

# Population Health: The Impact of Optimizing Multi-modal Smoking Cessation Education for High-Risk Individuals in an Emergency Department Setting

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## PURPOSE

The aim of this project is to increase the percentage of patients who received multi-modal (audio-visual, verbal, and written) smoking cessation education with a vision to reduce smoking habits among those with Chronic Obstructive Pulmonary Disorder (COPD)

## DESIGN, SETTING, SAMPLE

Emergency Care Specialists (ECS) is a member of the Michigan Emergency Department Improvement Collaborative (MEDIC). MEDIC is a unique physician-led partnership supported by a major third-party payer aimed at improving outcomes for Emergency Department (ED) patients across the State of Michigan. This evidence-based quality improvement project utilized a before and after design.

The population sampled during the quality intervention period included adult and pediatric emergency department visits with an identified health history of smoking. The data is filtered to include only smoking patients who have a diagnosis of COPD, and each site electronically reports on whether smoking cessation counseling was provided to these patients or not.

## METHODS & ANALYSIS

Performance data was obtained from the Electronic Health Record (EHR). Tableau and Microsoft Excel were used to develop and track to produce performance data reports for the percentage of patients that received the intervention.

Statistical analysis was performed using the percentage of patients that received smoking cessation education compared to the total number of COPD patients that had a positive history of smoking. Manual chart audits were also performed to evaluate the accuracy of the electronically pulled data points.

Table 1

Structure:	Process:	Outcomes:
<ul style="list-style-type: none"> <li>Physician and quality leads created an ED Dispo Smoking Cessation SmartSet within the Electronic Health Record (EHR) which was automatically suggested if a patient had a positive history of smoking in the ED triage and/or the patient's health history</li> <li>Developed a plan to communicate the use of the SmartSet</li> <li>Provide updates on the performance and utilization of the SmartSet to improve the percentage of patients that received the smoking cessation education</li> </ul>	<ul style="list-style-type: none"> <li>Analyzed trends of the SmartSet utilization by monitoring documentation within the EHR</li> <li>Identified gaps in EHR documentation and the inclusion of the smoking history by performing manual audits of data reports</li> <li>Altered the EHR data set as a result of the audit to prevent non-smokers from being included in the data reports</li> <li>Posted site-specific and global performance trends on % of ED COPD patients that received smoking cessation education</li> <li>Provided updates at monthly Quality and Operational meetings</li> </ul>	<ul style="list-style-type: none"> <li>Utilized Tableau and Excel to calculate performance trends</li> <li>Prior to the intervention period, smoking COPD patients received multi-modal smoking cessation education 0% of the time.</li> <li>During the "roll-out" period of Sep '22-Dec '22, patients received multi-modal smoking cessation education 2.2% of the time.</li> <li>During the "implementation period" of Jan '23-Dec '23, patients received multi-modal smoking cessation education 10.4% of the time with a 14% education rate in the last 6 months of the implementation period of Jul-Dec '23.</li> </ul>

## METHODS & ANALYSIS cont.

Previously used written and verbal smoking cessation education was changed to include additional audio and visual components for the emergency department patient. This resulted in the implementation of a multi-modal learning opportunity in discharge education with a previously difficult to reach patient population. EHR modifications helped automate these changes.

## RESULTS & CONCLUSIONS

During the "education period" of Sep '22-Dec '22, patients received multi-modal education 2.2% of the time. During the "implementation period" of Jan '23-Dec '23, patients received multi-modal education 10.4% of the time with an increase to 14% in the last 6 months. See Figure 1 for more information.

Multi-modal education is one of the most effective ways to provide instruction. Providing multiple education methods to patients ensures that they receive their preferred style of learning to better influence their health choices in a positive way.

## REFERENCES

To be provided upon request

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Figure 1 Smoking Cessation Education to COPD Smoking Patients

