

BACKGROUND

- Early mobilization of patients reduces length of stay, decreases delirium, and improves patient outcomes after discharge.
- A previous PDSA found that Vidant Medical Center's mobility protocol known as Greenville Early Mobility Scale (GEMS) was unclear on the exercises the patients should be performing.
- Specific issues occurred with bed-bound patients or patients the staff deemed difficult to mobilize.
- The ICU Mobility Protocol: VMC Early (IMPROVE) movement program was created to remedy these issues and increase documentation of patient's mobility in the CICU.

AIM STATEMENT

We aim to have a 50% increase in the total number of times activity was documented and the total amount of GEMS level progression from July 2018 to March 2019.

PROJECT DESIGN/STRATEGY

- A total of 3 PDSA cycles / interventions were implemented to increase documentation and patient mobility from a time frame of July 2018 to March 2019
- **PDSA 1:** IMPROVE implemented with survey (October 2018)
- **PDSA 2:** Educational poster with pamphlets outside patient doors (February 2019)
- **PDSA 3:** EHR change to include levels 1A and 1B for documentation (March 2019)
- **PDSA 4:** Laminated rounding aid placed outside patient doors (October 2019, January 2020)
- A retrospective analysis was performed with 20 patients randomly selected from a month to examine GEMS progression as well as amount of times activity had been documented by a provider.

CHANGES MADE (PDSA CYCLES)



Figure 1: Greenville Early Mobility Scale (GEMS)

IMPROVE Protocol Survey

Thank you for participating in our survey. This past month the IMPROVE protocol was implemented in the CICU to increase patient mobility and progressive their mobility throughout their stay. This was done by detailing which exercises each patient should perform at a certain level. The current protocol in place is the Greenville Early Mobility Scale (GEMS) and this supplement was added for the CICU. In order to better understand how the IMPROVE protocol has impacted patient care and mobility in the CICU, we invite you to answer these questions honestly to better serve you and our patients!

Instructions: Circle the number that corresponds to your stance on the IMPROVE model:
1: strongly disagree; 2: somewhat disagree; 3: neither; 4: somewhat agree; 5: strongly agree

- The IMPROVE protocol clearly defined which mobility level each patient falls under. 1 2 3 4 5
- The IMPROVE protocol clearly defined which exercises a patient should complete at a specific mobility level. 1 2 3 4 5
- I believe that the IMPROVE protocol has helped my patients become progressively more mobile from initial level. 1 2 3 4 5
- I believe the IMPROVE protocol has helped me track patient mobility effectively. 1 2 3 4 5
- The IMPROVE protocol has exercises that are easy for me to help the patient perform. 1 2 3 4 5
- The IMPROVE protocol was a helpful addition to the GEMS. 1 2 3 4 5
- I am more aware of the importance of mobility after this protocol was implemented. 1 2 3 4 5

Figure 3: Survey in PDSA 1

IMPROVE Routine	Exercise Routine
1.	GEMS 1A: Bed bound/Non-participatory: passive range of motion a. Flexion and extension of elbow and shoulder: 10 min (30-40 reps per joint) And b. Flexion and extension of the knee and hip: 10 min (30-40 reps per joint)
2.	GEMS 1B: Bed bound/Participatory: active range of motion a. Pedal Exerciser for upper extremities: 10-15 min And b. Active leg adduction/abduction and leg raises: 10 min (30-40 reps per) Or Pedal Exerciser for lower extremities: 10-15 min
3.	GEMS 2: Able to get in chair but unable to walk: active range of motion a. Pedal Exerciser for upper extremities: 10-15 min And b. Sitting to standing exercise with assistance: 10 min (10-20 reps) Or Pedal Exerciser for lower extremities: 10-15 min
4.	GEMS 3: Able to walk with support: active range of motion a. Pedal Exerciser for upper extremities: 15 min And b. Walk from chair to bed/bathroom 3-5 times with assistance Or Walk the hallway 50-100 feet with cardiac rehab walker
5.	GEMS 4: Walking independently a. Walk the hallway 50-100 feet with/without cardiac rehab walker

Figure 2: IMPROVE Movement Program supplement to GEMS in PDSA 1 and 2


ICU Out of Bed Plan

Mon Tues Wed Thurs Friday Sat Sun

Independent
Staff needs

GEMS Score
1a 1b 2 3 4 5

Assist Devices:



Mobilized Today:

Figure 4: Rounding aid in PDSA 4 (results pending).

RESULTS/OUTCOMES

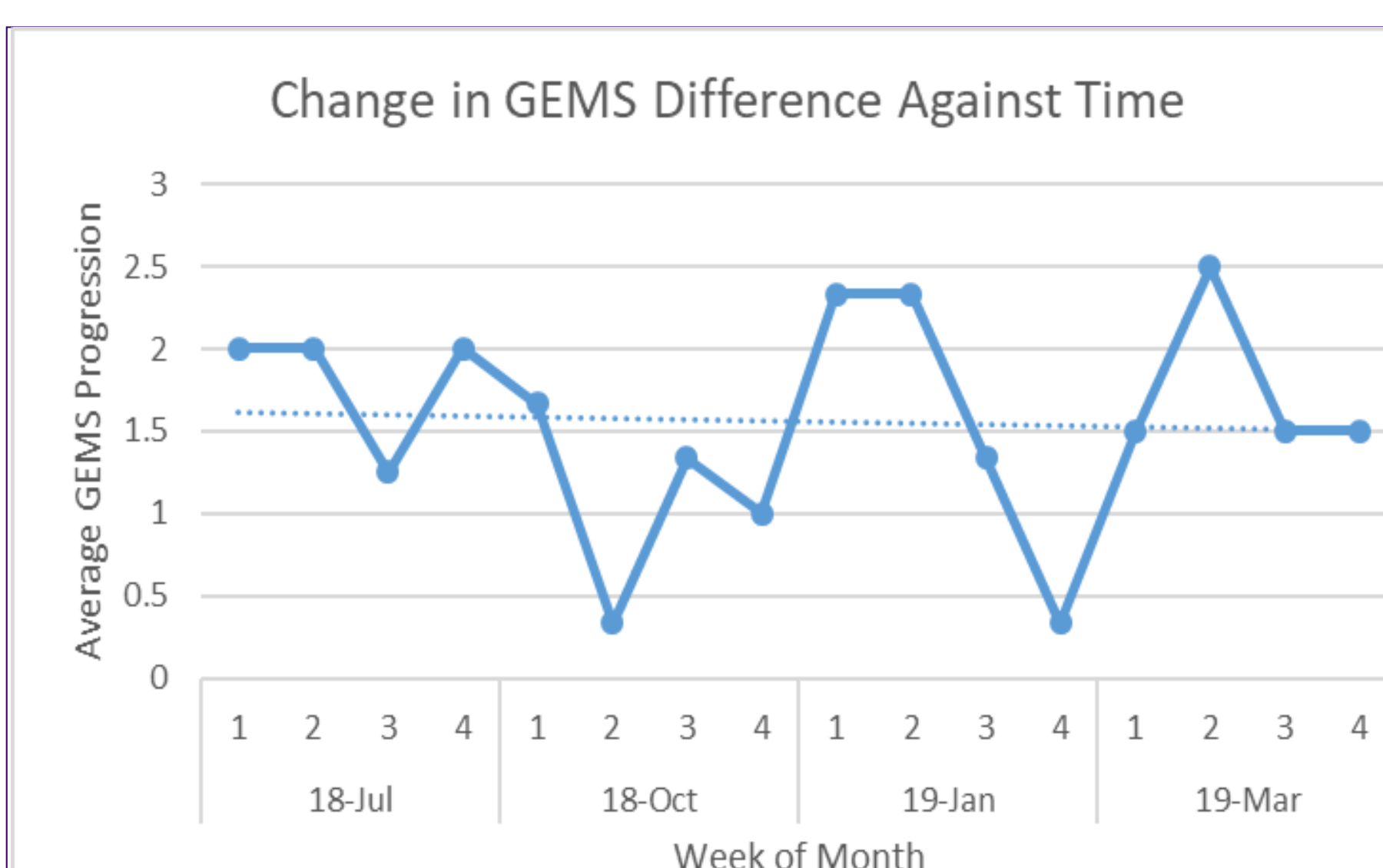


Figure 5: Plots the average GEMS progression per week during a specific month.

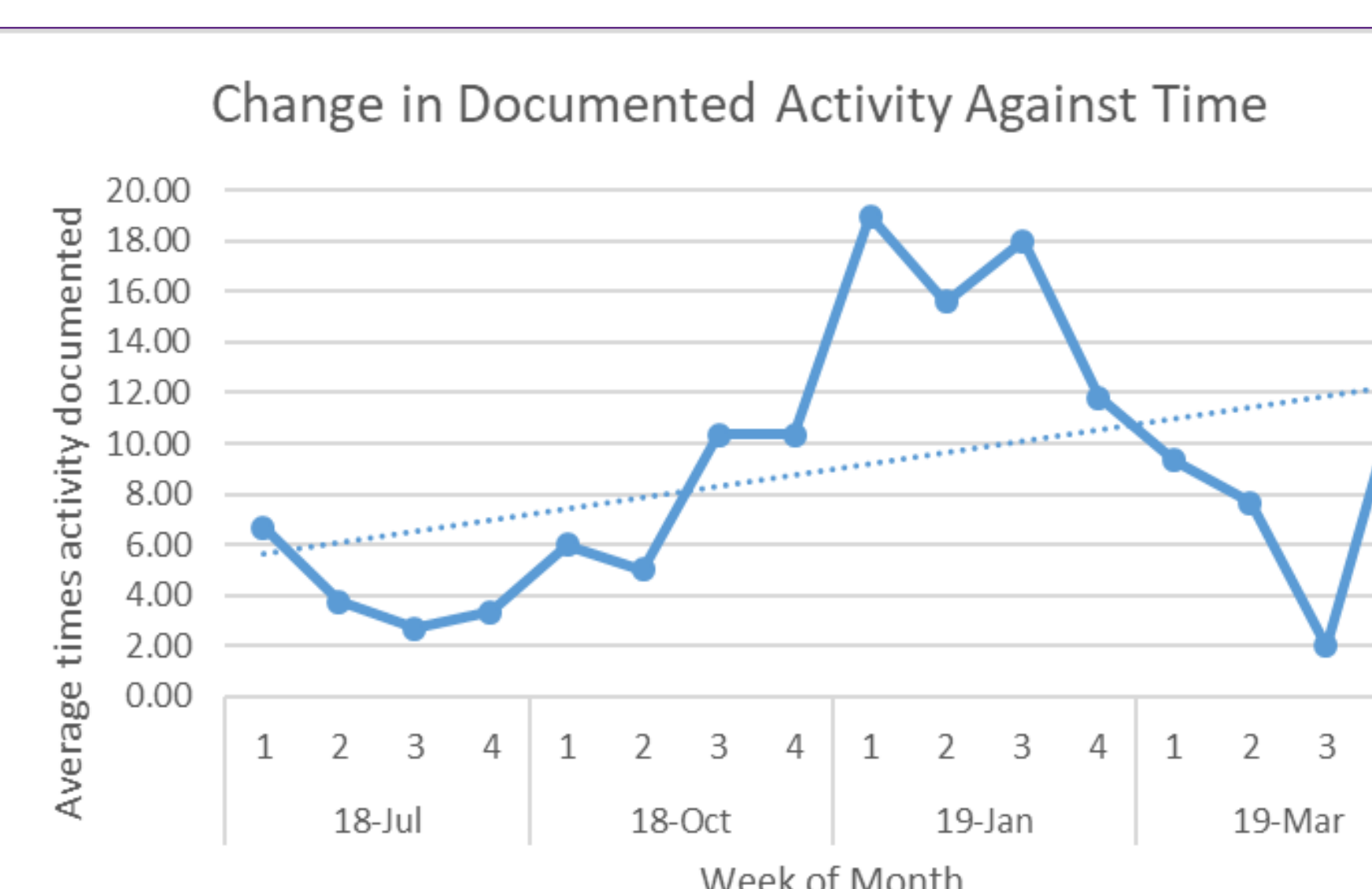


Figure 6: Plots the average activity documented per week during a specific month.

LESSONS LEARNED

- Aim statement not met; GEMS progression decreased by 2% and our activity documented increased by 44% from July 2018 to March 2019.
- Survey data indicated that on average nursing staff "somewhat agreed" IMPROVE clarified exercise needs and increased patient mobility.
- EHR change not complete by data collection; 1A and 1B levels from Figure 2 were not assigned in the data we presented.
- Difficulty tracking patient's mobility as we had to examine each chart to find GEMS scores and manually count the amount of times activity was documented.

NEXT STEPS

- Continue to improve EHR by creating a drop down menu for mobility type, duration, and exercise aid below the GEMS score for workers to document patient activity.
- Our goal is to populate this data in a flowsheet in the EHR to easily track mobility over time for the patients in the CICU.
- Implemented a rounding aid seen in Figure 4; intervention is currently posted outside patient doors and will help display a patient's mobility during rounds. Includes 1A and 1B levels for manual data collection.
- Consult with PT colleagues and nursing staff to elicit feedback on interventions and promote safe mobilization of patients.

ACKNOWLEDGEMENTS

We would like to thank the Vidant Medical Center, the healthcare workers of the CICU, Teachers of Quality Academy, and our patients for giving us a chance to improve the quality of healthcare they receive.