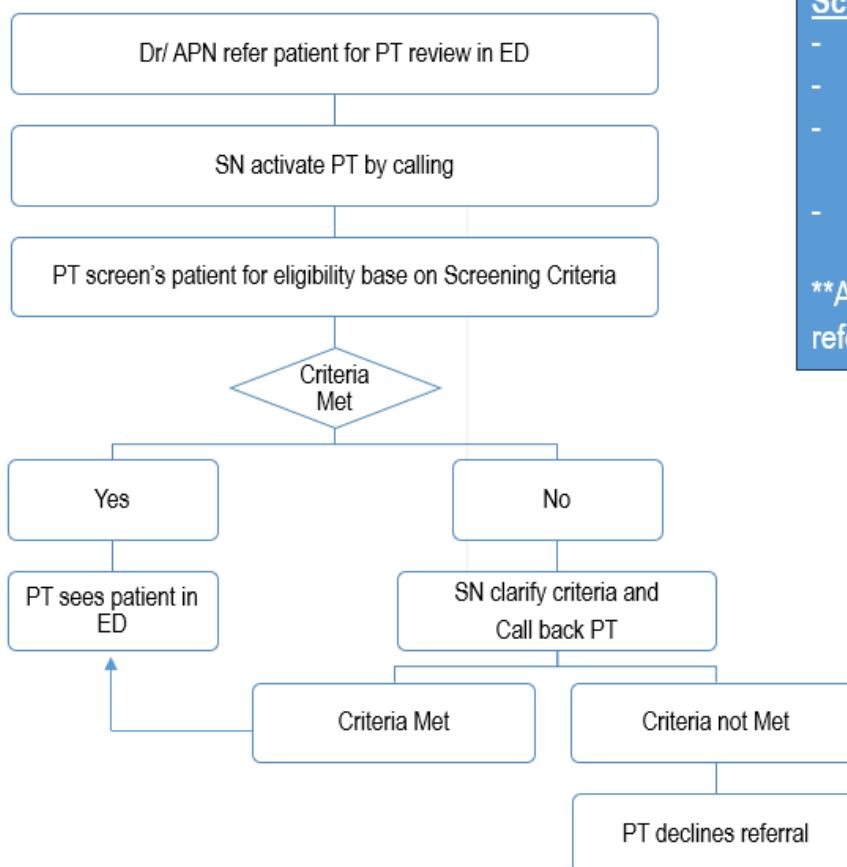


A. Define the Problem (PLAN)

Problem: Multiple phone calls by ED Staff Nurse (SN) before Physiotherapist (PT) can review patient in Emergency Department (ED).



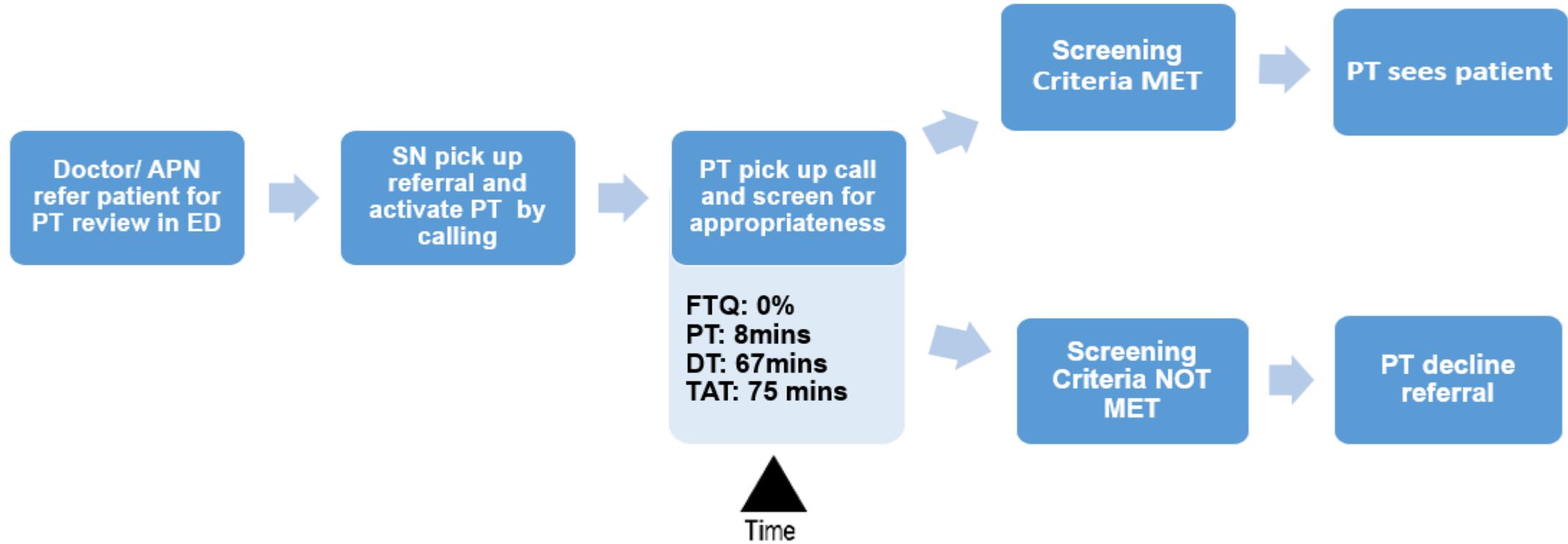
Screening Criteria

- Referral by Doctor/APN
- Agreeable for ED PT charges
- Carer to be available during PT session (if patient has carer)
- No pending medical investigation

**All criteria should be met before referral to PT

Diagram 1: Process map for activating PT services in ED

A. Problem Analysis (PLAN) Value Stream Map



FTQ: First Time Quality (i.e. PT sees patient after 1 call)

PT: Processing Time

DT: Delay Time

TAT: Turn Around Time (i.e. From time of phone call from SN to the time PT see patient)

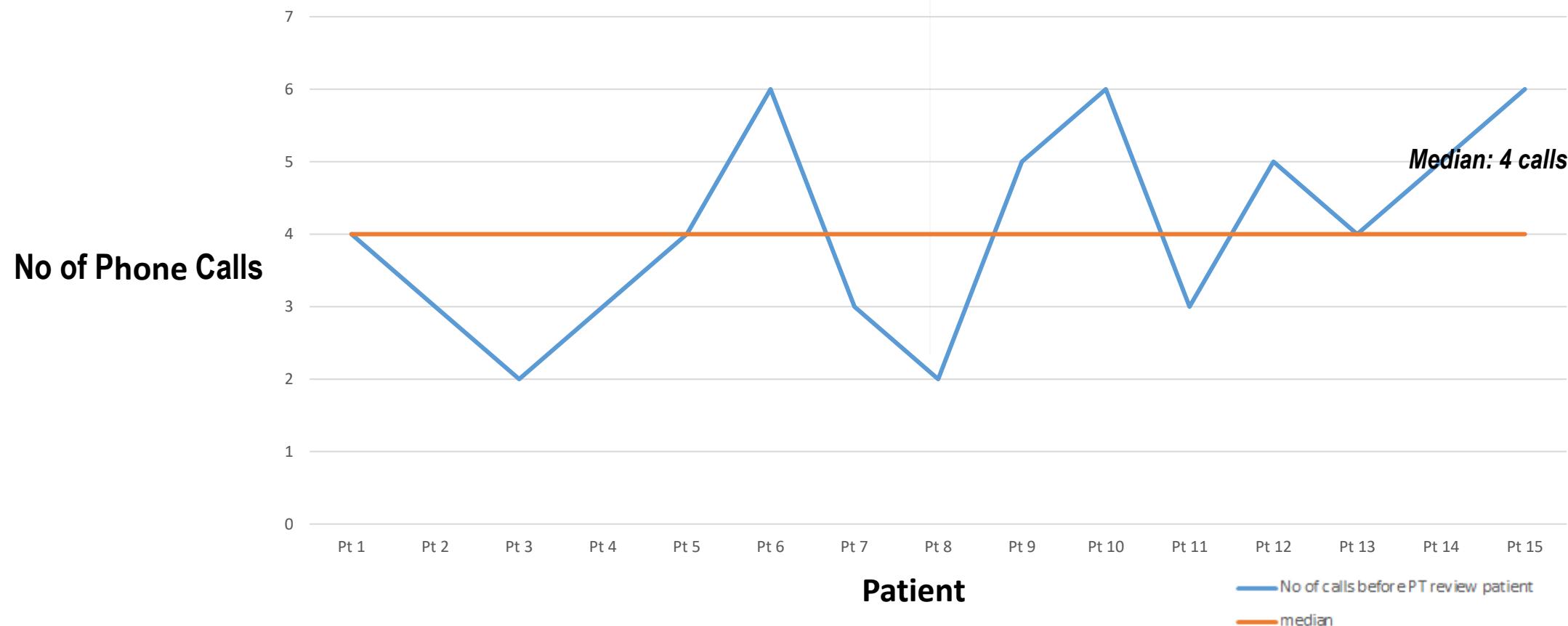
▲ : Delay

A. Baseline Data

4 calls per patient required before PT assessment

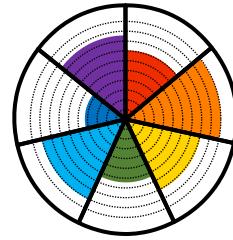
RUN Chart

Number of Phone Calls to PT



B. Goal (PLAN)

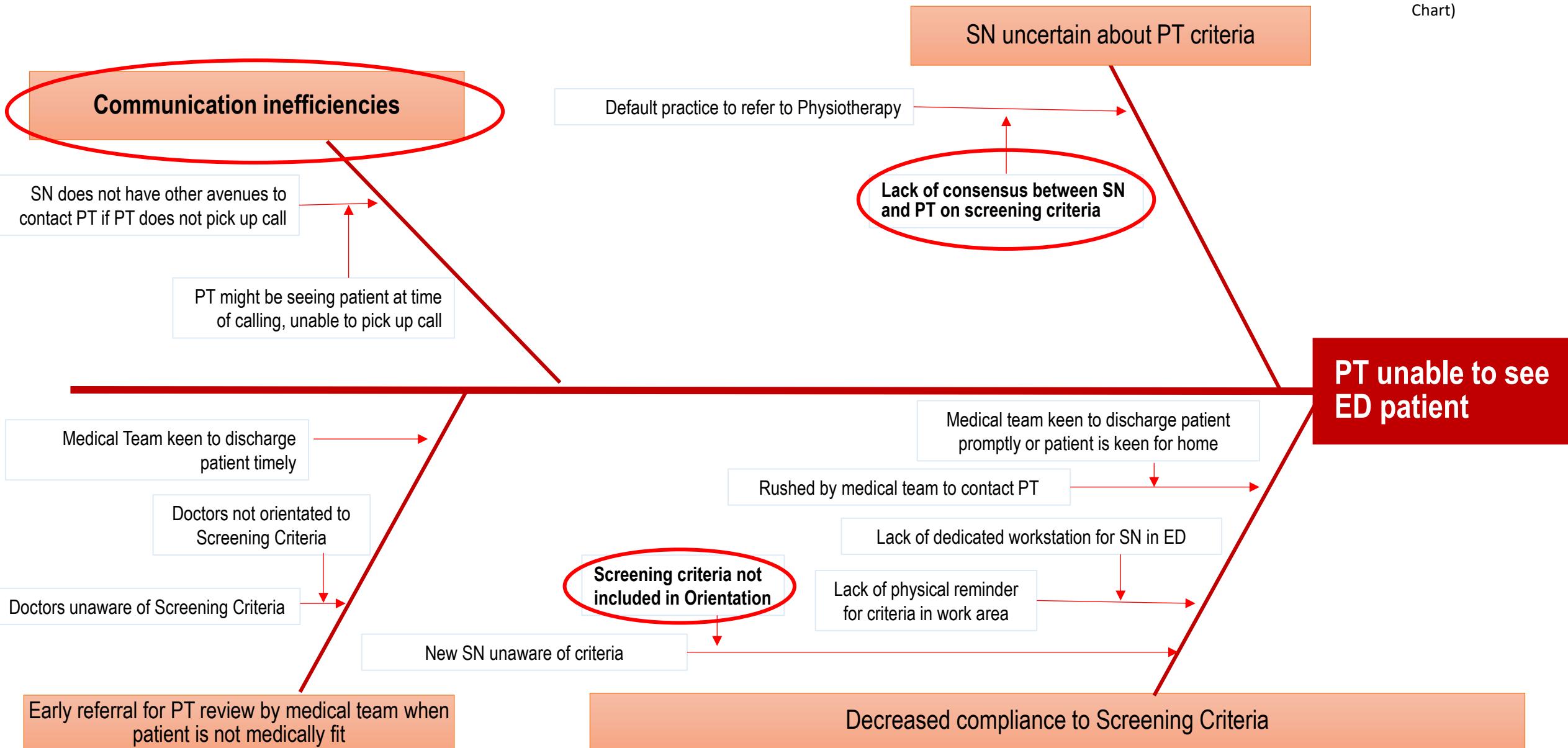
Set SMART goals | Specific, Measurable, Achievable, Relevant, Time-based |



To reduce the number of phone calls from Emergency Department staff nurses to physiotherapists from the current four calls to one call per patient within the next three months (i.e. September–December 2025) at National University Hospital (NUH).

You may use more than 1 problem solving tools (Gap Analysis, VSM, Paradigm, Pareto Chart)

C. Problem Analysis (PLAN) Gap Analysis



D. Interventions & Action Plan (DO)

S/N	Problem	Description	People responsible	Date of implementation
1.0	Communication inefficiencies	Team chat created for GEM nurse and PT for communication - GEM nurses to text PT after 2 unanswered call	APN Hongjuan and PT Yi Na	25 th Aug 25
2.0	Lack of consensus between SN and PT on screening criteria	Consensus of screening criteria* between SN and PT * Screening criteria: - Referral by Doctor/APN - Agreeable for ED PT charges - Carer to be available during PT session (if patient has carer) - No pending medical investigation Disseminate Screening Criteria to existing ED SN	APN Hongjuan and PT Yi Na	25 th Aug 25
3.0	Orientation of Screening Criteria to new SN	Include Screening Criteria into orientation program for New ED SN	APN Hongjuan and Peiqi	1 st Sept 25

D. PDSA 1.0: Communication inefficiencies

Create a Teams chat for SN and PT

Act

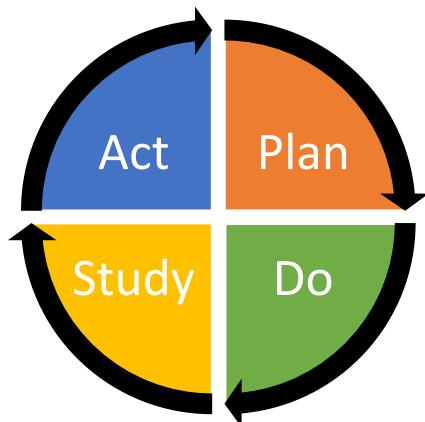
Adopt and monitor

Study

Actual outcome: SN able to reach PT 80% of the time.

What went well:

- During study period, there were 6 occasions where PT could not pick up phone. PT acknowledged referral for 5 occasions within 30mins.
- 1 referral was acknowledged more than 30mins was because PT was conducting a long caregiver training session (40mins) in ward.



Plan

Objective: To improve communication avenue between SN and PT

Hypothesis: Improve communication between SN and PT. If text message is sent, PT will acknowledge within 10 - 30mins time.

What: Create a TEAMS chat for SN and PT

Who: All ED SN and PT covering Geriatrics wards

Predicted outcomes: SN able to reach PT 100% of the time to inform PT about referral.

Do

Teams chat created 25 August 2025

D. PDSA 2.0: Lack of consensus between SN and PT on screening criteria

Common Criteria

Act

- Adding weightbearing status into criteria
- Start cycle 2.1

Study

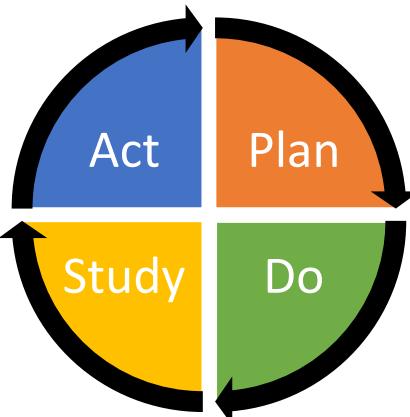
Actual outcome: 63% of patients require 1 phone call

What went well:

- Out of 24 pts, 15 patient require 1 call, 9 patients require 2 call
- Reason for having 2nd call:
 - Screening criteria (Did not clarify if there is carer available)
 - To clarify weightbearing status

What can be improved on:

- Reinforcement of screening criteria by APN Hongjuan to ED SN
- After reinforcement, most 2nd phone call was due to clarification of weightbearing status for patients with fractures



Plan

Objective: SN and PT have consensus on screening criteria

Hypothesis: Having a common criteria minimize calls to PT

Plan:

What: Common criteria

Who: ED SN and PT covering Geriatrics ward

Predicted outcomes: Reduce number of phone call to 1 per patient

Do

Common Screening criteria confirmed on 25 August 2025 and disseminated to existing ED SN on 1 September 2025

D. PDSA 2.1: Lack of consensus between SN and PT on screening criteria

Common Criteria + weightbearing status

Act

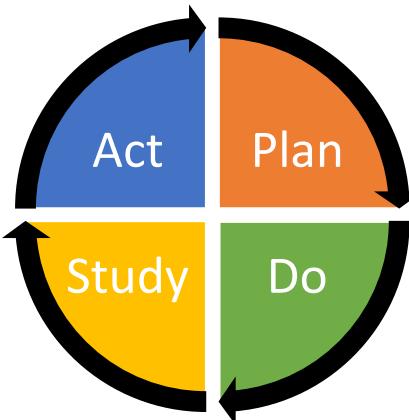
Adopt and monitor

Study

Actual outcome: 100% of patients require 1 phone call

What went well:

- After weight bearing status was added as a criteria, all subsequent patients (53 patients) only require 1 call before PT review patient



Plan

Objective: SN and PT have consensus on screening criteria

Hypothesis: Having a common criteria minimize calls to PT

Plan:

What: Common criteria + weight bearing status
Who: ED SN and PT covering Geriatrics ward

Predicted outcomes: Reduce number of phone call to 1 per patient

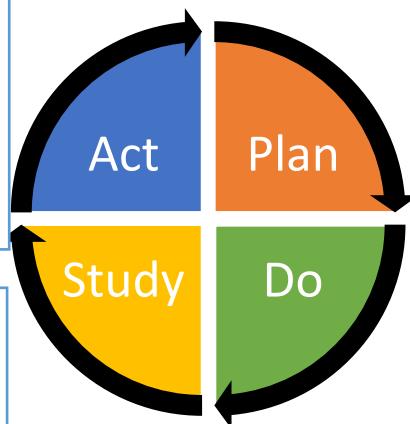
Do

Inclusion of weightbearing status to screening criteria Oct 2025

D. PDSA 3.0: Orientation of Screening Criteria to SN

Include screening criteria to new ED SN orientation

Act



Study

Ongoing training to new ED SN

Plan

Objective: To educate new ED SN on screening criteria

Hypothesis: Orientation of Screening criteria to new ED SN to improve compliance of screening criteria before activating PT.

What: Inclusion of screening criteria to orientation of ED SN.

Who: New ED SN

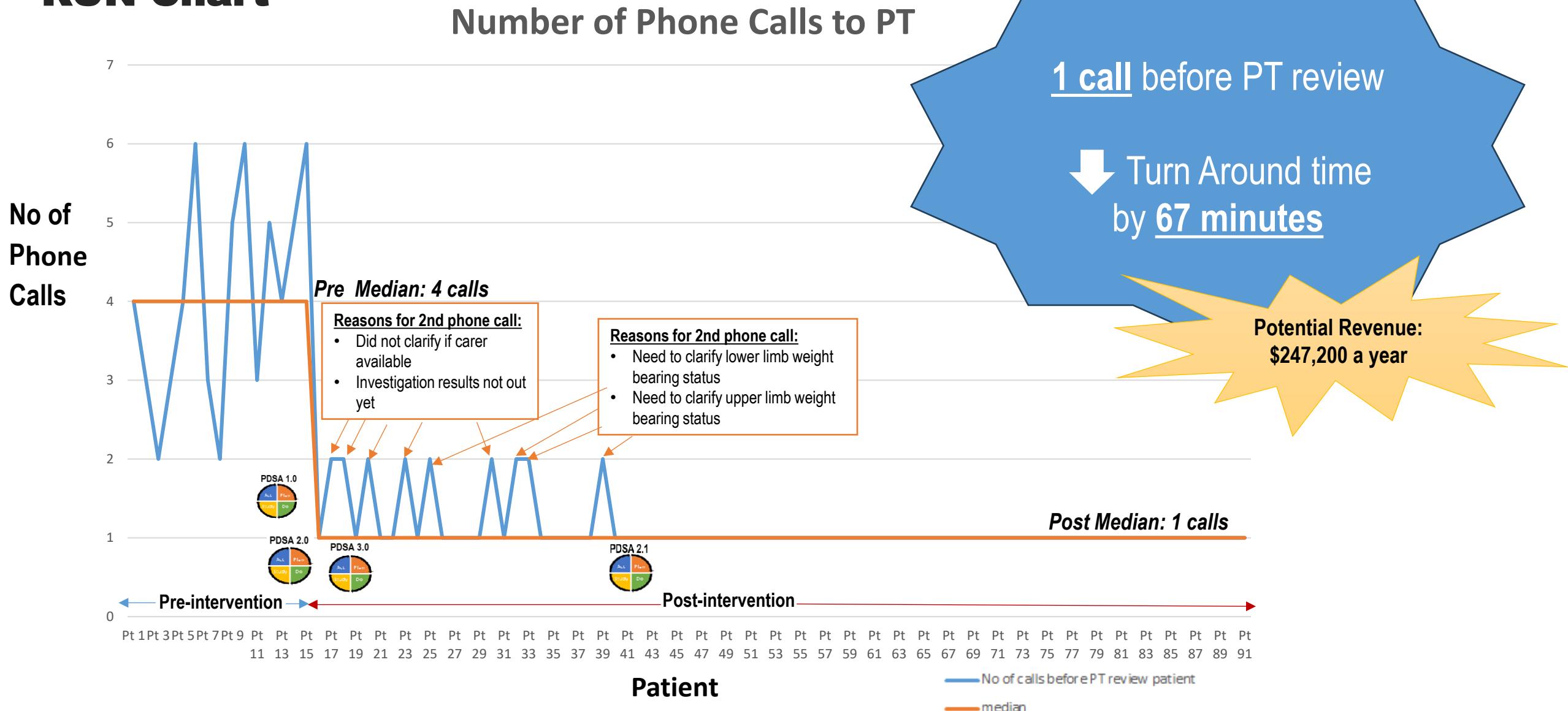
Predicted outcomes: All new SN aware of screening criteria

Do

Include Screening Criteria into Orientation of New ED SN from 1 Sept 2025

E. Benefits / Results (CHECK)

RUN Chart



E. Potential Revenue Missed

- Turn Around Time decreased from 75 minutes to 8 minutes, a reduction by **67min.**
- This 67-minute reduction allows PTs to see two additional patients, generating an **estimated additional revenue of \$206 per phone call.**
 - With an average of 5 ED calls per day that requires PT review, estimated additional revenue:
 - $\$206 \times 5 = \1030 per day
 - Potential revenue per month: $\$1030 \times 20 = \$20,600$
 - Potential revenue per year: $\$20,600 \times 12 = \$247,200$
- This new workflow demonstrates how improving work processes can yield substantial benefits.

F. Strategy for Spreading/ Sustaining (ACT)

What actions are required for continuous improvement? How will the results be sustained for the long run? Will the project be spread to other areas?

Training

- SN and PT should orientate new staff rotating to the Emergency Department to ensure they are aware of the new workflow.

Audit Checks

- Team leaders perform audits every three months (measuring compliance rates, time taken to see patients in the Emergency Department, and average number of calls made) to ensure that everyone complies with the new workflow.

Spreading

- To implement this workflow in EDTU



Standard Works

- To look at the peak hour of calls: re-examine manpower planning to station one PT in the Emergency Department during peak hours

Systems

- To translate into Epic ordering for automation – however need to ensure that SN must tick off all 4 criteria before placing a PT order

Communication

- SN and PT to communicate timely if any issues arise from this new workflow

F. Insights Learnt

Understanding Diverse Perspectives

- Different stakeholders (clinicians, allied health, nursing staff) had varying priorities and constraints
- Actively listening helps to understand concerns of different parties
- Change is more sustainable when you get buy in from all the stakeholders

Communication Is Critical

- Establishing additional communication avenues improve information flow and facilitate timely referral
- Clear communication regarding expectations help enhanced compliance