Research suggests a COPD diagnosis may also serve as an additional deterrent to tobacco use in this population. The goal of this project was to improve and streamline the process of diagnosing COPD in a high-risk population by utilizing order automation and backend EMR logic.

Methodology:
A COPD screening algorithm was integrated into our clinic within the Electronic Medical Record (EMR) that utilized order automation to make the decision and ordering process more intuitive and streamlined for physicians. We used the COPD Population Screener (COPD-PS), which is a validated, published, screening tool developed by the University of Michigan, to screen new and established patients who presented to a resident-run tobacco cessation clinic. By utilizing backend logic within the EMR, the questionnaire was targeted so it would not appear for never-smokers, patients with COPD, or patients who completed a Pulmonary Function Test (PFT) within the last 5 years. A cutoff of $\geq 5$ on the COPD-PS was chosen as it offered an 84.4\% sensitivity and 60.7\% specificity. If patients scored $\geq 5$ on the questionnaire, a pre-populated order for a PFT was automatically generated.

Results:
There were a total of 40 patients that were screened through the smoking cessation clinic between November 2018 and April 2019. Sixteen (40\%) of those patients scored $\geq 5$ on the COPD-PS questionnaire and were referred for PFTs. Ten (62.5\%) patients completed the PFTs. Seven (70\%) tested positive for COPD.

Conclusions:
The screening algorithm served as a clinical decision support tool for providers to improve workflow via automated processes. The logic built into the screening tool successfully distinguished patients based on COPD diagnosis, PFT history (in years), and previous COPD-PS completion. We hope that utilization of these EMR modifications embedded in the clinical workflow will assist with earlier diagnosis and treatment for COPD in high-risk individuals.