

To increase the uptake of influenza vaccination among elderly patients; aged 65 years old and above, tagged to Teamlet B, in Ang Mo Kio Polyclinic from 12% to 75%, over a period of 6 months from June 2021 to December 2021

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Mission Statement

To increase the uptake of influenza vaccination among elderly patients; aged ≥65 years old, tagged to Teamlet B, in Ang Mo Kio Polyclinic from 12% to 75% over 6 months, from June 2021 to December 2021.

Team Members

Name	Designation	Department	Role
Lin Xin Hui Alyssa	Family Medicine Resident	Medical	Leader
Dr Ng Chia Hau	Family Physician, Associate Consultant	Medical	Member
Ms Tan Peck Hoong	SSN 1, Care Manager (CM)	Nursing	Member
Ms Wendy	Senior Care Coordinator (CC)	Nursing	Member
Ms Fan Hong Na	SSN 1, Staff Nurse (Vaccination)	Nursing	Member
Ms Gunasundry	Patient Care Associate (PCAT)	Operations	Member
Dr Teh Kailin	Family Physician, Consultant	Medical	Supervisor
Dr Tan Hue Min	Family Physician, Associate Consultant	Medical	Supervisor
Dr Christopher Chong	Head, Ang Mo Kio Polyclinic	Medical	Sponsor

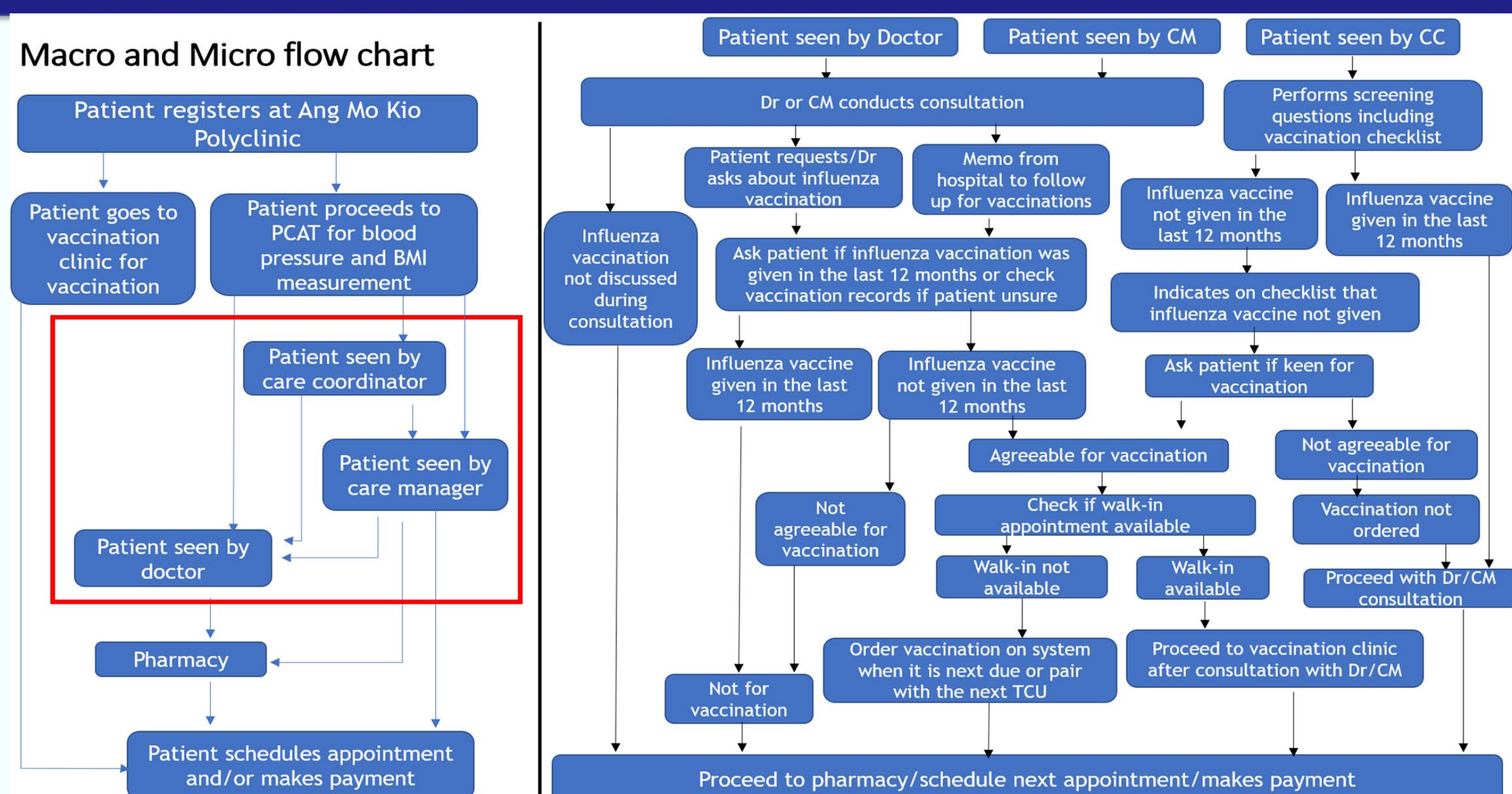
Evidence for a Problem Worth Solving

- Influenza poses a substantial burden of illness in Singapore in terms of sick visits, absence from work, hospitalizations and deaths.¹
- The elderly are at higher risk of hospitalization, influenza related complications and deaths.²
- Influenza associated deaths in Singapore was 11.3 times higher in the elderly aged ≥65 compared to the general population in 1996 to 2003.³
- Influenza vaccination is effective in reducing hospitalizations and influenza-related mortality in the elderly population.^{4,5,6}
- As such, annual influenza vaccination for persons ≥65 years, is recommended by the Ministry of Health (MOH) Expert Committee on Immunization (ECI)⁷, the Centers for Disease Control (CDC)⁸ and the World Health Organization (WHO).⁹
- Despite the recommendations, the uptake of influenza vaccine amongst the elderly in Singapore remains low. Based on the National Population Survey of 2016/2017, only 14% of elderly aged 65 to 74 were vaccinated against influenza; falling short of the 75% target set by the WHO.¹⁰

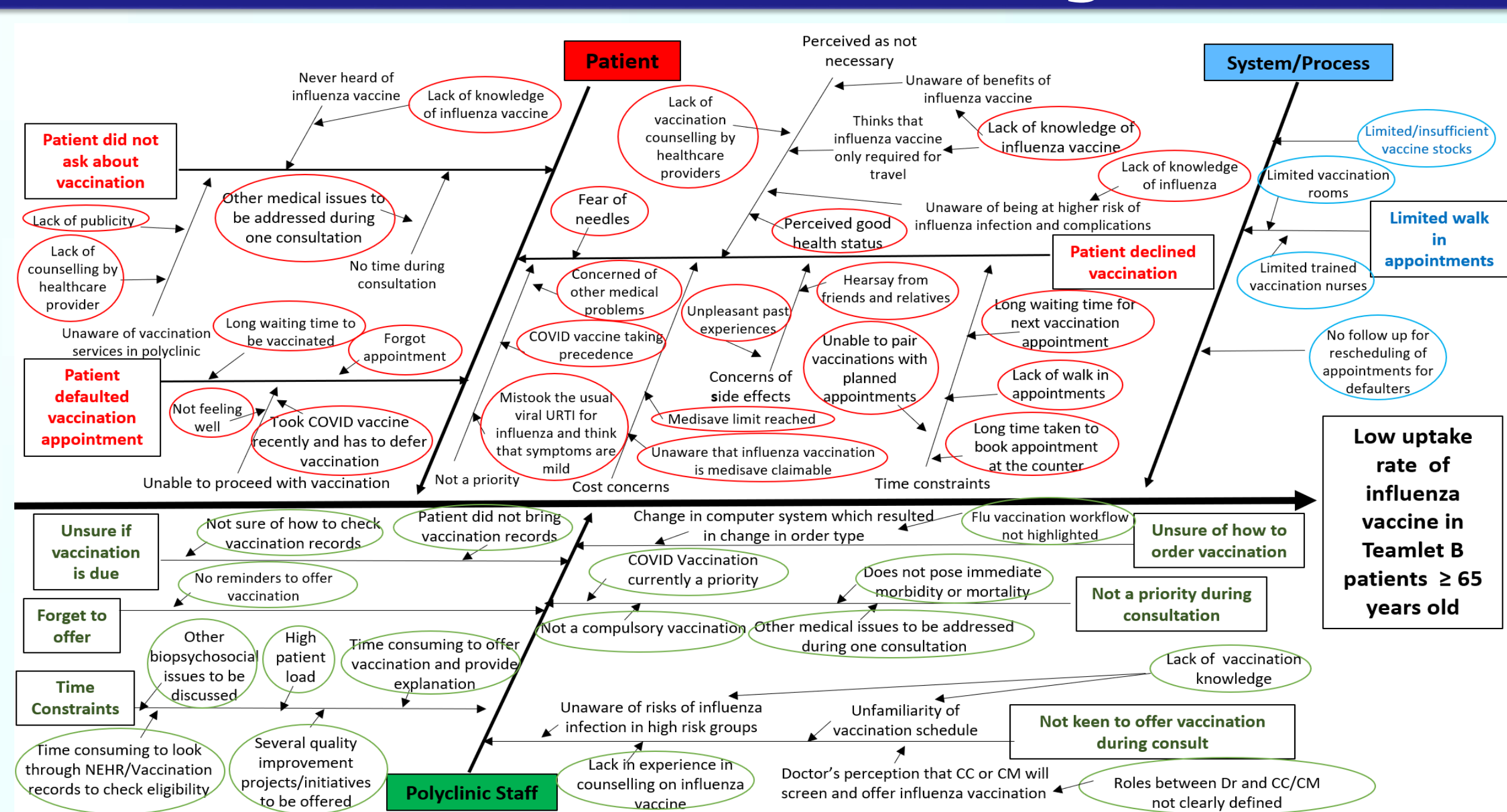
Current Performance of a Process

Currently, the uptake of influenza vaccination amongst the elderly in teamlet B stands at 12%, falling short of the 75% target set by the WHO. 25 patients ≥65 years were surveyed to understand their knowledge & perception of the influenza vaccine. Most (92%) were aware of the availability of the influenza vaccine and 84% believed in its effectiveness. However, 60% were unaware of the recommended frequency of influenza vaccination. 56% of those surveyed did not receive the vaccine in the last 12 months.

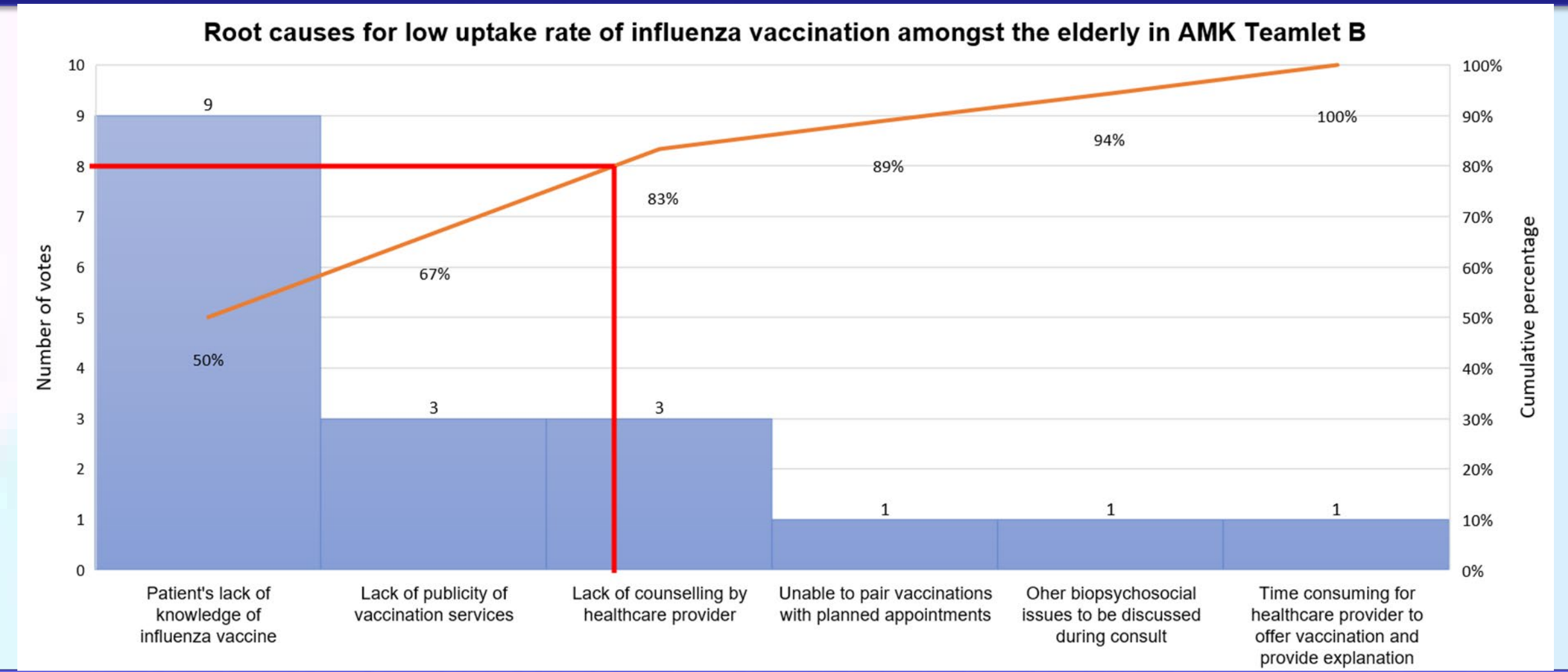
Flow Chart of Process



Cause and Effect Diagram



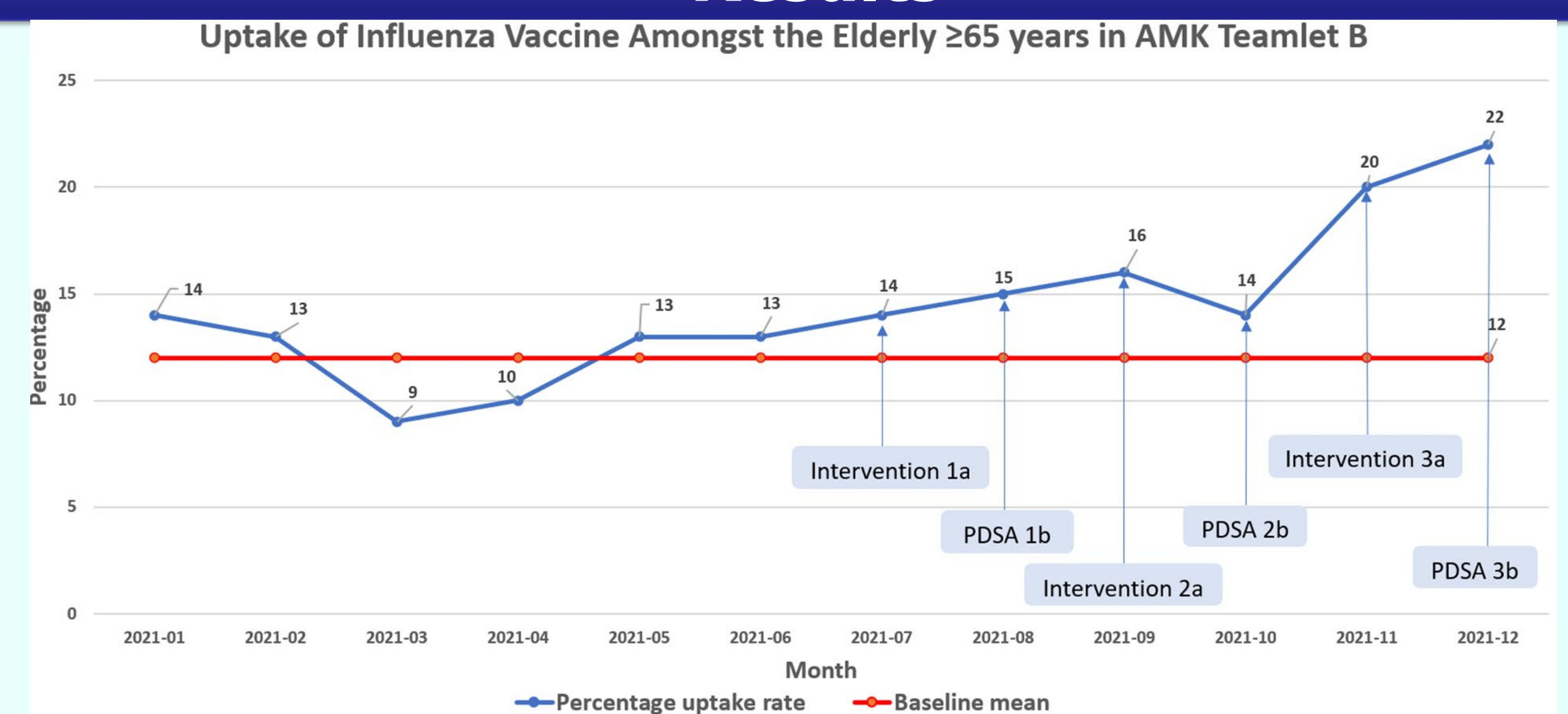
Pareto Chart



Implementation

Problem	Intervention	Date
Patients' lack of knowledge of influenza vaccine	1. Distribution of education leaflets to eligible patients by Teamlet B doctors/CM/CC. Feedback from patients and team revealed that leaflets were wordy and dull; failing to capture the attention of the elderly patients. Chinese speaking patients required healthcare staff to translate and explain its contents. Pamphlet was revised to an infographic format to capture patient's attention and to bring across its contents in a concise manner. Mandarin version of the pamphlet was made to reach out to the elderly Chinese population	July 2021
Lack of publicity of vaccination services	2. Screening of E-Poster on television screen at Teamlet B consultation waiting area. Majority of patients surveyed (64%) failed to notice the E-poster. Screening time of E-poster was too brief. Small television screen failed to capture patients' attention. Physical posters were designed and displayed in Teamlet B consultation rooms in front of the patient's seat.	Sept 2021
Lack of counselling by healthcare provider	3. CC/CM reminding doctors to order and counsel for influenza vaccination by indicating on QMS "influenza vaccine with next TCU", prior to transferring over for Doctor's consultation. On busy days, CC/CM would not be able to see all Teamlet B patients before the Dr's consultation, leading to a proportion of patients to be left out. Visual prompts were printed in colour and placed on top of the computer monitor bezel of Teamlet B consultation rooms to encourage Doctors to offer and order influenza vaccination.	Nov 2021

Results



Cost Savings

The elderly are at higher risk of hospitalizations and complications from influenza, with about 4200 hospitalizations and 1450 deaths every year in Singapore. With an estimated vaccine efficacy of ~50%, about 2100 hospitalizations and 600 deaths are preventable with vaccination.¹ An increase in vaccination uptake reduces hospitalizations, morbidity and mortality amongst the elderly, ultimately lead to direct savings in healthcare costs.

Problems Encountered

- There was a dip in the uptake rate in October. Feedback revealed that patients generally expect healthcare providers to offer vaccinations and may not take the initiative to ask healthcare providers regarding the vaccination.
- The target uptake of 75% was not achieved as:
 - Patients who received influenza vaccination in hospitals/GPs were not included in the numerator, leading to an underestimation of the actual uptake of vaccination.
 - Limited walk-in appointments and patients' preference to schedule vaccination with chronic visit appointments, leading to a lag time of 3-4 months to eventual actualization of vaccination appointment.
 - More resources (nursing staff, rooms) were allocated to the vaccination center in the polyclinic during COVID-19. Due to limited vaccination rooms, vaccination nurses and backlog of planned vaccinations, the polyclinic was unable to accommodate walk-in or earlier appointments.

Strategies to Sustain

- A longer duration of the project while maintaining the current implementations is required to fully study their impact given the lag time between ordering and eventual actualization.
- Recurrent and consistent educational campaigns to improve vaccination literacy will go a long way towards building patient empowerment and allowing them to take charge of their own preventative health in the aspect of vaccination.
- Use of mobile health applications which generates personalized vaccination reminders or SMS text message reminders to remind patients that their vaccination is due.

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