

Impact of Implementing Education and Electronic Medical Record Tools on Pneumococcal Vaccination Rates in a Primary Care Clinic

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Background

- **Pneumococcal infections are an important cause of illness and mortality in the United States**
 - 31,000 cases and 3,500 deaths related to invasive pneumococcal disease (2017)
 - Drug-resistant *Streptococcus pneumoniae* remains serious threat
- **Vaccination reduces morbidity and mortality associated with pneumococcal disease**
 - Indicated for those with disease risk factors or at risk for severe outcomes
 - Routine part of infant and childhood care since 2000 (PCV7 → PCV13)
 - Adult pneumococcal vaccination efforts began in the 1980s (PPSV23)
 - Adult vaccination recommendations became more complex with approval of conjugate vaccines (PCV13 → PCV15/20)
- **Vaccine uptake remains a challenge given multiple vaccine types, recommended schedules, and multiple paths to vaccine access**
 - 69% of adults aged 65 years or older received at least one pneumococcal vaccine but only 24.5% of those aged 19-64 years at risk for pneumococcal disease (2017)
 - Opportunities to vaccinate can be improved during office visits

Purpose

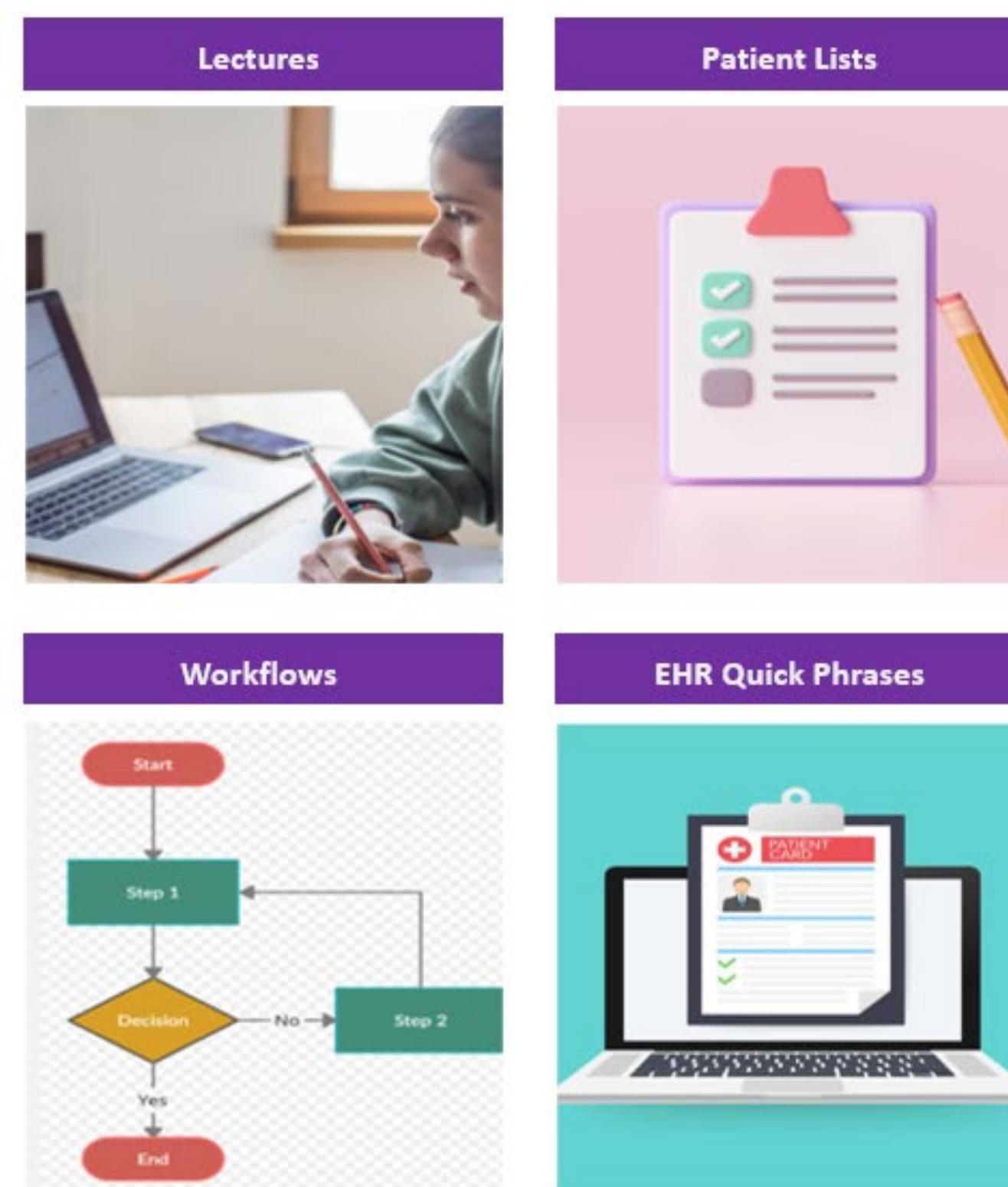
- Improve overall pneumococcal vaccination rates after implementing screening tools, standard workflows, and focused education in an internal medicine office setting.
- **GOAL:** improve percentage of eligible patients in the practice who received pneumococcal vaccination

Methods

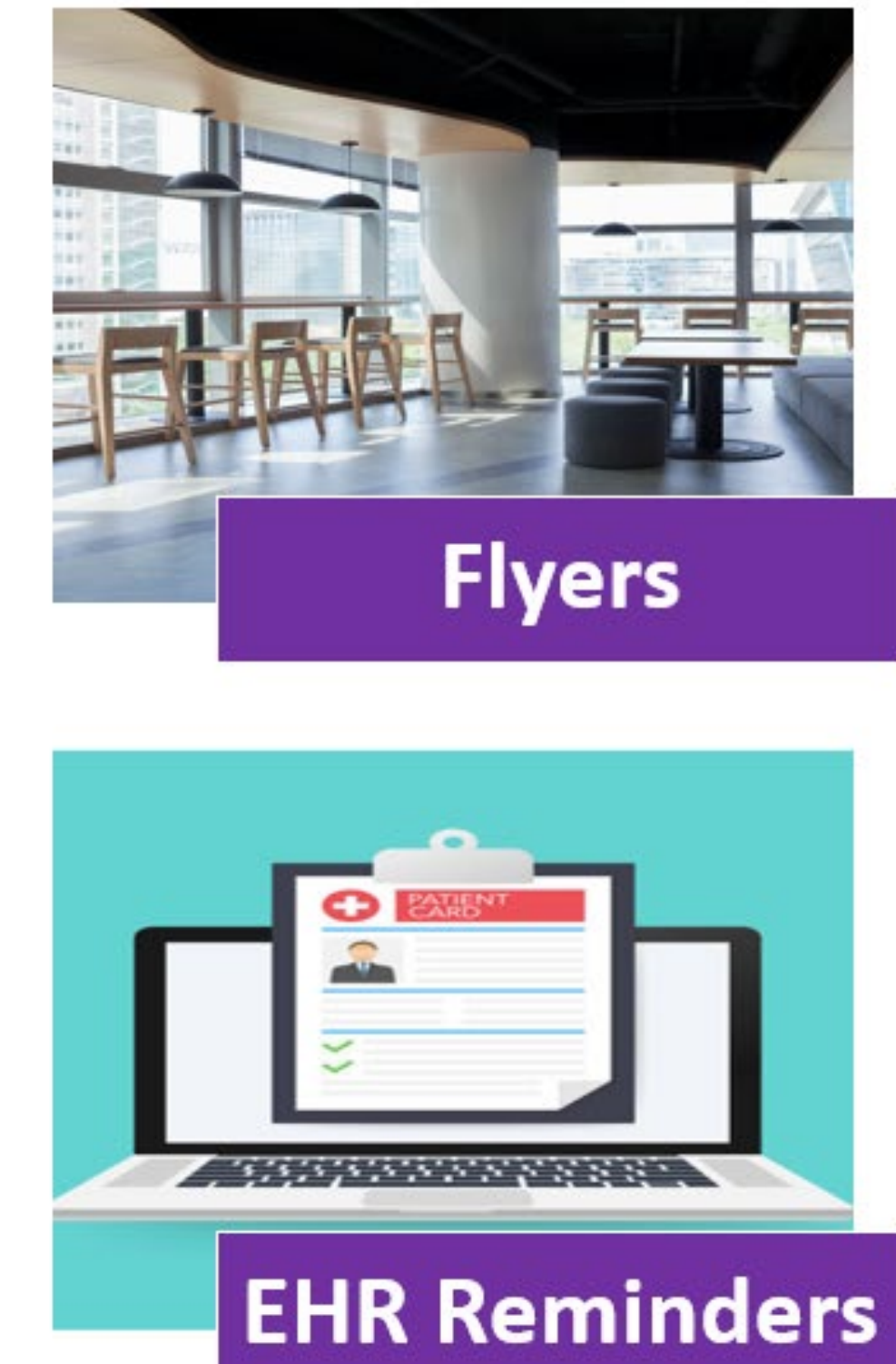
- Approved by Institutional Review Board
- Retrospective chart review
 - Pre-intervention record review to determine baseline practice pneumococcal vaccination rate
 - Design and deliver educations for medical residents and patients
 - Post-intervention record review for evidence of vaccine update 10 weeks post intervention

Interventions Performed

Medical Resident Education



Patient Education



Patient Criteria

- Inclusion**
- Males and females aged 19 and older
 - Established patient at practice continuity clinic
 - Completed appointment between 8/1/2022 – 10/14/2022
- Exclusion**
- Documentation of up-to-date status on pneumococcal vaccination

Data Collection Points

Medical Record Number	Pertinent Medical History
Age	Cigarette smoking
Gender	Alcoholism
Primary Care Provider	Chronic liver disease, including cirrhosis
Pneumococcal Vaccination Date(s)	Chronic heart disease, excluding hypertension
	Chronic lung disease
	Diabetes mellitus
	Candidate for/recipient of cochlear implant
	CSF leak
	Asplenia
	Sickle cells disease or other hemoglobinopathies
	Congenital or acquired immunodeficiencies
	Generalized malignancy
	HIV infection
	Hodgkin disease, leukemia, lymphoma, or multiple myeloma
	Immunosuppression due to medications or radiation therapy
	Solid organ transplant
	Chronic renal failure or nephrotic syndrome

Anticipated Outcomes

Primary Outcome

- Percent of eligible patients receiving pneumococcal vaccination

Secondary Outcomes

- Percent change in overall pneumococcal vaccination rate
- Percent of administered pneumococcal vaccines selected correctly
- Percent of patients ≥65 years of age receiving pneumococcal vaccination
- Percent of administered pneumococcal vaccines selected correctly in patients ≥65 years of age

Hypothesis/Application to Practice

- Medical resident education, patient education, and use of standardized electronic medical record workflows will increase pneumococcal vaccination rates in our setting.
- If successful, the methods used can be repurposed to close other vaccine gaps or improve rates of other preventative/wellness initiatives.

References

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Disclosures

Authors of this project have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this project.

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