

Transforming COPD care: A multidisciplinary QI initiative to standardize inpatient COPD management

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BACKGROUND

There can be significant variation in the implementation of COPD exacerbation treatment guidelines due to clinical ambiguity, provider familiarity, or patient-specific considerations. A standardized electronic order set can facilitate consistent evidence-based management.

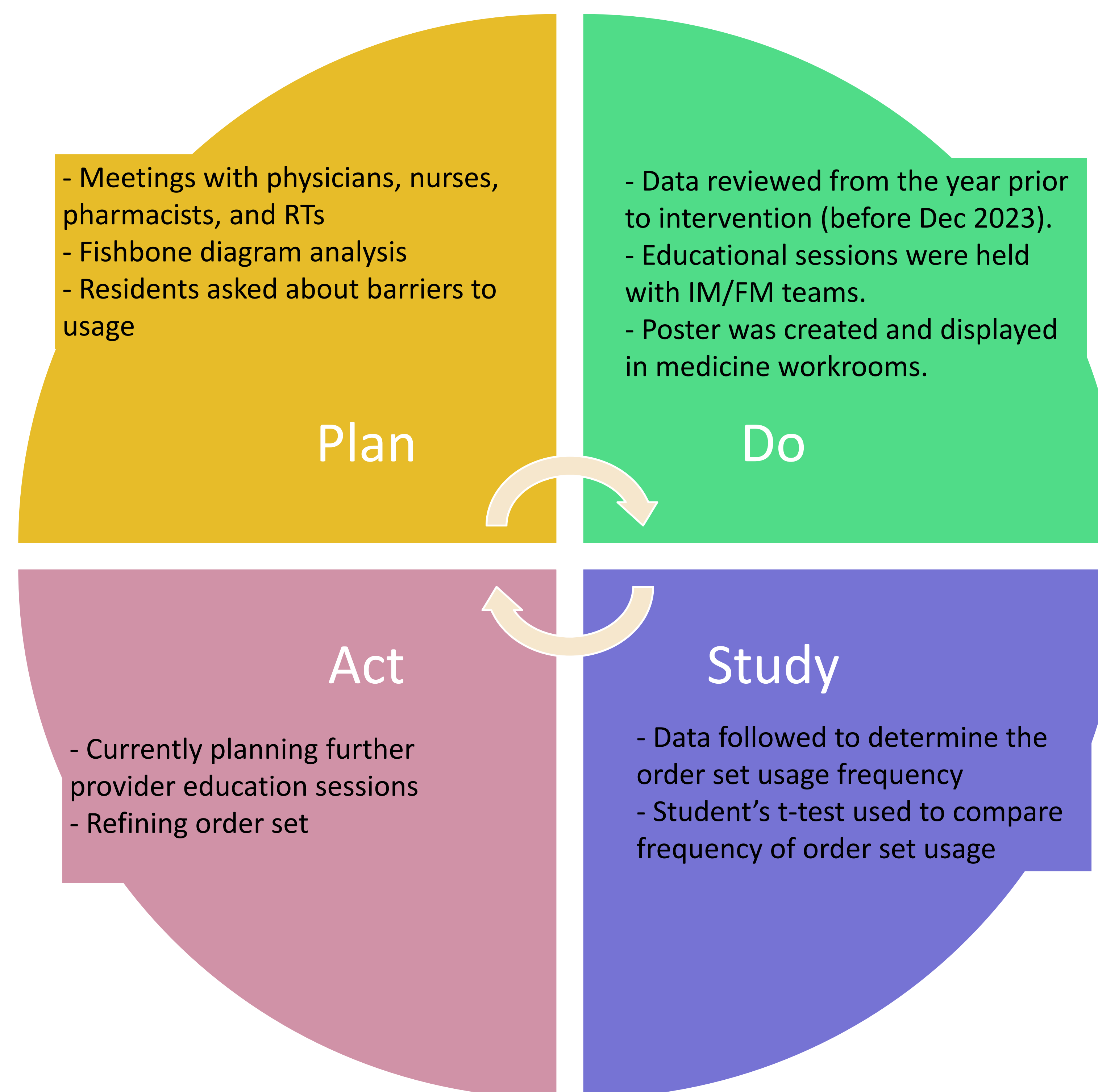
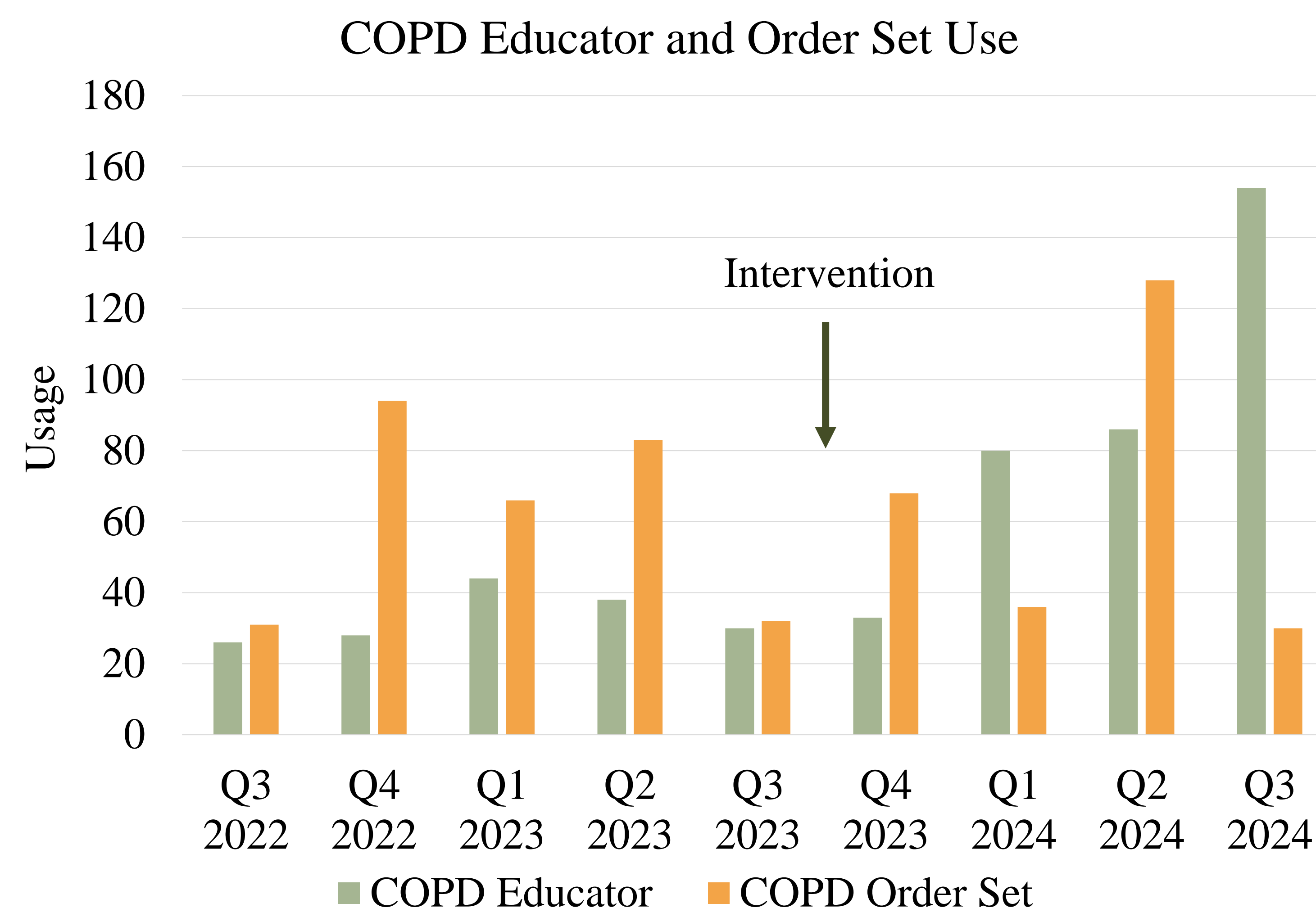
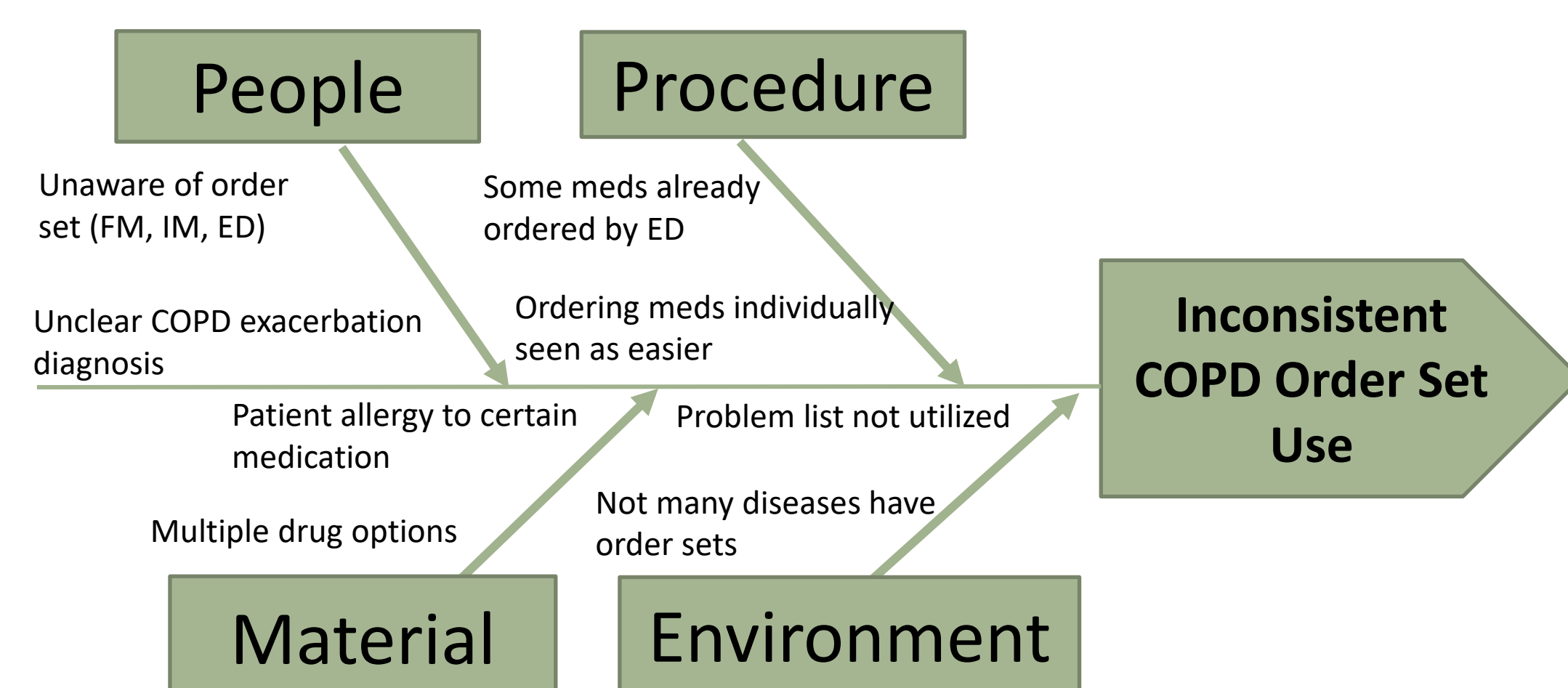
SMARTER OBJECTIVE

The objective of this study was to increase utilization of the COPD admission and educator orders by 75% by the end of one year post-intervention.

- S - Specific:** Increase utilization of the COPD admission order set and COPD educator resource by 75%.
- M - Measurable:** The usage frequency of the COPD order set and COPD educator will be tracked each month and compared to usage prior to project initiation.
- A - Achievable:** A 75% increase is the target as the initial usage frequency of the orders was very low (2-3x/week for the educator and ~5x/week for the order set).
- R - Relevant:** The goal will be to improve adherence to evidence based guidelines and streamline workflow in managing COPD exacerbations.
- T - Time-bound:** The initial results will be collected through December 2024, but continued to be added to quarterly.
- E - Evaluated:** The progress has continuously been monitored at interval multidisciplinary meetings.
- R - Revised:** The education of providers in the hospital has been maintained at lengthening intervals.

IMPROVEMENT ACTION PLAN WITH ACTIONS TAKEN

- Pilot Study Setting: Internal medicine resident workrooms, family medicine workrooms, hospitalists group.
- Patient Population: patients with COPD exacerbation as their primary diagnosis
- Timeline:
 - Dec 2023 – project initiated
 - Feb 2024-Apr 2024 – provider education
 - Jul 2024-Sep 2024 – provider reminders
 - Dec-Jan 2025 – collect and analyze data
 - Feb 2025 onward – iterate PDSA cycle
- Measures:
 - Outcome measure = frequency of COPD admission order set and educator usage
 - Process measure = provider satisfaction
 - Balancing measures = COPD educator workload, readmission rate



RESULTS:

- Root cause analysis showed that lack of awareness of the order sets was the primary reason for infrequent use.
- From studying the problem, other potential solutions included problem-list based order set for patients with COPD, or a pop-up when COPD exacerbation is assigned the admission diagnosis.
- The average frequency of COPD educators used during quarter 3 of 2022 through quarter 3 of 2023 was 33 times/quarter; this increased to 88 times/quarter after the intervention (p=0.04).
- For the COPD admission order set, the frequency of usage prior to the intervention was on average 61 times/quarter and increased to 66 times/quarter after the intervention (p=0.80).

SCALE UP PLAN:

- Scale up plans include:
- Increase awareness at beginning of intern year orientation
 - Incorporating more consistent usage across resident and hospitalists teams
 - Increasing usage in other WVU Medicine hospitals

SUSTAINABILITY PLAN:

Sustainability of this project is planned through usage of the order set by incoming trainees and monitoring usage by the COPD QI team on a regular basis. Initial evidence to sustainability in improvement is the continued increased rate of usage of the order sets with infrequent provider education sessions. The goal is for there to be an expectation of usage of the order set for all COPD patients from attending to the intern.

LESSONS LEARNT:

Consistent education to providers over a 3 month period increased utilization of the order sets and streamlined evidence-based care, patient education, and follow up resources use to ensure patients receive appropriate care.