

Dr Ho Si Yin
Department of Palliative Medicine

Mission Statement

To improve the rate of new Advance Care Plan completion among Palliative Medicine inpatients from 4.9% to 40% over a sustained period

Stretch goal: 50%

Eligibility criteria:

- Inpatients under Department of Palliative Medicine

- No prior ACP done

Exclusion criteria:

- Patients under Department of Palliative Medicine for 3 days or less

Team Members

	Name	Designation	Department
Team Leader	Dr Ho Si Yin	Consultant	Palliative Medicine
Team Members	Dr Ang Shih-Ling	Principal Resident Physician	Palliative Medicine
	Ms Chia Gerk Sin	Advanced Practice Nurse	Nursing
	Ms Shen Feifei	Assistant Nurse Clinician	Nursing
	Ms Lynnette Ng	Senior Medical Social Worker	Care and Counselling
Sponsor	Adj Asst Prof Neo Han Yee (HOD, Department of Palliative Medicine)		
Mentors	Adj A/Prof Julie George & Ms Ng Yiting		

Evidence for a Problem Worth Solving

International Literature	Local Literature
<p>Impact on Clinical Outcomes</p> <ul style="list-style-type: none"> • End-of-life wishes more likely to be known and followed • Family members had less stress, anxiety and depression • Higher patient and family satisfaction 	<p>Impact on Resource Utilisation</p> <ul style="list-style-type: none"> • Less likely to undergo ventilation, resuscitation, or die in ICU • Lower healthcare costs at end of life • Increased hospice and palliative care use <p>Most patients do not express care preferences</p> <p>Discrepancies in end-of-life decisions between patients and surrogates in a third of cases</p> <p>Caregivers feel that ACP is important – respects autonomy, reduces burden in decision-making</p> <p>Low awareness, but after education, 60% were willing to do ACP</p> <p>After ACP, >95% felt it was helpful and felt more prepared to make healthcare decisions</p>

Detering KM et al. The impact of advance care planning on end of life care in elderly patients: randomised controlled trial. *BMJ*. 2010 Mar 23;340:c304.

Zhang B et al. Health care costs in the last week of life: associations with end of life conversations. *Arch Intern Med*. 2009 Mar 9;169(5):480-485.

Schellingen S et al. Disease specific advance care planning for heart failure patients: implementation in a large health system. *J Palliat Med*. 2011 Nov;14(11):1224-30.

Phua J et al. End-of-life care in the general wards of a Singaporean hospital: an Asian perspective. *J Palliat Med*. 2011 Dec;14(12):1296-301.

Foo AS et al. Discrepancies in end-of-life decisions between elderly patients and their named surrogates. *Ann Acad Med Singap*. 2012 Apr;41(4):141-53.

Ng OX et al. Awareness and attitudes of community-dwelling individuals in Singapore towards participating in advance care planning. *Ann Acad Med Singap*. 2013 Sep;42(3):343-8.

Ng OX et al. Awareness and Attitudes of Community-Dwelling Individuals in Singapore towards Participating in Advance Care Planning. *Ann Acad Med Singap*. 2017 Mar;46(3):84-90.

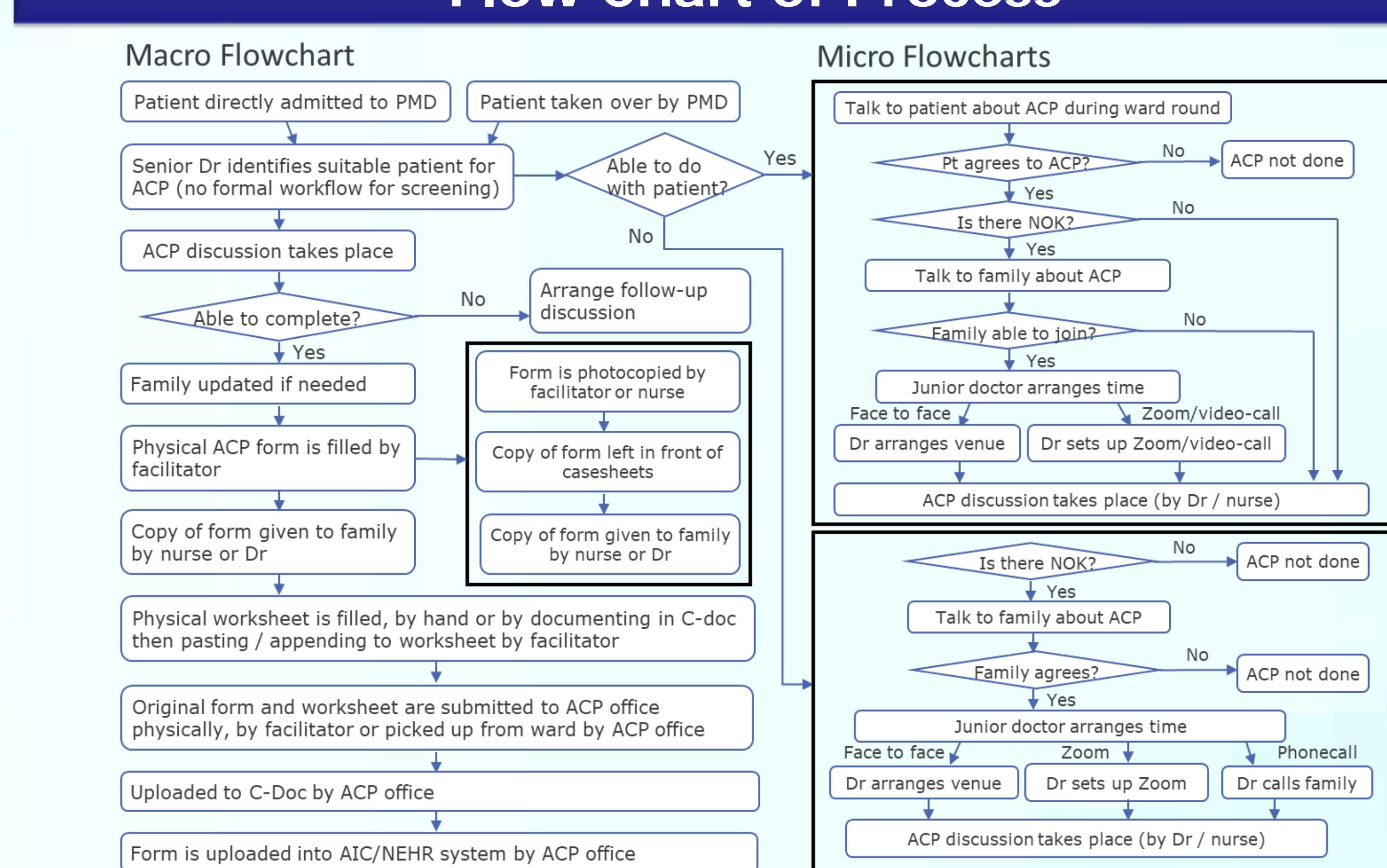
Post-ACP Discussion Satisfaction Survey. *ITSI*. 2014.

Baseline Performance of Process

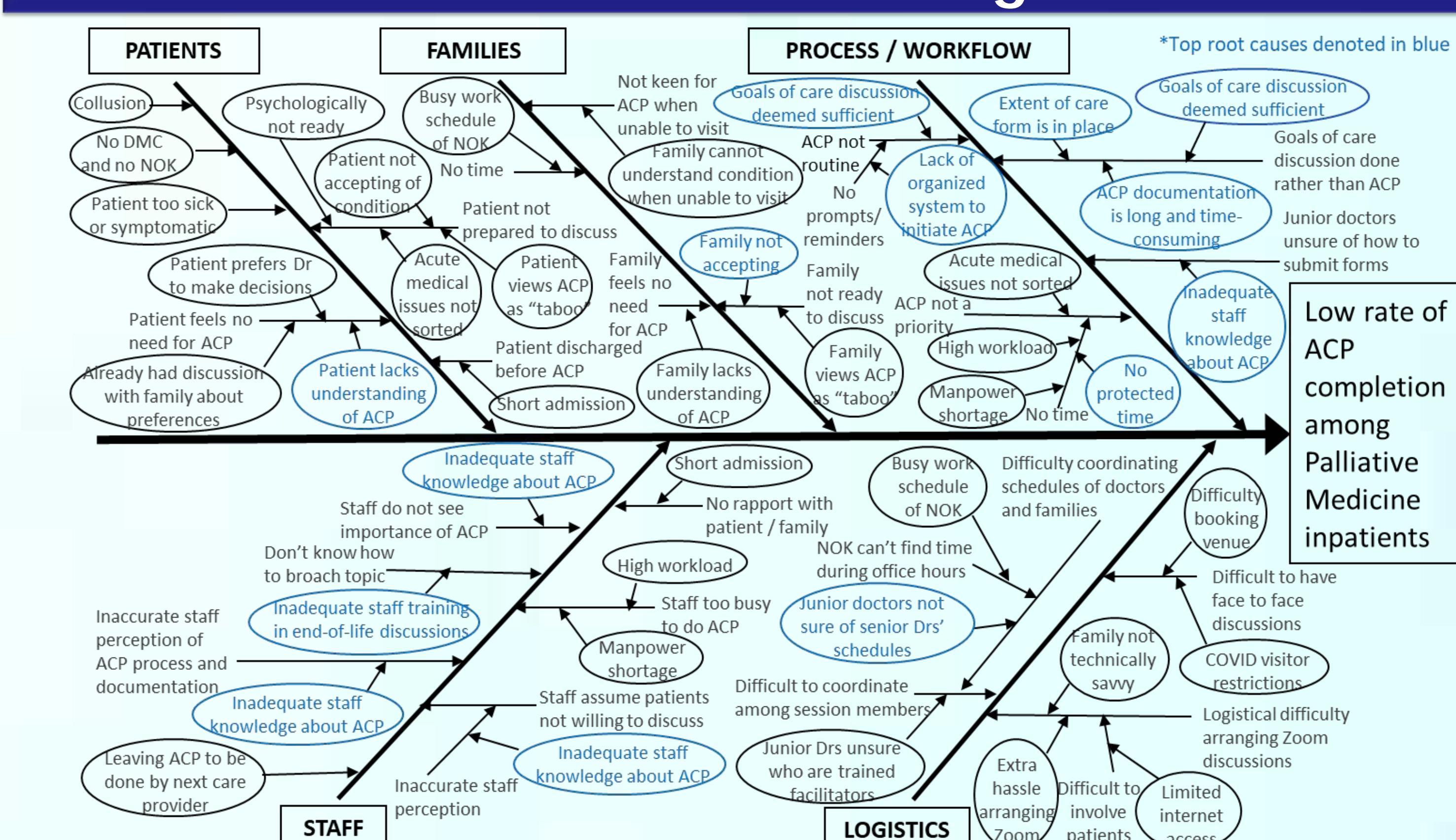
The mean percentage of new ACP completion among Palliative Medicine inpatients from October 2021 to March 2022 was 4.9%.

From point surveys done in February and March 2022, 50-60% of the inpatients were potentially suitable for ACP. A realistic target goal of 40% was set. A survey was also done among staff and patients/families to understand stakeholders' perceptions about ACP.

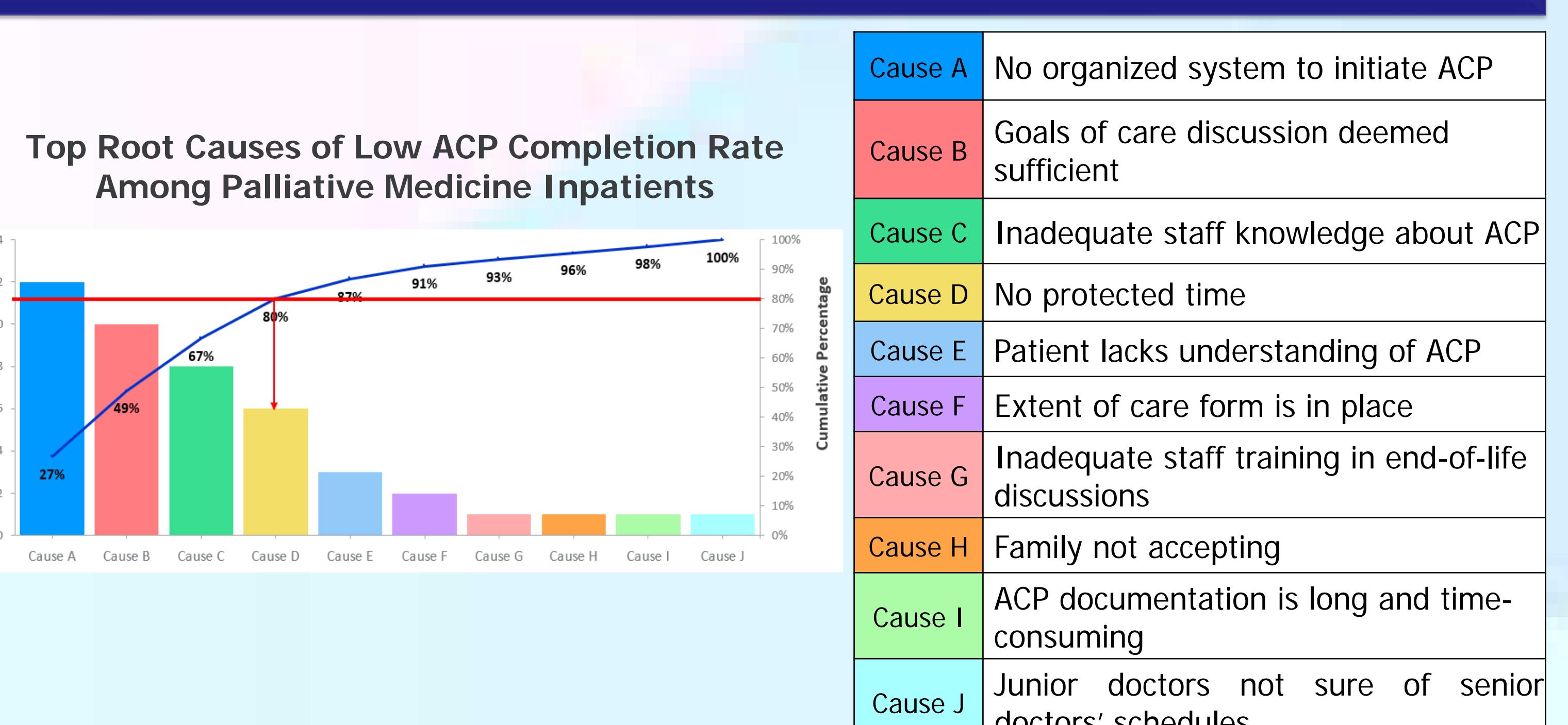
Flow Chart of Process



Cause and Effect Diagram



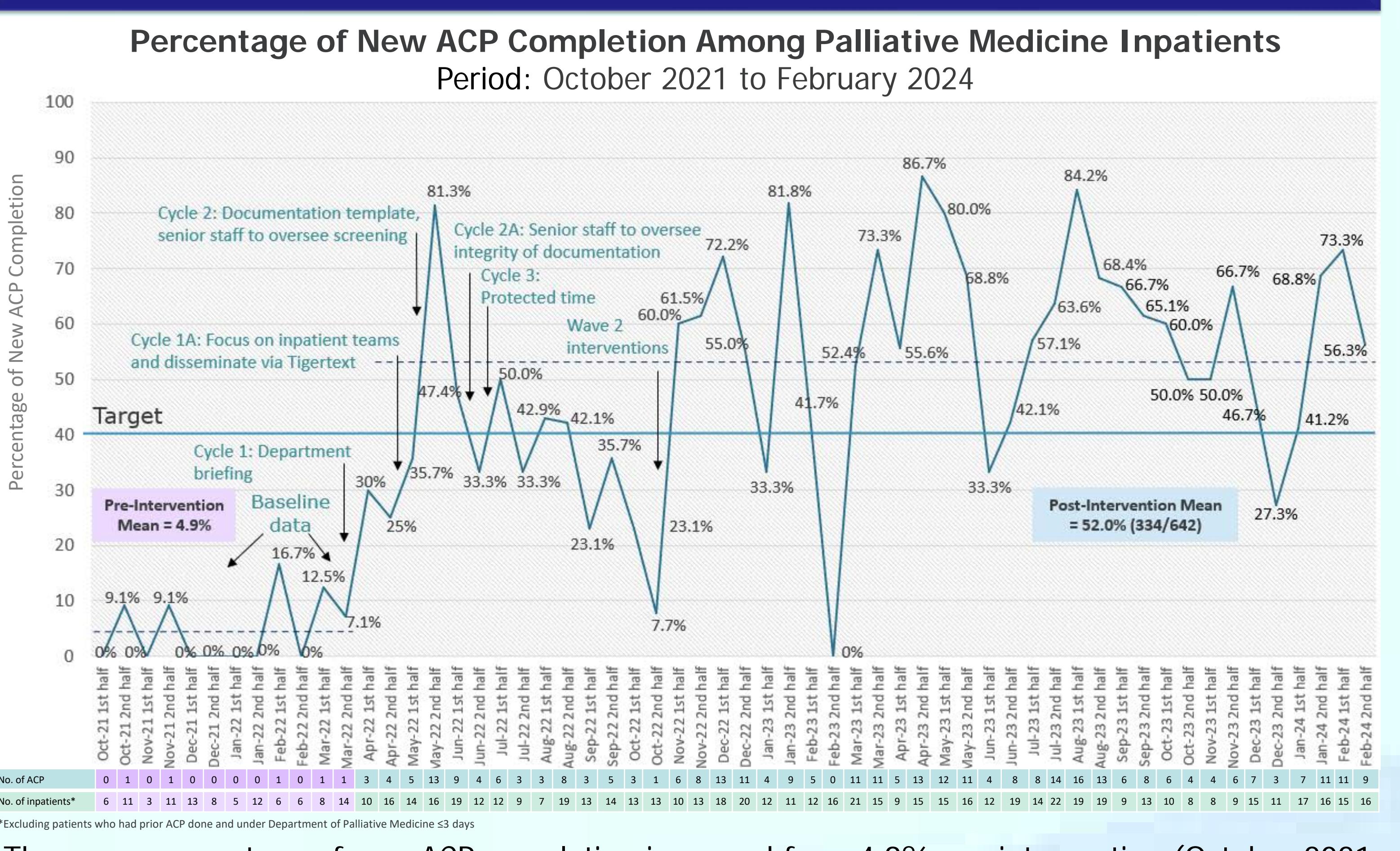
Pareto Chart



Implementation

Root Cause	Intervention	Implementation Date
Cause B: Goals of care discussion deemed sufficient	Staff education – department briefing to correct common misperceptions of ACP, clarify work processes, encourage staff to build ACP upon goals of care discussion.	Cycle 1: 1st week April 2022 Cycle 1A: 1st week May 2022
Cause C: Inadequate staff knowledge about ACP	Introduce ward round / discharge summary templates which include whether ACP is done, whether ACP is offered, and reasons if not done.	Cycle 2: 3rd week May 2022 Cycle 2A: 3rd week June 2022
Cause A: No organized system to initiate ACP	Designated senior staff to oversee screening.	Cycle 3: 1st week July 2022
Cause D: No protected time	Introduce periods of protected time for staff to conduct ACP discussions	

Results



The mean percentage of new ACP completion improved from 4.9% pre-intervention (October 2021 - March 2022) to 44.4% 4 months post-intervention (April 2022 - July 2022).

In October 2022 following a dip in ACP rates, a review aimed at fine-tuning processes was done, involving a brainstorming session, obtaining ground feedback, and an online survey involving 21 staff. Post-review interventions were implemented:

- Ensuring timely access to the AIC-ACP portal for new staff;
- Aligning ACP discussion worksheet fields in EPIC with that in AIC-ACP portal;
- Department updates of ACP rates every 3 months;
- Tigertext reminders when rates are low;
- Placing a reminder poster in the Palliative ward.

The overall post-intervention mean was sustained at 52.0% up to February 2024.

Cost Savings

Improvement in ACP completion rate after CPIP	From 4.9% to 52.0% = approximately 45%
Expected number of additional ACPs completed per year as a result of CPIP	45% x 500 = 225
Total number of unique Palliative Medicine inpatients per year 500-600 (data from 2019/2020)	
Expected annual cost savings due to reduction in patients admitted to ICU in last month of life	(4x225/100) x 7 x (\$2080-\$1114) = \$60,858 (Assuming 1 week ICU stay)
Expected annual cost savings due to reduction in patients admitted to hospital in last month of life	(6x225/100) x 13 x \$1114 = \$195,507 (Average length of inpatient Pall Med stay ~ 13 days)
Expected total cost savings per year	\$60,858 + \$195,507 = \$256,365

- Based on unit cost of \$2080 per day for ICU stay, and \$1114 per day for general ward stay
- Based on study by Tan, which suggests that out of 100 palliative patients, prior ACP potentially prevents approximately 4 patients from being admitted to ICU and 6 patients from being admitted to hospital in the last month of life. (Tan WS (2018). Eliciting and honouring end-of-life care preferences: a multiple methods study on place of death. Doctoral thesis, Nanyang Technological University, Singapore)

Problems Encountered

- Challenge in defining target population and goal, in view of heterogeneity of palliative patients
- Gaining acceptance of staff to participate in interventions that are potentially time-consuming

Strategies to Sustain

- Structured education about ACP for new staff, with incorporation of information into eLEARN
- Maintain documentation templates by building SmartPhrases in EPIC; with filling of ACP fields made compulsory (using SmartLists)
- Regular sharing of project results with department, to motivate staff and continue culture shift