Implementing Measurement of Patient Function in the Acute Hospital

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Bed Rest is Bad

- 1899 there was discussion of a radical change in the after-treatment of celiotomy cases; the postoperative period of bed rest could be cut to hours, instead of days or weeks, and result in reduced muscle weakness

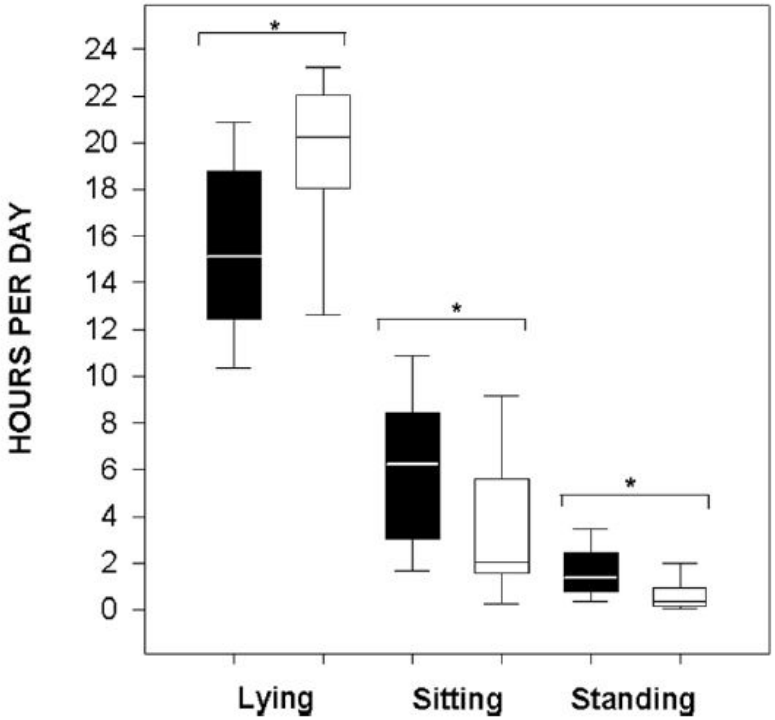
- 1944, a conference on bed rest was held, and major journals were publishing on related topics, such as the “evil sequelae of complete bed rest” and the “abuse of rest in bed”

Ries, E. *JAMA*. 1899; XXXIII(8): 454-456.
Dock, W. *JAMA* 1944; 125(16): 1083-1085
Powers, JH. *JAMA 1944;125(16): 1079-1083*
Hashem M. Respiratory Care July 2016, 61(7) 971-979

Evidence is Not Translating

Baldwin et al. Clinical Rehabilitation. 2020

- Bed rest is pervasive during hospitalization.
- Lying in Bed: 71% to 94% of hospital stay (17 – 22 Hrs)
- Stand/Walking: 1% to 5% (0.2 – 1.1 hrs)
- Patients independent w/ walking on admissions spend **<30%** time <u>out</u> of bed.



<u>Walking Assistance on Admission</u>

Independent

Not-Independent

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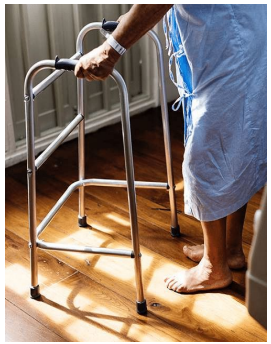
Evidence is Not Translating

Pronovost, P. J. et al (2008). Translating evidence into practice: a model for large scale knowledge translation. *BMJ (Clinical Research Ed.)*, 337(6), 963–965.

Mounting Evidence

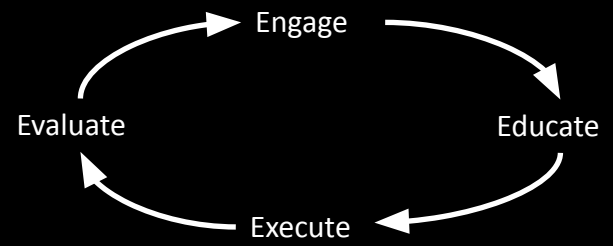


Overall concepts

Envision the problem within the larger healthcare system

Engage Collaborative multidisciplinary teams centrally (stages 1-3 and locally (stage 4)

1. **Summarize the evidence**
2. **Identify local barriers to implementation**
3. **Measure Performance and Outcomes**
4. **Ensure all patients receive the interventions**



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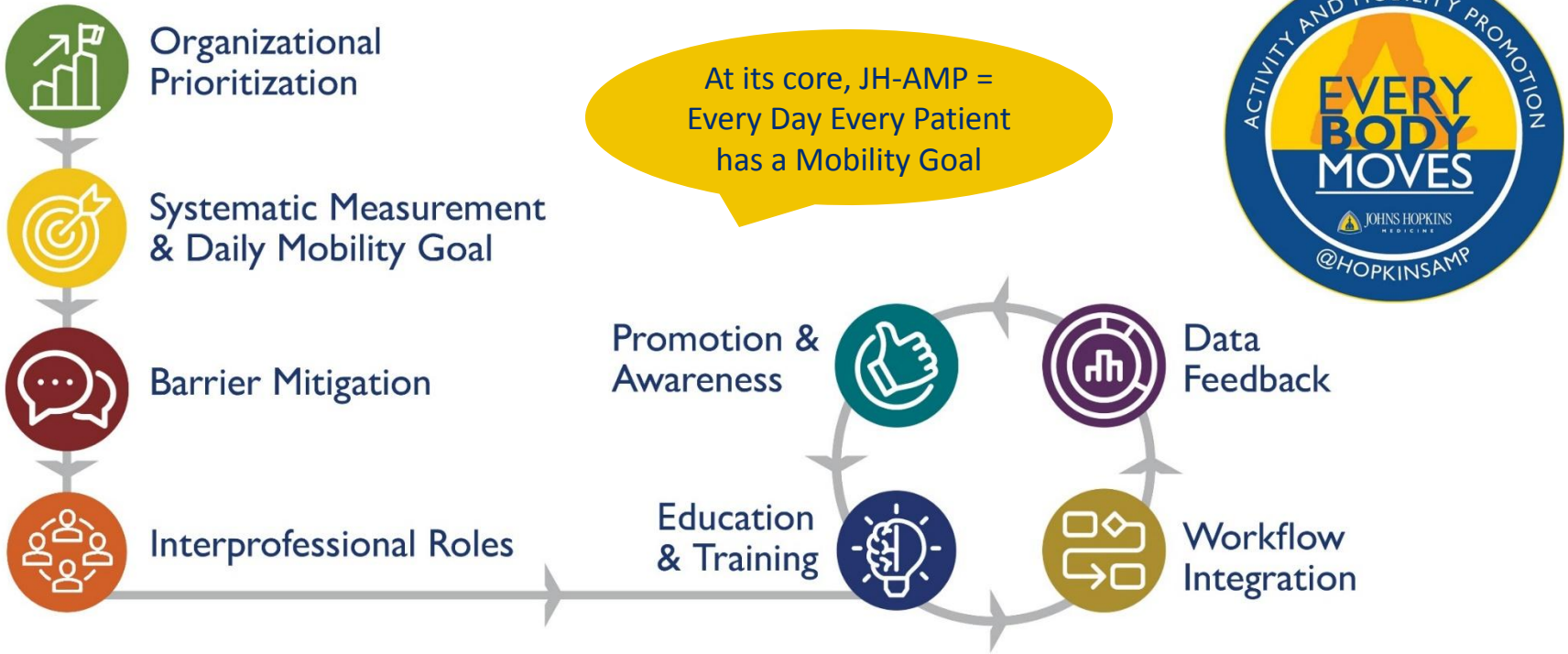
Johns Hopkins Activity and Mobility Promotion

1. McLaughlin KH, et al. The Johns Hopkins Activity and Mobility Promotion Program: A Framework to Increase Activity and Mobility Among Hospitalized Patients. *Journal of Nursing Care Quality*. 2023;38(2):164. doi:10.1097/NCQ.0000000000000678



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Step 2: Systematic Measurement & Daily Mobility Goal

Tool Selection Criteria

- Psychometrically Sound
  - Reliable and Valid when scored by different providers
  - Valid for most/all hospitalized adults
- Easy and fast to score especially for nursing

Step 2: Systematic Measurement & Daily Mobility Goal

- Capacity
  - capable of being mobile but may not be currently

- Amount performed
  - How much over time

Cleveland Clinic
AM-PAC '6- Clicks' Scales

Mobility

1. Bed mobility
2. Supine to sit
3. Bed to chair
4. Sit to stand
5. Walk in room
6. 3-5 steps with a rail

Daily Activity

1. Eating meals
2. Grooming
3. Dressing Uppers
4. Dressing Lowers
5. Toilet (toilet, urinal, bedpan)
6. Bathing (wash, rinse, dry)

Jette et al. *PTJ*. 2014

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Step 2: Systematic Measurement & Daily Mobility Goal

- Capacity
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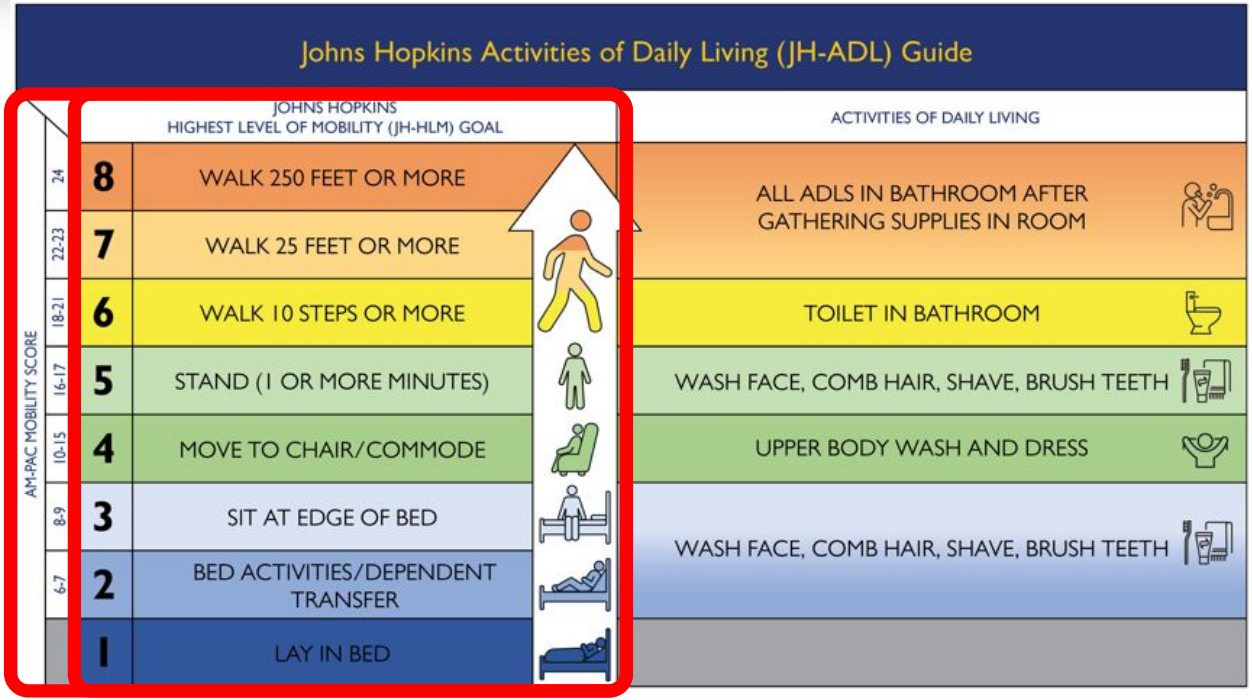
Step 2: Systematic Measurement & Daily Mobility Goal



hopkinsAMP.org/tools

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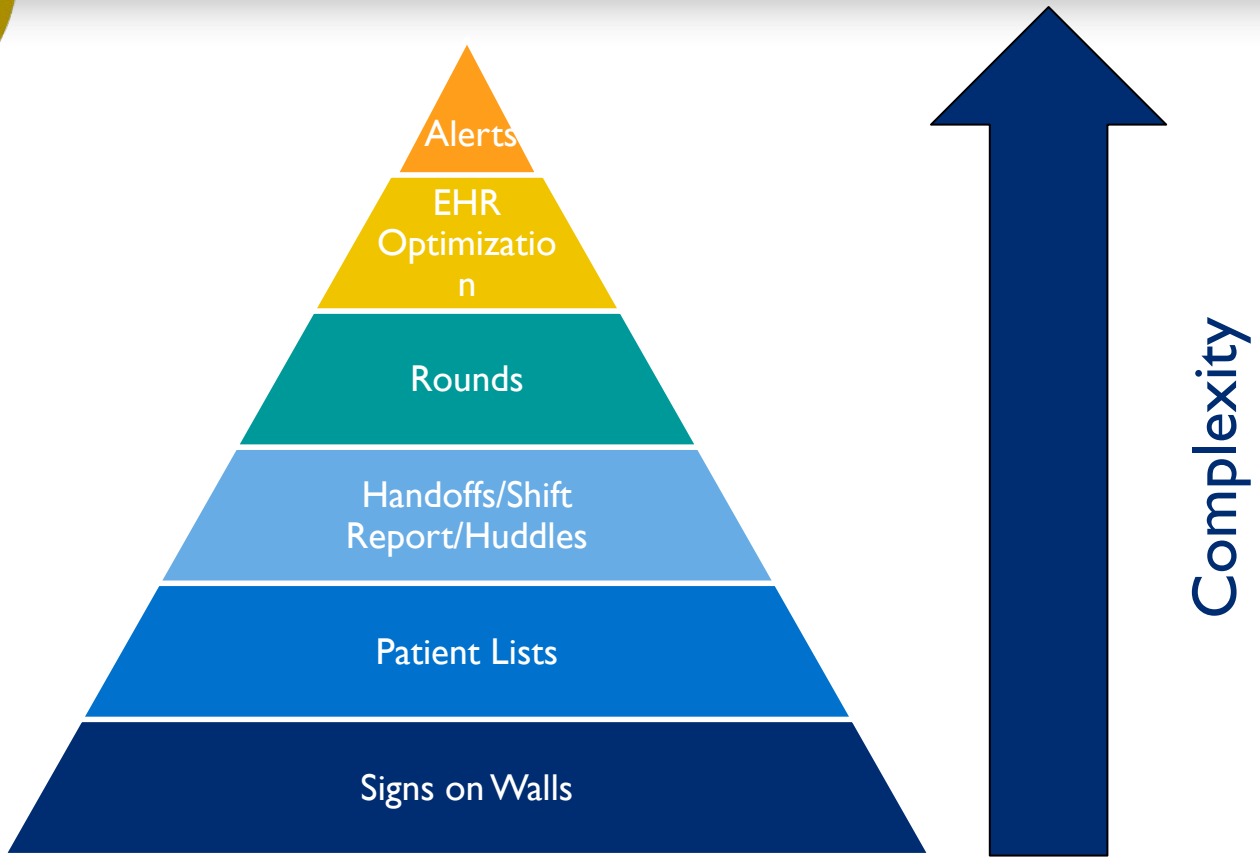
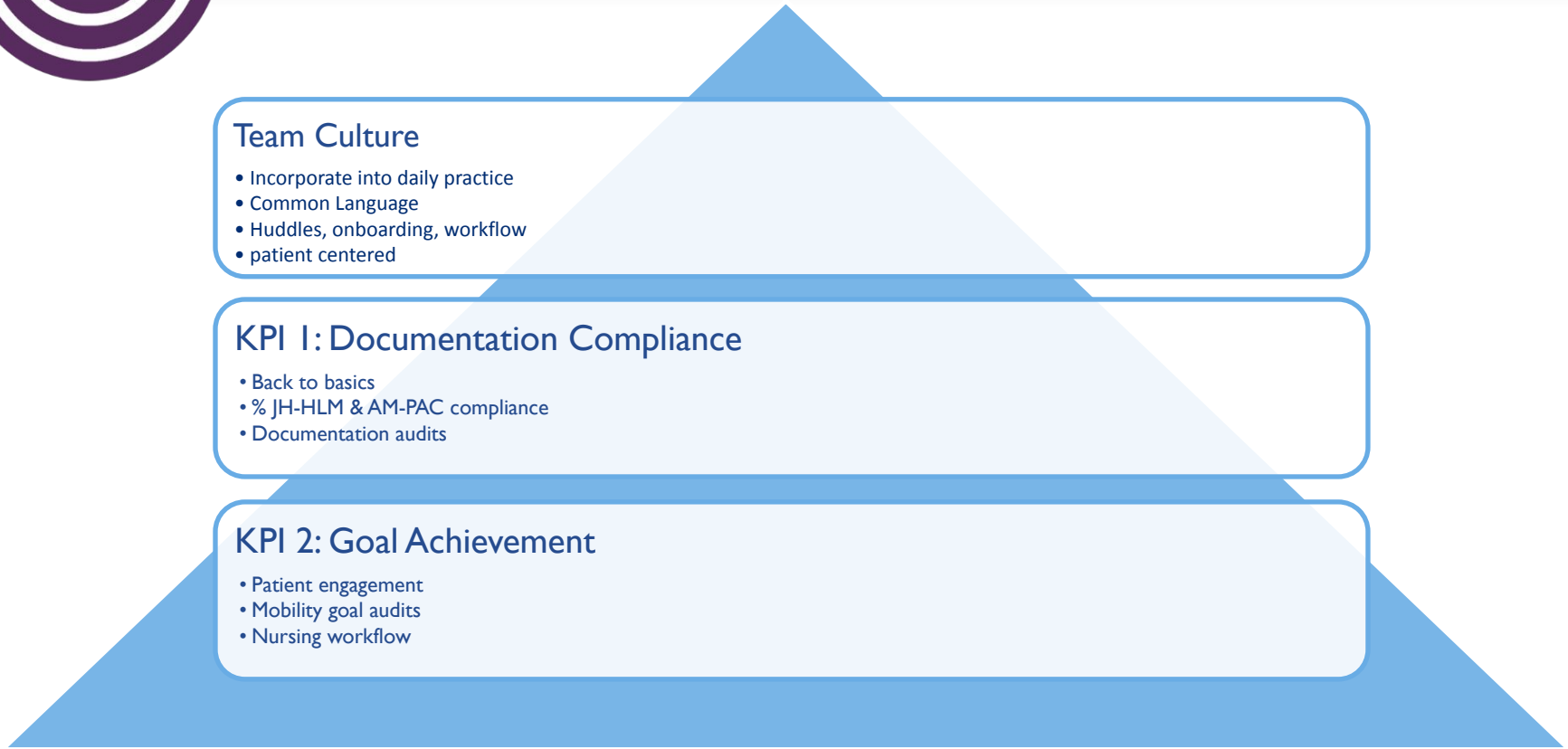
Version 1.2.22

Step 6: Workflow Integration



Step 7: Data Feedback



KPI 1 – Documentation Compliance

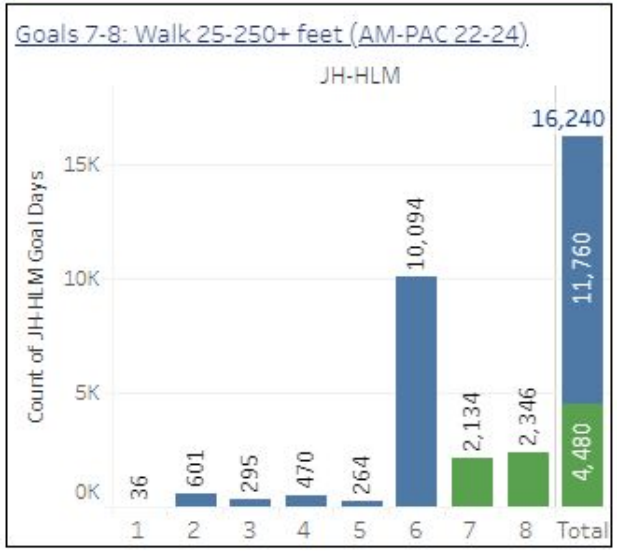
JH-HLM and AM-PAC Performance

Legend: Below 69.5% | Between 69.5% and 89.5% | Above 89.5%

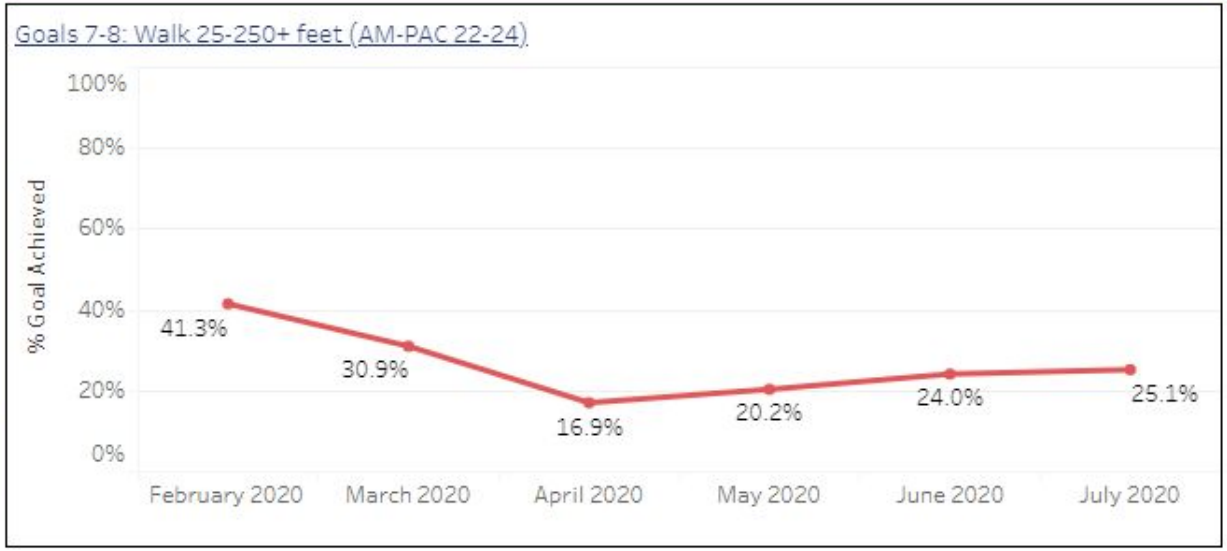
Unit	JH-HLM			AM-PAC Mobility Admission			AM-PAC Mobility Daily		
	August 2021	September 20..	October 2021	August 2021	September 20..	October 2021	August 2021	September 20..	October 2021
All Units Total	94.00%	93.57%	93.64%	97.98%	98.16%	98.54%	98.21%	97.91%	98.44%
JHH BLOOMBERG 5S	97.16%	96.15%	96.11%	100.00%	98.85%	98.95%	99.54%	99.26%	99.71%
JHH H3-03	98.34%	98.11%	99.13%	96.00%	98.11%	100.00%	100.00%	99.83%	99.81%
JHH MEYER 8	99.06%	97.19%	96.38%	100.00%	100.00%	100.00%	100.00%	99.84%	100.00%
JHH MEYER 9	90.63%	90.78%	92.14%	97.96%	100.00%	100.00%	98.35%	99.33%	99.66%
JHH NELSON 3	90.74%	92.55%	89.12%	100.00%	100.00%	100.00%	98.81%	98.81%	99.15%
JHH NELSON 4	91.80%	92.44%	91.87%	100.00%	100.00%	100.00%	99.83%	99.67%	99.32%
JHH NELSON 5	81.06%	76.99%	85.71%	98.36%	88.24%	96.92%	93.80%	92.11%	93.27%
JHH NELSON 6	96.19%	96.46%	94.81%	100.00%	100.00%	100.00%	99.83%	99.30%	99.34%
JHH NELSON 7	94.68%	94.68%	92.90%	100.00%	100.00%	100.00%	99.81%	99.82%	99.82%
JHH NELSON 8	93.75%	95.17%	94.48%	100.00%	100.00%	100.00%	98.45%	99.47%	99.45%
JHH OSLER-5	99.49%	99.42%	100.00%	93.75%	100.00%	100.00%	98.66%	96.55%	99.56%
JHH ZAYED 10E	93.15%	89.96%	90.43%	84.38%	92.73%	89.71%	89.43%	86.92%	89.43%
JHH ZAYED 5E	95.78%	95.21%	96.97%	100.00%	100.00%	100.00%	99.50%	99.26%	99.35%

KPI 2 – ***Goal Achievement***

JH-HLM Daily Goal Achieved



% JH-HLM Daily Goal Achievement Trend



Multicenter Implementation

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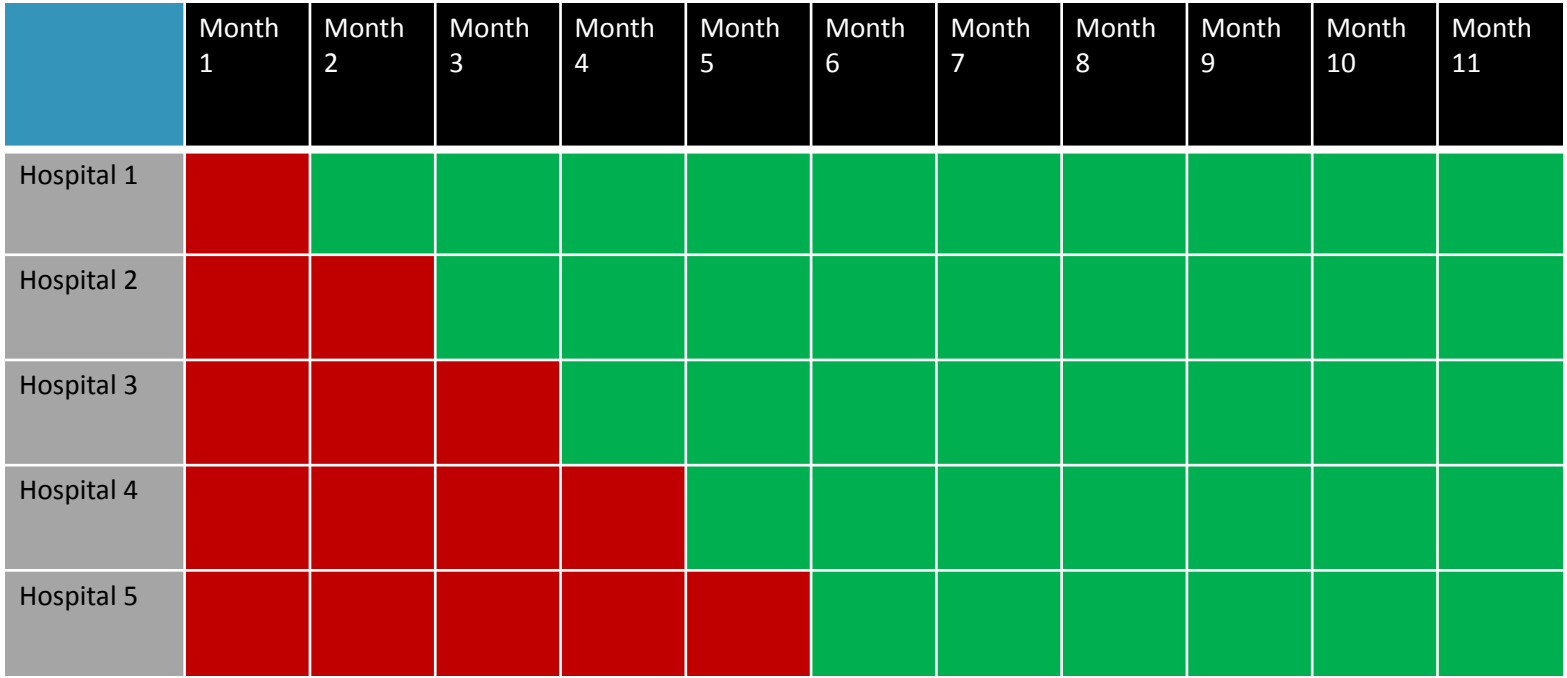
Multicenter Implementation



	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11
Hospital 1											
Hospital 2											
Hospital 3											
Hospital 4											
Hospital 5											

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Multicenter Implementation

- Primary Outcomes
  - Implementation Completeness

Program Components	Institution 1	Institution 2	Institution 3	Institution 4	Institution 5
Organizational Prioritization					
Systematic Mobility Measurement & Goal					
Barrier Mitigation					
Interprofessional Roles					
Education and Training					
Workflow Integration					
Data Feedback					
Promotion and Awareness					

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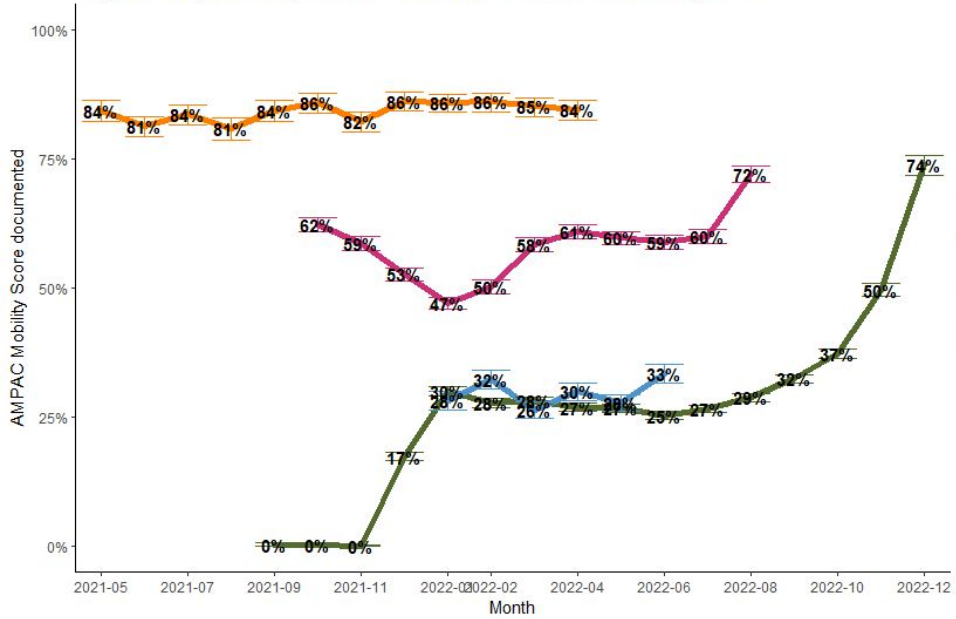
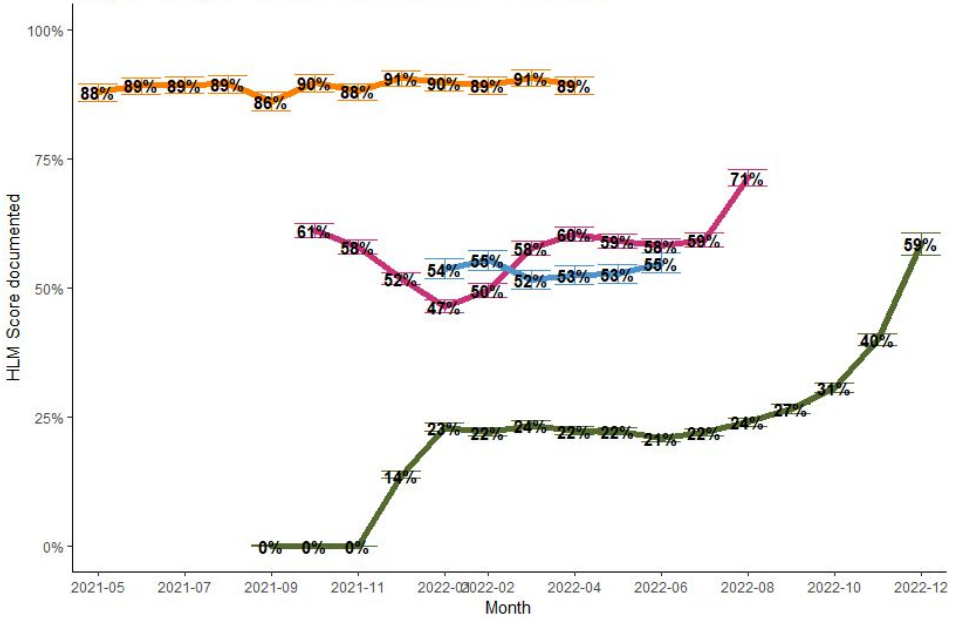
Multicenter Implementation

- Primary Outcomes
  - Documentation compliance

Proportion of patient days with an RN-documented AMPAC Mobility Score

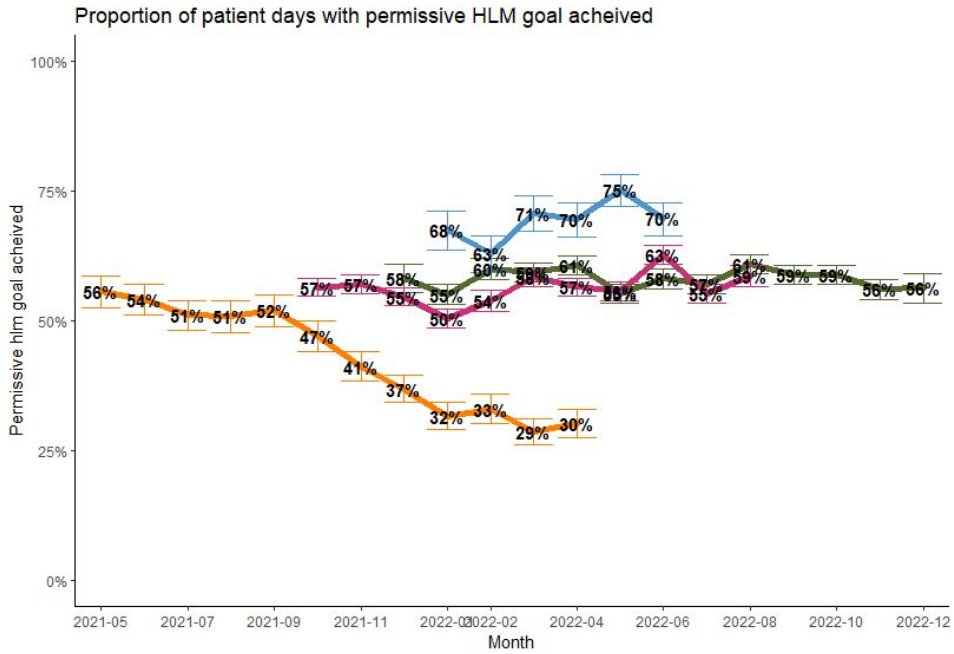


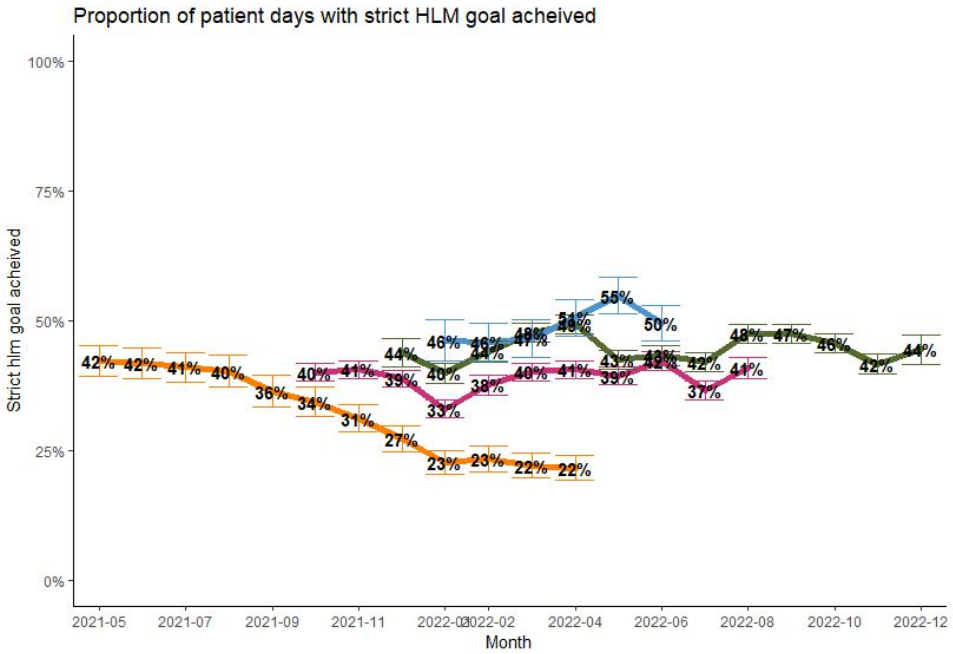
Proportion of patient days with a Documented HLM Score



Multicenter Implementation

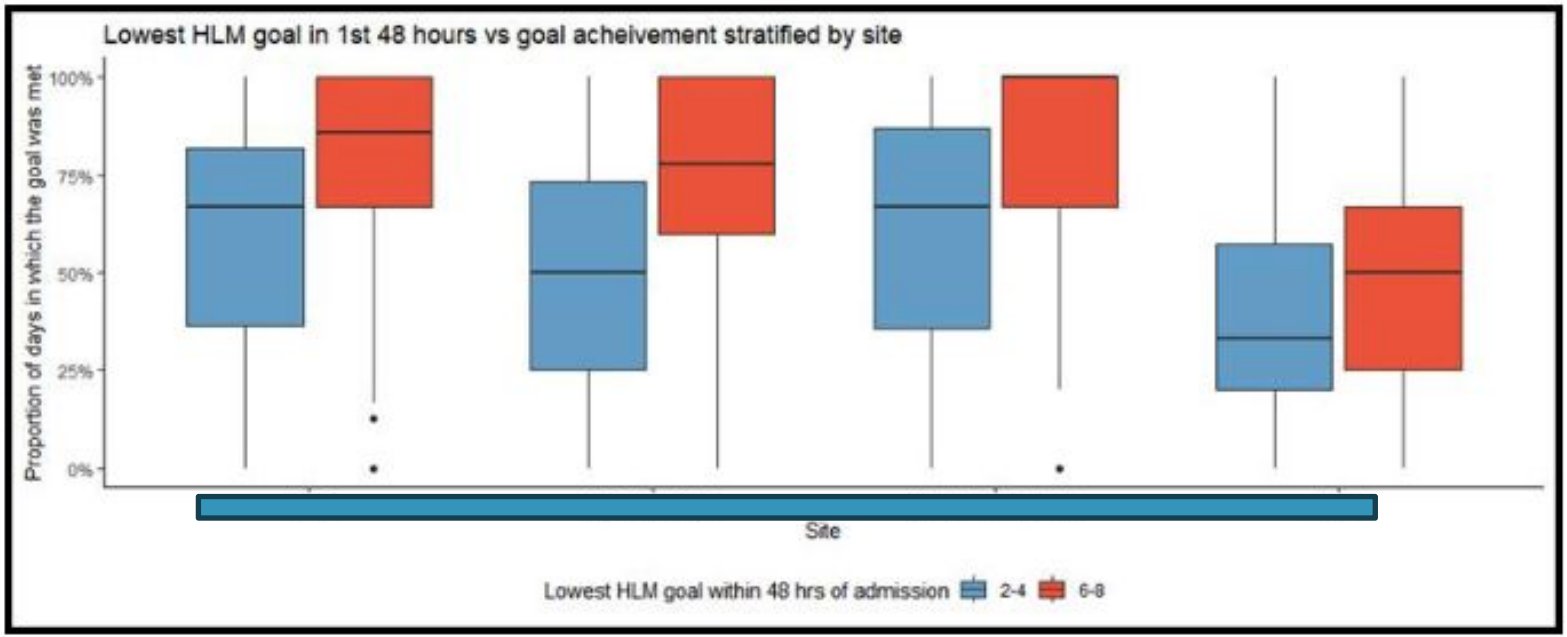
- Primary Outcomes
  - Goal achievement





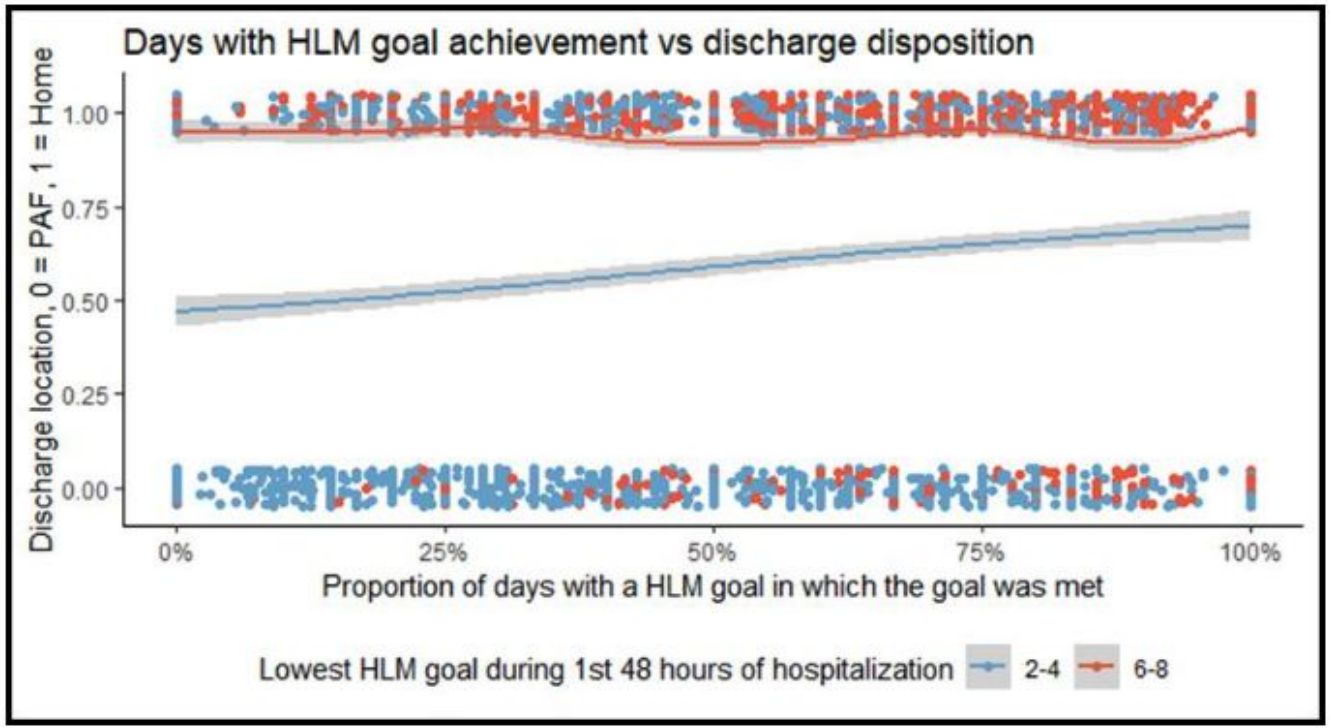
Multicenter Implementation

- Primary Outcomes
  - Goal achievement



Multicenter Implementation

- Primary Outcomes
  - Goal achievement



Multicenter Implementation

- Primary Outcomes
  - Implementation Completeness
  - KPI 1 & 2
    - measured daily from start to 6-months
  - Focus groups with frontline nurses
    - Online training not very helpful
    - Hands on training best
    - Not clear on parts of goal calculator