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Improving Influenza Vaccination Rates in Chronic Obstructive Pulmonary Disease Patients in Bukit Merah Polyclinic

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BACKGROUND

Patients with Chronic Obstructive Pulmonary Disease (COPD) are more susceptible to influenza related complications. **Existing vaccination rates** at our clinic range from **27.7% to 40.5%** in the first half of 2015. Since 1 January 2014, COPD patients are able to use Medisave to cover the cost of the vaccine. We wanted to use this opportunity to further improve care for our patients.

AIM

To have **80%** of all active **COPD** patients in Bukit Merah Polyclinic vaccinated within the next six months. *(August 2015 to January 2016)*

METHODOLOGY

Based on a patient survey and brainstorming between the multi-disciplinary team members with core knowledge of the problem, the factors were identified using **cause-and-effect analysis** and prioritized using **pareto chart**.

Top two ranking causes for low uptake rates were due to:

1. Doctors lack time and resources to educate patients.
2. Doctors overlook ordering the influenza vaccination at the time of decision making.

INTERVENTIONS

To conduct a polyclinic wide **awareness campaign** to **improve health literacy**

Eye catching educational posters (Figure 1) were placed in high traffic areas such as waiting areas, registration counters and toilets. The following week, we conducted a patient survey. Our primary findings were that patients were unaware of the benefits of the vaccine but would accept it if offered. Based on these findings, we modified the poster (Figure 2). A survey done on ten random COPD patients who visited the polyclinic on the same day revealed improved knowledge and attitudes (Figure 3).

Figure 1. Initial Poster

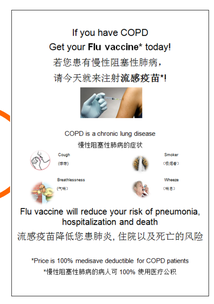


Figure 2. Final Poster

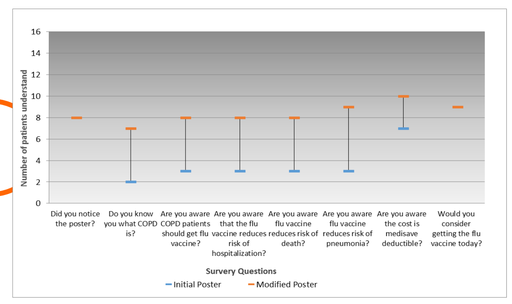


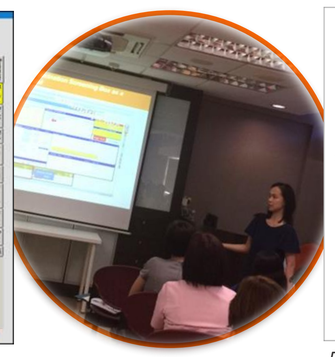
Figure 3. Poster Survey Result

To increase **doctors' awareness** and **improve their usage** of the **computerized clinical decision support tool**

The information technology based support tool (Figure 4) located in Procare Polyclinic Information System (PPIS) was introduced in May 2014 to help doctors identify COPD patients who had not yet received annual influenza vaccination. The tool helps to prompt doctors if the influenza vaccination was due. Our survey showed that 33% of doctors used it to assess the patient's vaccination status. Only 13% knew how to fully utilize the tool to maximum effect. Lack of familiarity was the greatest barrier cited.

To address this usage deficit, we conducted individual training sessions to familiarize doctors with this tool. To increase ownership, doctors were encouraged to adopt this tool as their personal quality improvement tools. After several weeks of intensive habit building, the doctors had achieved sufficient awareness saturation and were now able to drive the process themselves (Figure 5).

Figure 4. Information Technology Based Support Tool



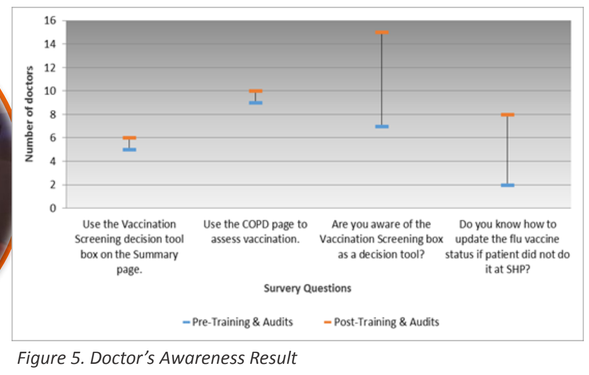


Figure 5. Doctor's Awareness Result

RESULTS

The percentage of COPD patients on active follow up at Bukit Merah polyclinic **improved** from a baseline of **41%** to **68%** (Figure 6). This was in spite of two major setbacks.

1. Effect of **major air pollution** from regional haze lasting two months.
   - **Increased** number of patients with symptom exacerbation who were not fit for vaccination.
2. **Lack of vaccine stock** for three weeks.

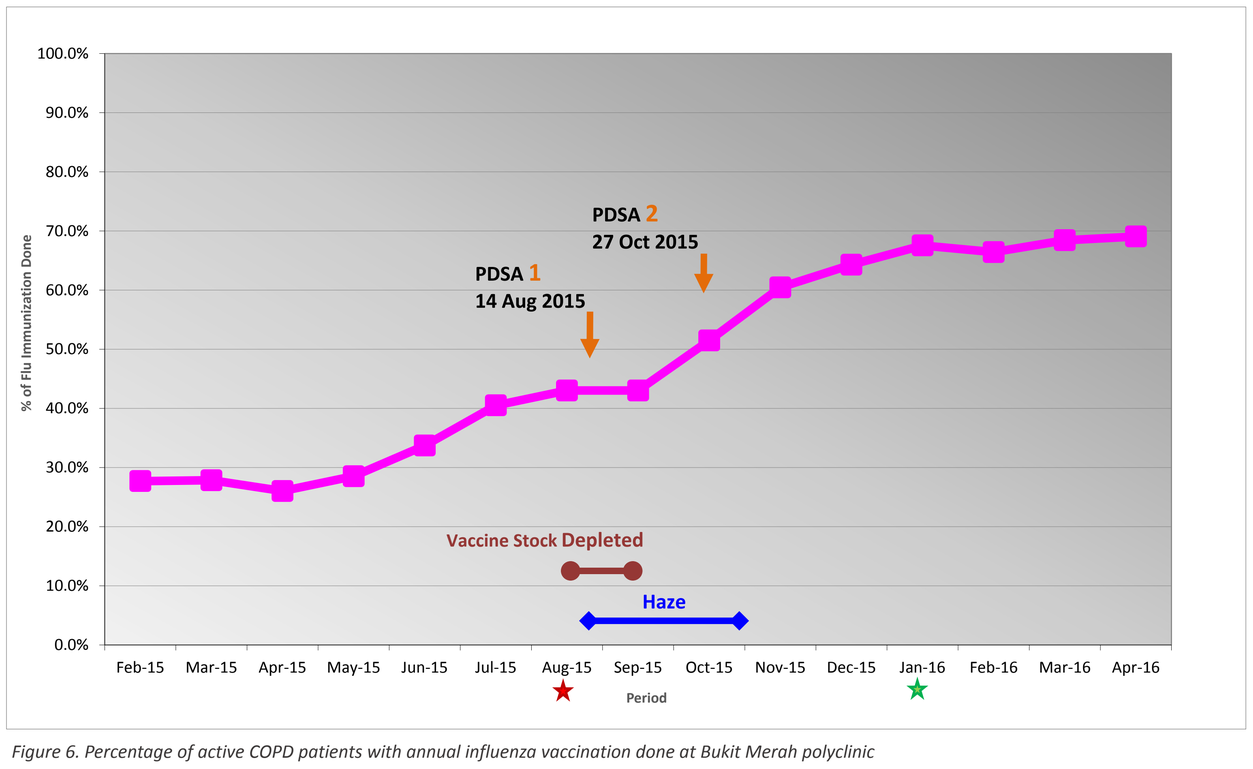


Figure 6. Percentage of active COPD patients with annual influenza vaccination done at Bukit Merah polyclinic

★ *Project Start* ★ *Project Completion*

SUSTAINABILITY AND SPREAD

Once doctors were familiar with the use of the clinical decision support tool, they were able to use it effectively.

The vaccination rates were sustained even after completion of the project in January 2016. The results were shared with other SingHealth Polyclinics during the monthly Respiratory Collaborative Workgroup meeting. It is hoped that other clinics may benefit from using our interventions in improving their clinic vaccination rates.

CONCLUSION AND LEARNING POINTS

1. Efforts to improve health literacy amongst COPD patients resulted in increased influenza vaccination rates.
2. Clinical decision support tools are underused. It is very useful for doctors working in a busy polyclinic. When used effectively, it can improve patient outcomes and lead to higher quality health care.
3. To implement change successfully, effective communication and ownership of the project is required from all stakeholders. The process of behaviour change requires time but once habits are formed, change can be sustained even in the face of various healthcare challenges.

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