PREVENTION OF FUNCTIONAL DECLINE IN HOSPITALISED MEDICAL PATIENTS

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Mission Statement

Reduce loss of functional independence* among premorbidly independent patients** admitted to medical wards in TTSH from 20% to 5% (stretch goal 0%), in next 6 months.

*Score<40 on 5 point Barthel index prior to discharge compared with baseline
**Independent in ADLs and mobility

Team Members

|	Name	Designation	Department
Team Leader	Dr Shaji Jose Vadassery	Consultant	GM
Team Members	Dr Jennifer Guan	Senior Resident	GM
	Ms Tang Choy Fung	Nurse Clinician	Nursing
	Ms Germaine Sze	Senior Staff Nurse	Nursing
	Ms Liu Yang	Senior Staff Nurse	Nursing
	Ms Tan Yi Fang	Senior Physiotherapist	Allied Health
	Mr Saboor Rahman	Senior Physiotherapist	Allied Health
	Ms Lim Jia Ying	Physiotherapist	Allied Health
	Ms Diana Li Zhenwei	Occupational Therapist	Allied Health
Sponsors	Dr Roland Boey (GM Dept), Ms Gan Yi Ming (Physiotherapist Dept), Ms Tan Yang Sang (Nursing Dept), Ms Madeleine Tay Sok Jue (Occupational Therapy Dept).		
Mentor	Mr Jayachandran Balachandran		

Evidence for a Problem Worth Solving
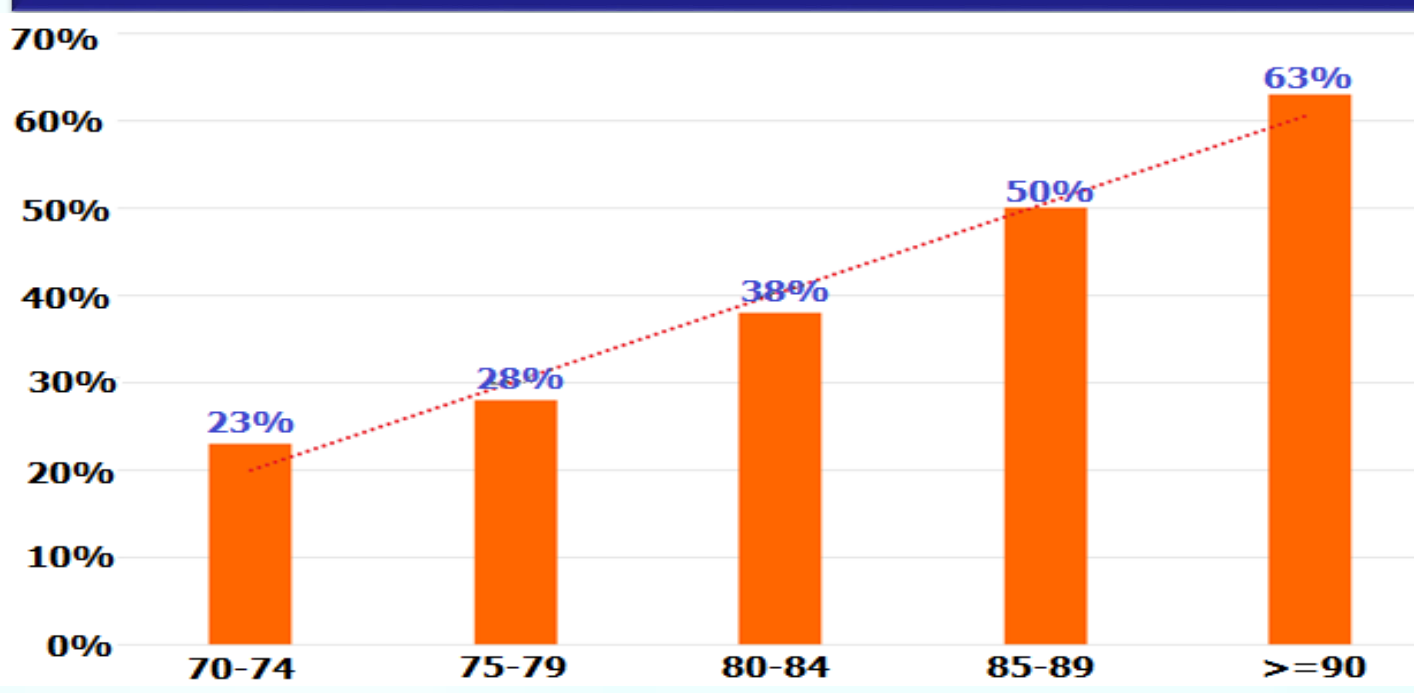
Functional decline during hospital admission increases markedly with age*. 35% of patients declined in their ADLs from baseline at discharge (N = 2297 patients)*
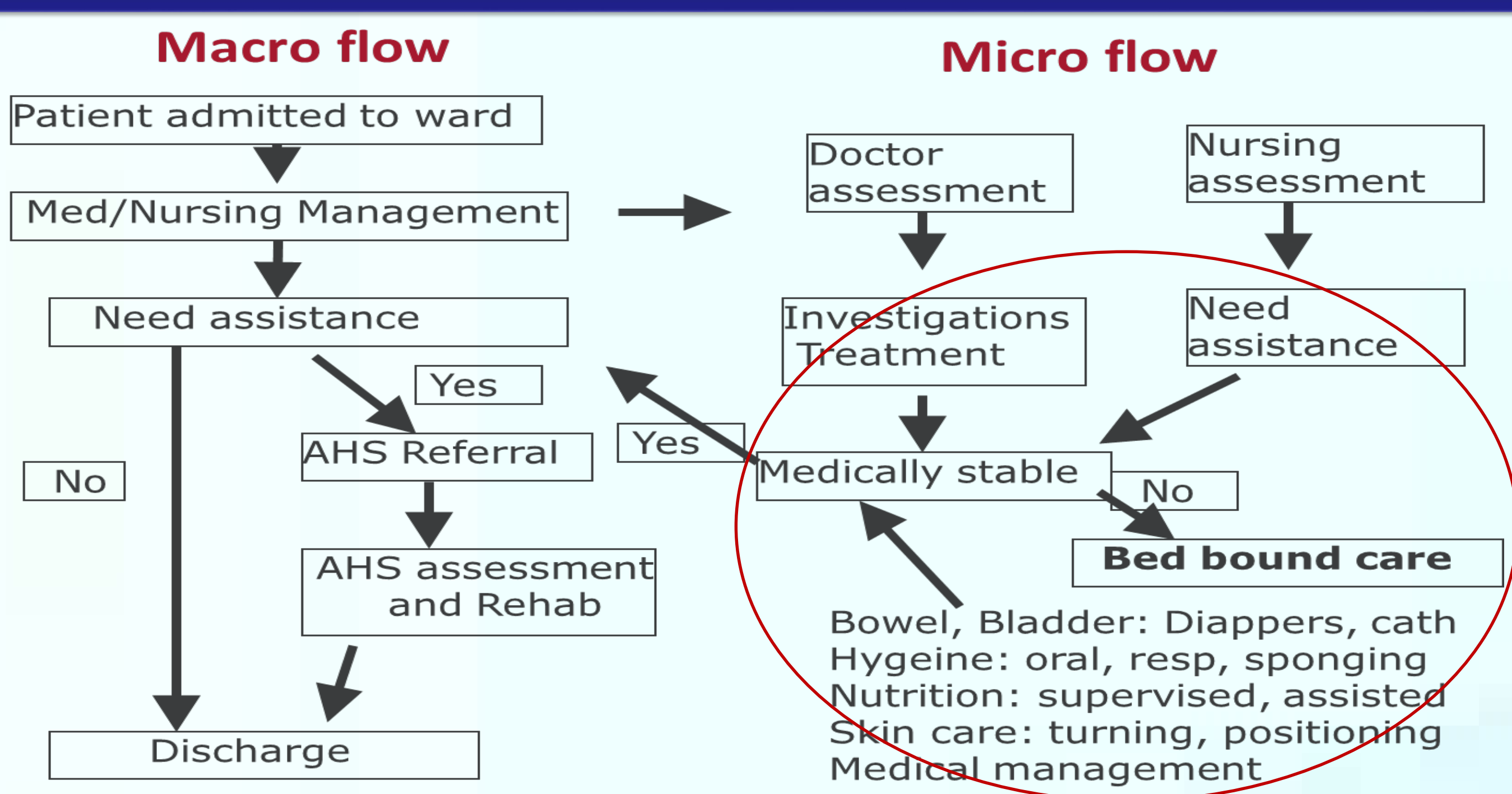
- US public health service reports that "disability from immobility was one of the 10 preventable health problems"[+]
- 65% of patients experienced a decline in mobility from their preadmission baseline to the second hospital day, with most patients failing to improve by discharge[#]
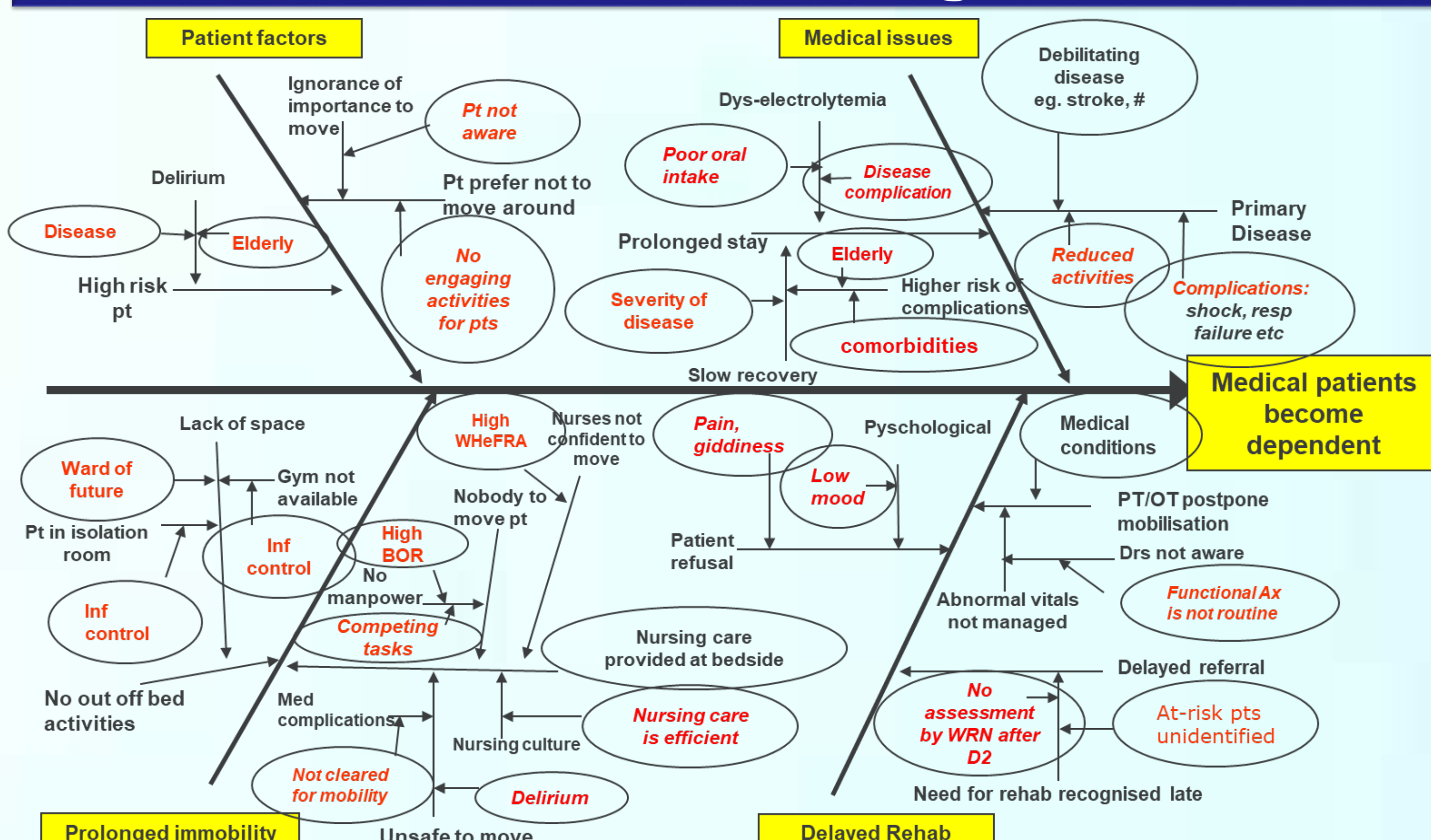
Current Performance of a Process
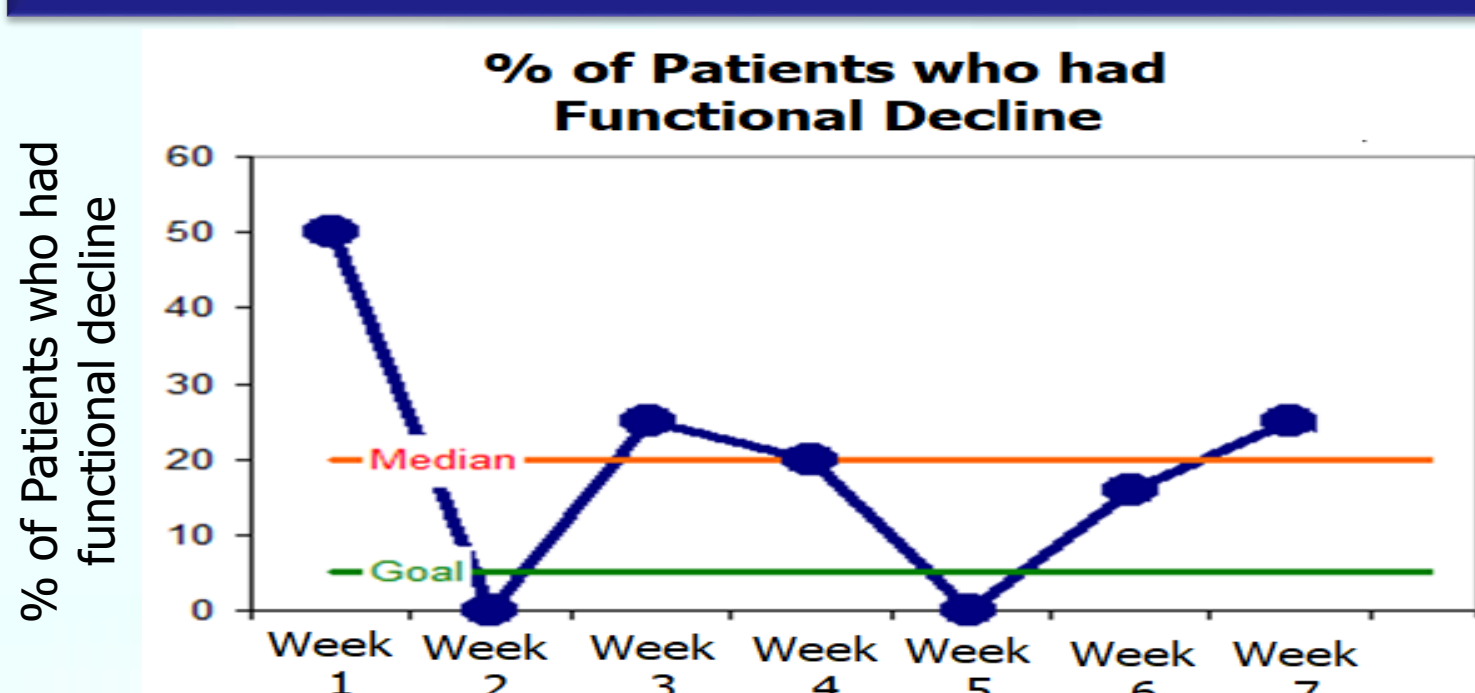
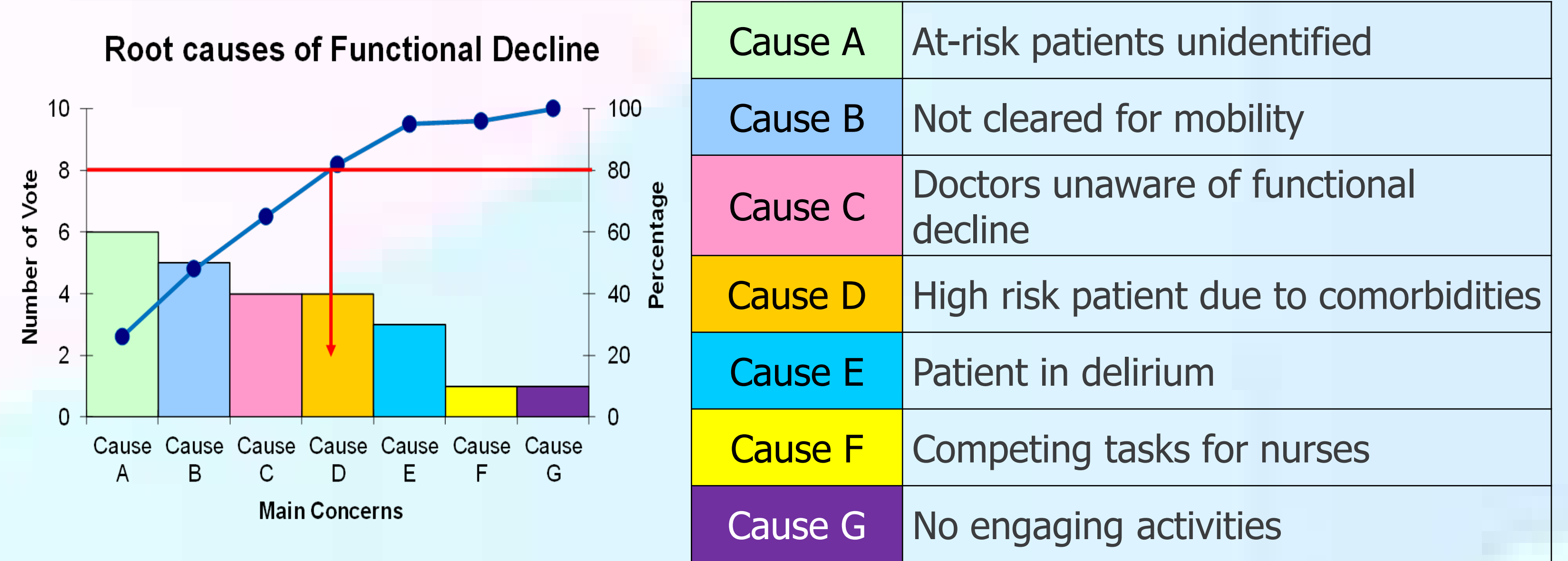Baseline data in ward 09D, TTSH: Among patients who were independent in walking, **20%** had functional decline.

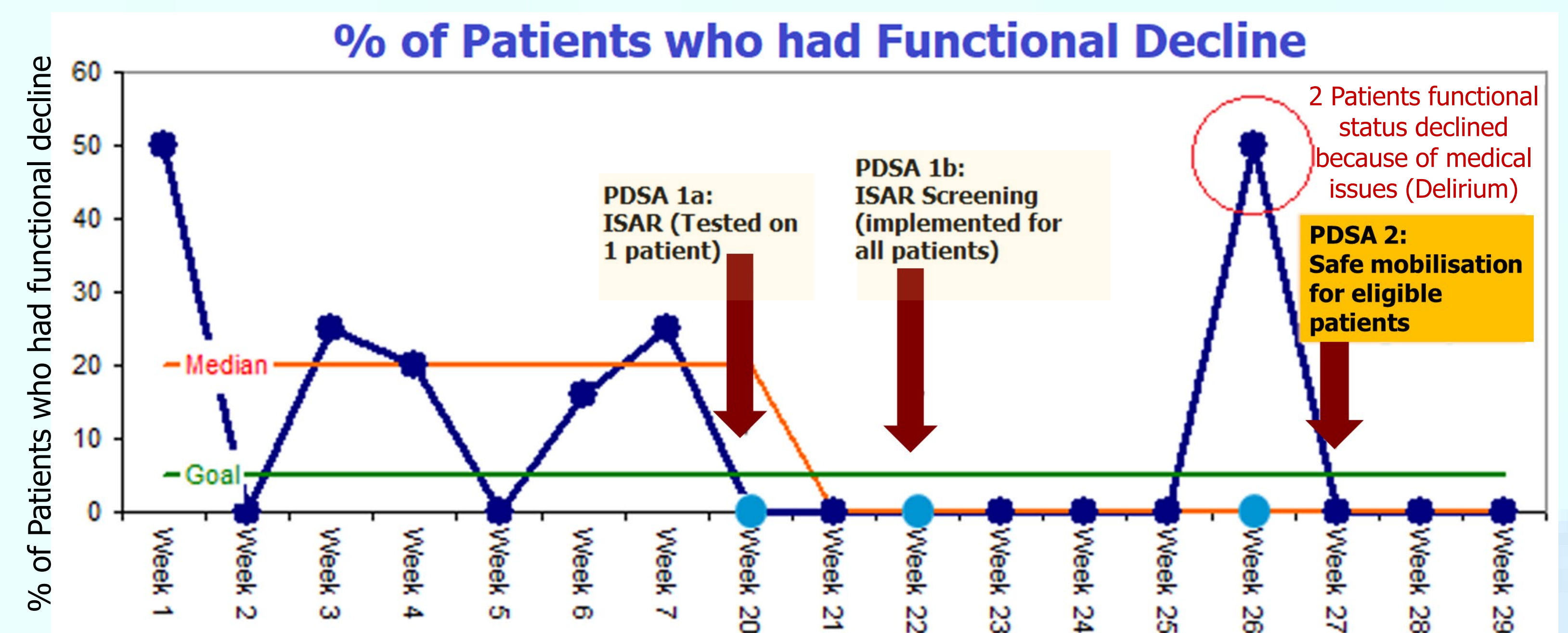## Flow Chart of Process

Cause and Effect Diagram

Pareto Chart

Root causes of Functional Decline

Cause A	At-risk patients unidentified
Cause B	Not cleared for mobility
Cause C	Doctors unaware of functional decline
Cause D	High risk patient due to comorbidities
Cause E	Patient in delirium
Cause F	Competing tasks for nurses
Cause G	No engaging activities

Implementation

CAUSE / PROBLEM	INTERVENTION	DATE OF IMPLEMENTATION
1) Unable to identify patients at risk of functional decline	**ISAR** [Identification of Seniors At Risk]: ▪ A 5 item score to identify patients at-risk of functional decline ▪ Good negative predictive value if score is < 1 (92%) as expected incidence is < 27%	8 Sep 2017
2) Not cleared for safe mobilisation - General belief: patients need 'rest in bed' - More efficient to provide bedside nursing care	1. Workflow based on existing assessments: 　▪ 'WHeFRA': Routine in wards to assess fall risk 　▪ 'AWAS': Continuous assessment of medical stability 2. Doctors and Nurses to assess and document 3. Encourage safe mobilisation of eligible patients in ward for their basic needs 4. Nurses empowered to highlight high risk patients to medical team	21 Oct 2017
Is it sustainable in medical wards?	Empower nursing to: ▪ Identify patients at risk of functional decline using current assessment tools ▪ Mobilise patients at no / low risk ▪ WRN to highlight at-risk patients to medical teams	4 Jun 2018

Results

% of Patients who had Functional Decline

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 20	Week 22	Week 23	Week 24	Week 25	Week 26	Week 27	Week 28	Week 29
Functional Decline	1	0	1	2	0	1	2	NA	NA	0	0	0	0	0	0	0
Premorbidly Independent Patients	2	3	4	10	8	6	8	NA	NA	5	4	8	4	4	5	3	2

Cost Savings

	Pre-Implementation	Post-Implementation
Average Length of Stay per patient	**8.3**	**6.3**
Total Cost of Care per patient	8.3 x $1,114 = **$9,246.20**	6.3 x $1,1114 = **$7,018.20**
Cost Savings to Patient:		($9,246.20 - $7,018.20) = **-$2,228**
Estimated Cost Savings for 1 Patient is $2,228		

Assumptions: Estimated cost of Inpatient stay per day is $1,114 [Private Rate]

Problems Encountered

- Overcome the general belief of 'going against natural process'.
- Creating awareness of frailty among 'young medical patients' among medics.

Strategies to Sustain

- Ensure safety by a simple workflow based on existing assessment tools.
- Empower nurses to identify and encourage self care by suitable patients.
- Increase medical team's awareness of functional decline among patients.
- Video orientation package for all new doctors and nurses.