Improving Patient Care and Safety During Long Call shift,
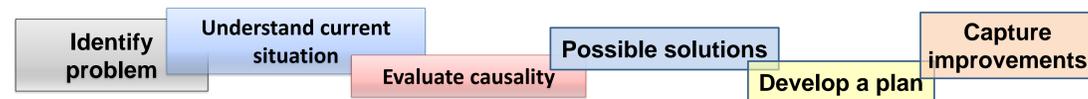# A quality improvement project

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Introduction

The Long call shift provides a bridge between the day shift and the night float. Long call is usually between 5pm and 8pm and one team at that time provides coverage for the patients of 4 to 5 other teams. **This creates a huge burden on the covering team.** The coverage by one team during this period of transition creates communication gaps and transition of care issues that directly impact patient care, quality of care and safety, as well as patient satisfaction. As with many other hospitals, we noticed inefficiencies in handoff communication among physicians, nurses, respiratory therapists, and pharmacists during that time, creating patient safety issues.

Methods & Design

Identify problem → Understand current situation → Evaluate causality → Possible solutions → Develop a plan → Capture improvements

We applied a **pre-intervention** and **a post-intervention surveys** to nurses, respiratory therapists and pharmacists. We tracked the number of calls received by the medical admitting resident every day to reach the covering long call team over a period of 2 weeks pre and post interventions.

INTERVENTION TOOLS

LONG CALL TEAM SCHEDULE (5-8 PM)
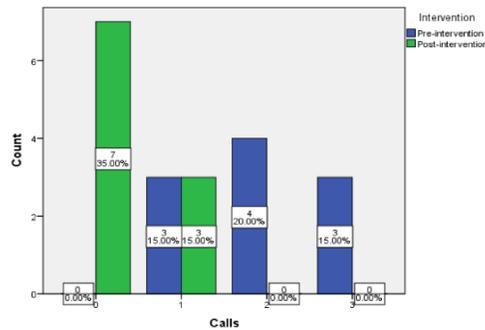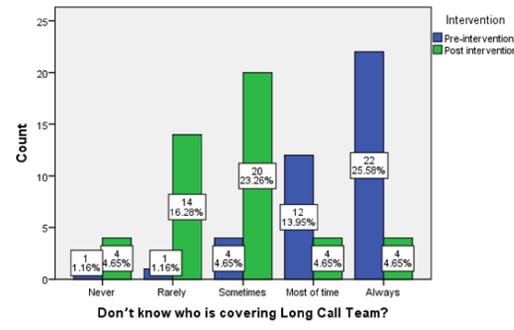
Long call pager

Results

Figure 1: Number of MAR calls by intervention

Figure 2: Knowledge of who is covering long call team by intervention
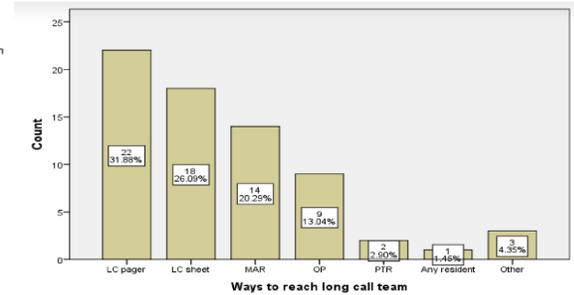

Figure 4: Ways to reach long call team

Figure 3: Time invested trying to reach Long Call team

Figure 5: Ways to reach Long Call team by intervention

Table 1: MAR number of calls

		Frequency	Percent
Pre intervention MAR number of calls finding out doctors covering long call shift:	1 call	3	30.0
	2 calls	4	40.0
	3 calls	3	30.0
Post intervention MAR number of calls trying to find out the doctors covering long call shift:	0 call	7	70.0
	1 call	3	30.0
	Total	10	100.0

Table 2: Paired t-test

		Mean	N	SD	Std. Error Mean	t	df	p-value
Pair 1	Pre intervention MAR number of calls finding out doctors covering long call shift:	2.00	10	.816	.258	5.075	9	.001
	Post intervention MAR number of calls trying to find out the doctors covering long call shift:	.30	10	.483	.153			

Table 3: Chi-square test

		Intervention		Total	Chi-square test	df	p-value
		Pre-intervention	Post intervention				
Don't know who is LC?	Never	1	4	5	39.971	4	.000
	Rarely	1	14	15			
	Sometimes	4	20	24			
	Most of time	12	4	16			
	Always	22	4	26			
Time invested trying to reach LC team?	Less than 5 min	5	10	15	33.577	4	.000
	5-10 min	0	13	13			
	10-15 min	4	11	15			
	15-20 min	10	0	10			
	More than 20 min	16	5	21			
Total		35	39	74			

Table 4: Chi-square test on ways to reach LC and intervention

		Intervention		Total	Chi-square test	df	p-value
		Pre-intervention	Post intervention				
MAR	No	15	34	49	9.824	1	.002
	Yes	25	14	39			
OP	No	33	39	72	.023	1	.880
	Yes	7	9	16			
PTR	No	37	46	83	.452	1	.501
	Yes	3	2	5			
Any resident	No	36	47	83	2.552	1	.110
	Yes	4	1	5			
Total		40	48	88			

Discussion

- 95% of the ttested house-staff did not have knowledge about long call shift and (92.5%) did not know that one team covers the other teams from 5 pm to 8 pm.
- Pre-intervention data revealed that (55%) of the tested population did not know which doctors were covering long call when they needed to call them. (45.7%) spent >20 minutes trying to reach the long call team and the most commonly way to reach them was through calling the medical admitting resident (MAR)(64.9%) which represented a delay in care.
- (44.4%) felt the need to call the covering doctors during long call shift at least 2-3 times and the most common reason to call was medication clarification (85%).
- 95% felt that not having the information available during long call shift affects patient care and safety.

- After applying the intervention there was a significant mean difference between the number of calls the MAR received in regards to finding out the doctors covering the long call shift pre and post intervention. There was a reduction from 100% to 30% of calls with a p-value of <0.001.
- We found that pre intervention 21. 62% of house staff reached the long call doctor in > than 20 minutes and post intervention the long call team was reached mostly in 5-10 minutes (17.57 % of the cases)
- Survey respondents said that calling MAR was the most used method to reach long call team pre intervention (38.4%) and after intervention the most used methods were the long call pager (31.88%) and long call sheet (26.09%) at nurse station (both intervention tools).
- **82.5 %** of the survey responders after the intervention **agreed that having long call pager** and **long call team schedule sheet** posted at nurse stations and pharmacy **was useful.**

Proposed interventions

1-We propose a long call schedule sheet to be posted at nurse stations and pharmacy on weekly bases.

2-Establishment of a long call pager to be carried by **the junior resident covering long call shift.**

References

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