Forging Optimal Mobility for the Critically Ill - Is it Possible and Safe?

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Our Mission…

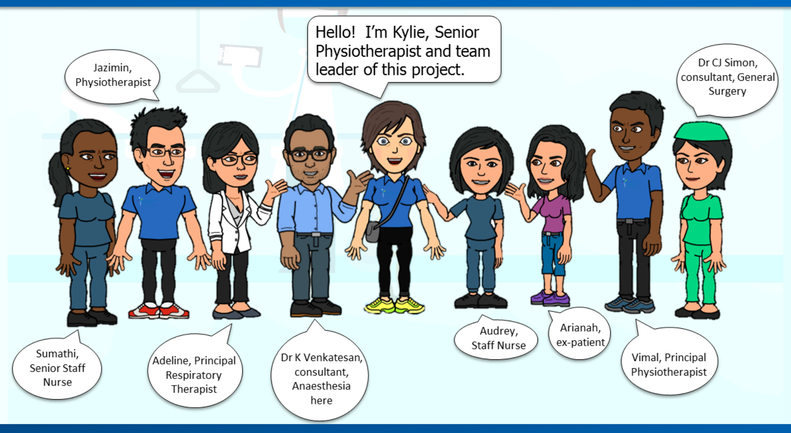
"To attain 85% of optimal* mobilisation milestones* in all eligible* SICU patients within 6 months"

Who is eligible?
1. Premorbid – Ambulating independently
2. Day 2 of ICU stay and above,
3. Has stable HR (<120) and BP trend (MAP >60-110) for past 12 hours
4. Respiratory system:
   Ventilated - PEEP < 10 & FIO2 ≤ 60%
   Non-ventilated - FiO2 ≤60% & RR < 25
5. CNS : RASS +1 to –1
6. Muscle power at least 4/5
7. No surgical contraindications
8. Pain score < 6/10

What are mobilisation milestones?
1.Sit over edge of bed
2. Sit to stand
3. Sit out of Bed
4. March on Spot
5. Ambulation

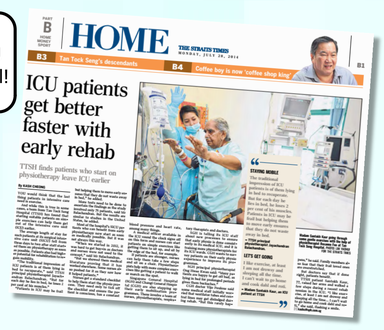
What is considered optimal?
≥ 3 out of 5 milestones

The Team…

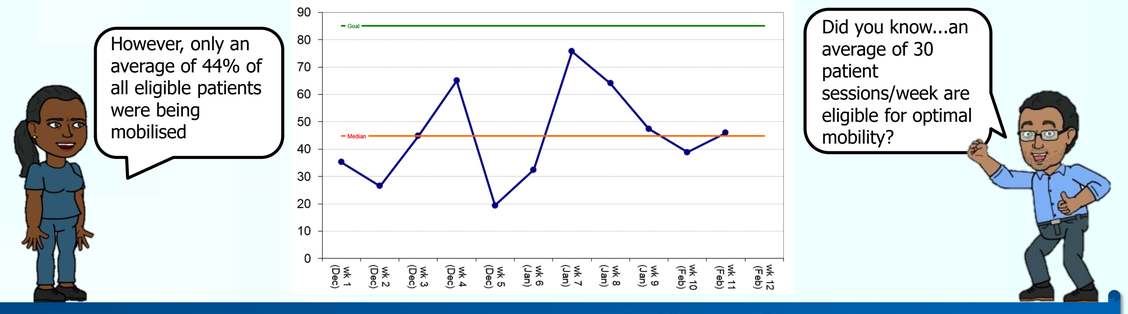


Evidence for a problem worth solving…

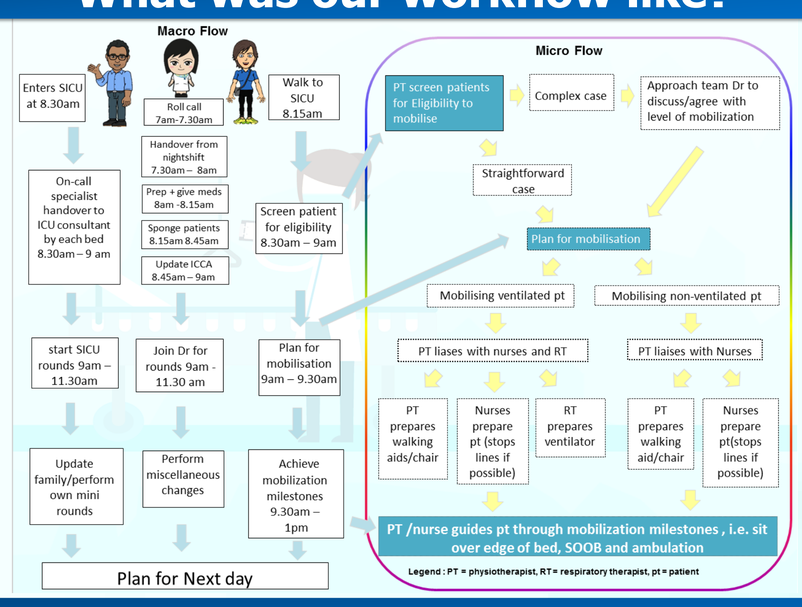
Study	Study cohort	Decrease in ICU LOS by..	Decrease in Hospital LOS by..
Hodgson et al (2016)	Bi-national, mixed SICU/MICU/trauma	2 days	10 days
Needham et al (2010)	MICU, acute respiratory failure	2.1 days	3.1 days



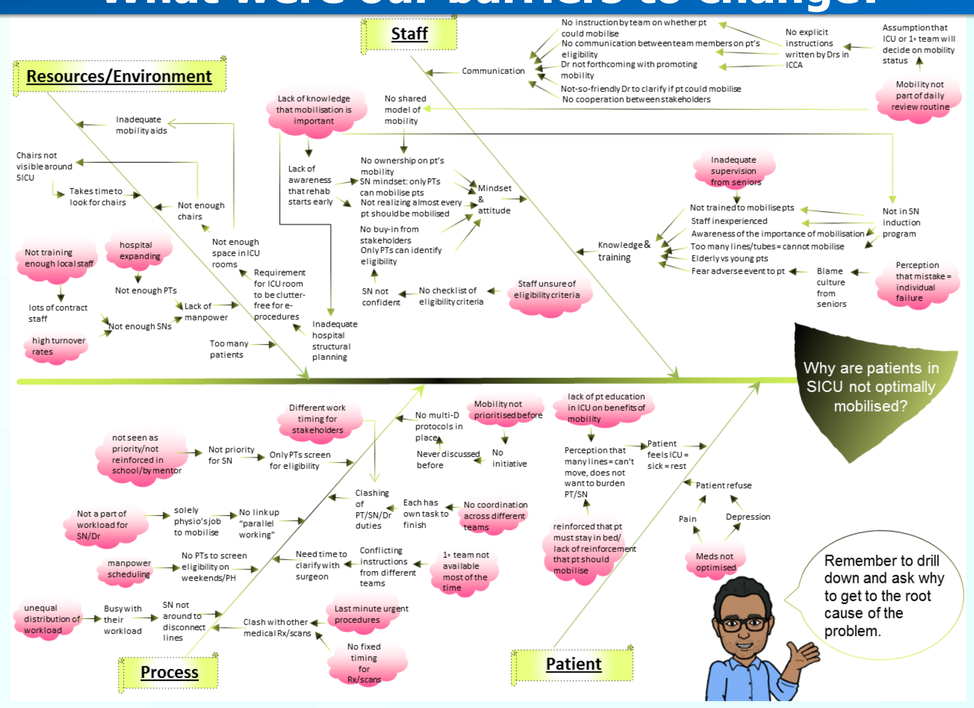
How were we doing before this?



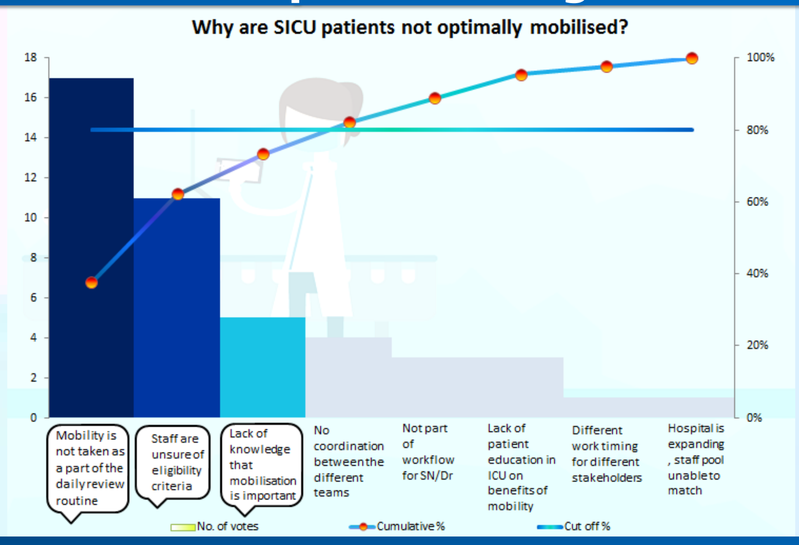
What was our workflow like?



What were our barriers to change?

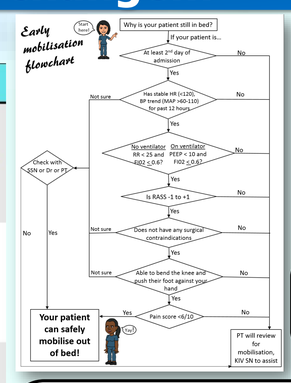


And our top 3 barriers goes to…



Our implementation for change…

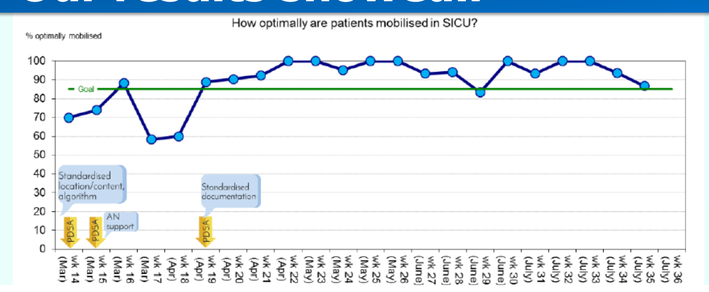
Cycle	1	2	3
Plan	• Designed as part of daily review • Created eligibility criteria for suitable patients • Spread awareness in importance of optimal mobilisation	• Change mind set "weekend syndrome"/leaving care to GW = breaking continuity of care • Change mind set "only PTs can mobilise patients"	• Design a written routine of documentation • Sharing of positive results to all stakeholders
Do	• Standardised content of ICU rounds verbally • Provided decision-making algorithm • Sharing of evidence based practice to all stakeholders	• Provided temporary dedicated support on weekends • Reinforced importance via sharing sessions • Positive reinforcement to staff	• Sign-posting of documentation "FAST HUGS IN BED Please" • Compliance monitoring
Check	• Case notes audit • Regular reminders to ground staff	• Regular feedback from ground staff on challenges	• Case notes audit
Act	• "weekend syndrome" • Leaving care to the general wards • Importance of optimal mobilisation not well spread in ICU	• Documentation from Drs inconsistent to provide clinical direction • Variance of documentation in level of mobility achieved	• Reduce frequency of monitoring – review 6-monthly • Consideration of spreading to MICU/surgical wards

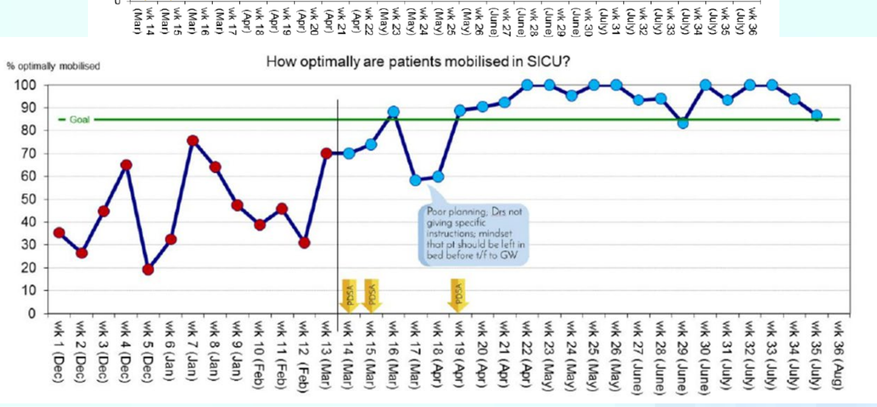


Plan-Do- Check-Act (PDCA) strategy was implemented in 3 cycles to address identified barriers. Our outcome of interest was the percentage of eligible mobility sessions which were optimised, ICU LOS, and the number of related adverse events.

Our results showed..

Pre-PDCA implementation, only 44% of all eligible mobility sessions were optimised. Post implementation, eligible patients were consistently optimised above target with zero adverse events.





What was our impact, exactly?

Patients eligible and..	No. of patients	Average ICU LOS/day	Average Hospital LOS/day
Not optimally mobilised	93	**3.3**	12.7
Optimally mobilised	100	**2.6**	13.2

Decrease in LOS: 0.7 days

It was found within 6 months that the ICU LOS decreased by an average of 0.7 days. Although this may or may not directly translate to cost savings for the patients, but this allowed a quicker turnover of beds in an ICU that can accommodate better in times of a bed crunch, enhancing hospital productivity.

What were our challenges and lessons?

Our challenges during this project included the lack of proper timing of reviewing patients' mobility status together as a team, instructions that were unclear on whether a patient could be optimally mobilised, and changing the mindset of the ICU team that patients should not be left lying in bed on the day of transfer to the general ward.
More importantly, we learnt that it is crucial to consider both experienced and inexperienced staff in the workflow as a contributor as everyone would be able to provide a different perspective to the barriers and enablers of this project and at the heart of it all, to place the patient as the focal point of this initiative.

Engineering sustainability…

What has happened since then?

- Continual emphasis on optimal mobility in ICU as a goal to normalise the environment.
- Dedicated more equipment (geri-chairs, hoists) into the ICU.
- Hospital-wide spread of optimal mobility to ensure its continuum.
- Sustainability measures put in place by engineering controls in the ICU documentation software to make optimal mobility a routine question.
- Embedding optimal mobilisation as part of nursing induction programme to all new nursing staff.

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