Improving Bowel Management in Pediatric Patients with Spina Bifida

Unoma Akamagwuna, MD[1,2] Blake Meyer, MD[1,3], Kathleen Hosek, MS[6], Justine Kasay[6], Susan Jarosz, DO[1,4], Ellen Fremion, MD[1,5]

1. Baylor College of Medicine; 2. Physical Medicine and Rehabilitation; 3. Pediatrics; 4. Urology; 5. Internal Medicine and Pediatrics
6. Texas Children's Hospital Department of Surgery

Introduction

- Children with spina bifida are often impacted by neurogenic bowel, resulting in constipation and unpredictable bowel leakage.[1] Pediatric patients with spina bifida have high rates of bowel incontinence nationally (Figure 1).[2]
- Poor bowel continence has been associated with decreased quality-of-life, decreased school attendance, poor mental health and lower rates of employment.[3] It's also associated with urinary incontinence, UTIs, VP shunt malfunction, skin breakdown, hemorrhoids, and anal fissures – leading to increased hospital use.[3]
- At Texas Children's Hospital, bowel management was overseen by Urology providers, however, for staffing reasons bowel management care transitioned to PM&R. This project aims to transition the bowel management responsibilities to PM&R providers while aligning care with the Spina Bifida Association (SBA) guidelines.

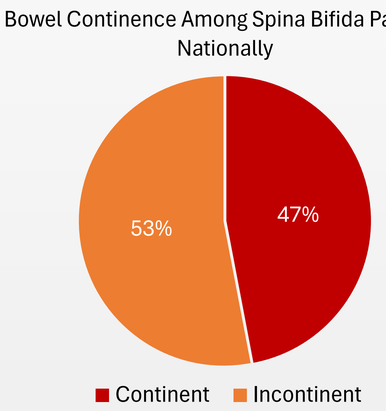


Figure 1: Bowel continence of children ages 5-18, defined as less than one incident of fecal leakage per month, according to the National Spina Bifida Patient Registry (NSBPR) from 2009 to 2022.[2]

Methodology

Baseline data on bowel continence, quality of life, and bowel regimens were collected from the National Spina Bifida Patient Registry (NSBPR) between June 2023 and May 2024.. To assess practice variability and workflow barriers, surveys of providers and nursing staff were administered from December 2024 through January 2025. Findings informed development of a standardized bowel management algorithm and targeted clinician education delivered between March and August 2025 through didactic sessions and hands-on training.

Concurrent interventions included root cause analysis, development of a key driver diagram, creation of standard operating procedures for a PM&R-led bowel follow-up clinic, and refinement of screening and documentation processes based on provider feedback. Patient- and caregiver-facing educational materials were developed in parallel. Program impact was evaluated using process measures (screening completion and algorithm adherence) and outcome measures including provider comfort, patient satisfaction, bowel continence outcomes, and Neurogenic Bowel Dysfunction scores, with results used to guide ongoing refinement.

Results

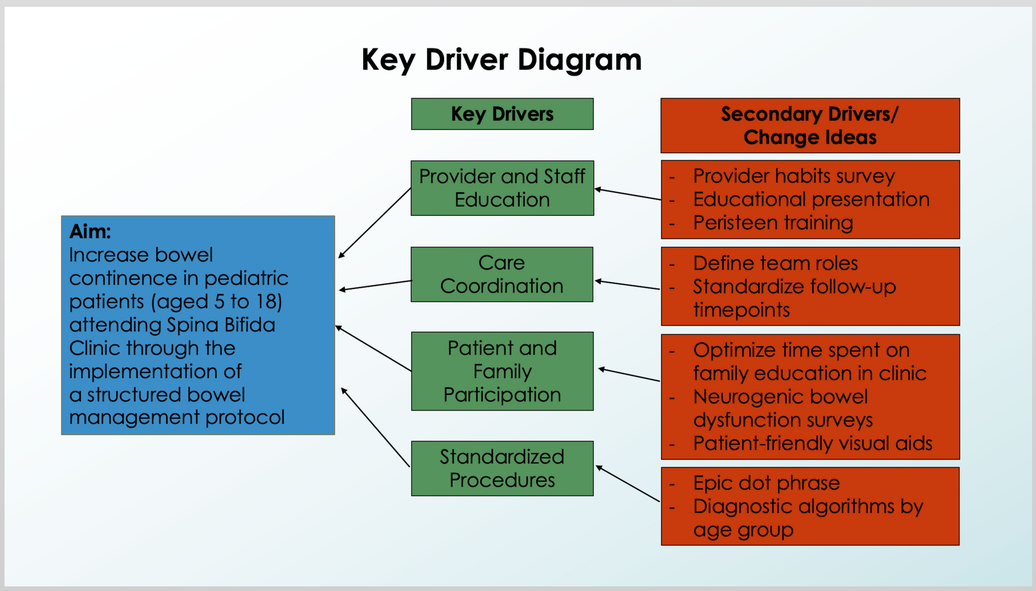


Figure 2: Key driver diagram evaluating specific factors impacting our aim to increase bowel continence. Change ideas serve as targets for future PDSA cycles.

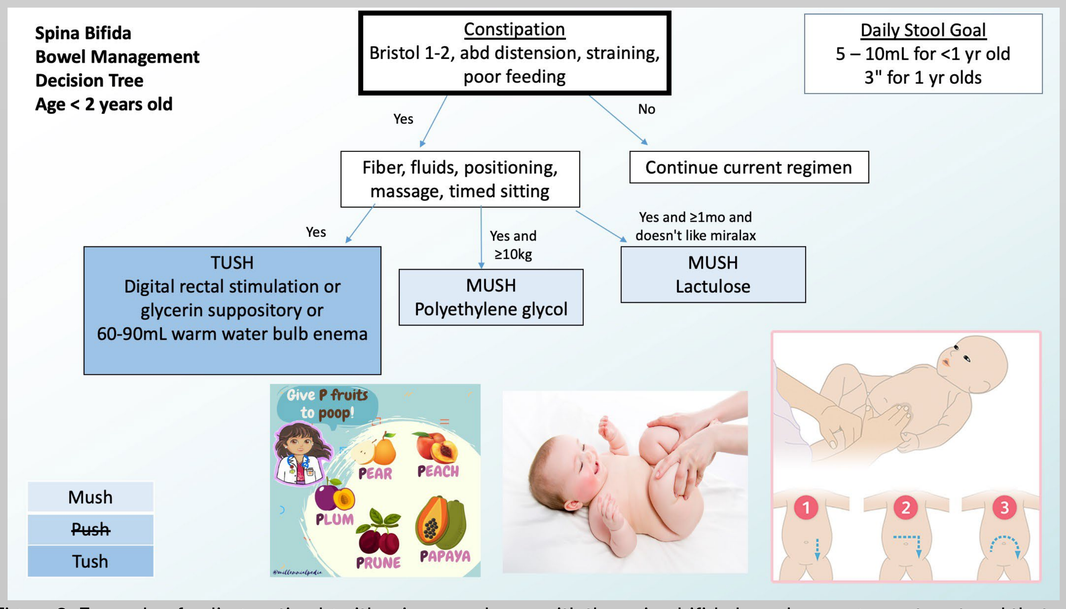


Figure 3: Example of a diagnostic algorithm in accordance with the spina bifida bowel management protocol that will be disseminated to providers in clinic for the next PDSA cycle. This algorithm focuses on ages two and younger.

Interventions

PDSA 1: Baseline Assessment & Stakeholder Engagement
June 2023 – January 2025

Goal: Establish baseline bowel outcomes and understand current practice variability	Collected baseline data from NSBPR (continence rates, QoL, bowel regimens)	Developed and administered provider and nurse surveys to assess practice habits	Identified variability in bowel management practices	Used findings to inform algorithm development and educational needs

PDSA 2: Algorithm Development & Education
March 2025 – August 2025

Goal: Develop and disseminate a standardized bowel management protocol	Created standardized bowel management algorithm	Delivered education via Urology Grand Rounds (March 2025) and PM&R noon conference (May 2025)	Transitioned bowel management oversight to PM&R	Provider knowledge and comfort (post-education surveys) Initial feedback on feasibility and clarity of algorithm	Refined education content. Planned additional training modalities and recorded sessions for onboarding

PDSA 3: Workflow Optimization & Training
April 2025 – July 2025

Goal: Improve clinic workflow and provider readiness for protocol implementation	Conducted hands-on training for PM&R providers and nurses on transanal irrigation (device manufacturers and nurse educators)	Developed SOP for PM&R bowel follow-up telemedicine clinic	Provider-reported confidence with bowel management tools	Modified screening and documentation processes

PDSA 4: Implementation & Process Refinement
May 2025 – August 2025

Goal: Integrate protocol into routine clinical care	Implemented standardized screening in general Spina Bifida clinic	Launched telemedicine clinic	Replaced time-intensive dot phrase with intake form based on provider feedback	Comparison of intake forms completed vs clinic volume • Satisfaction survey initiation (July 2025)

PDSA 5: Evaluation & Sustainment
July 2025 – November 2025

Assess effectiveness and support sustainability	Implemented patient/caregiver satisfaction surveys	Developed bilingual, patient-friendly educational materials	Planned post-education surveys	Provider/nurse comfort and understanding of algorithm	Updates and changes to algorithm based on feedback

Results and Conclusions

Question	Pre N = 7	Post N = 8
How comfortable do you feel with bowel management in SB?	71% Somewhat comfortable 29% Very Comfortable	75% Somewhat comfortable 13% very comfortable 1% not at all comfortable
Do you have a systematic approach to bowel management	71% Yes 29% No	63% Yes 38% No

Figure 4: Provider Survey Pre and Post Intervention

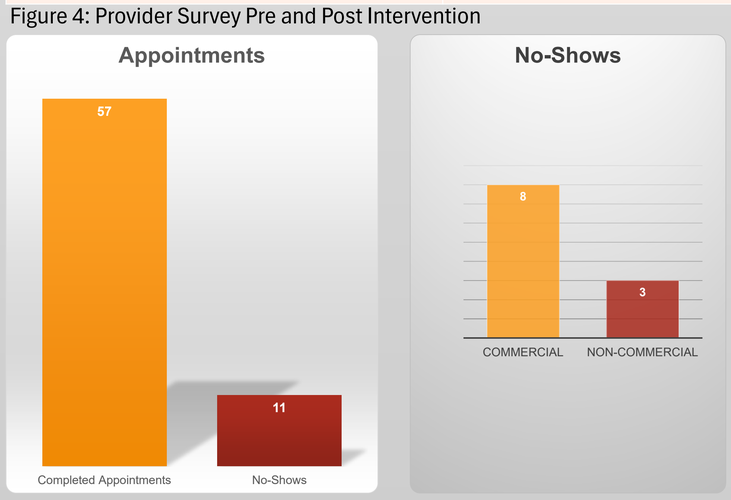


Figure 5: Clinic Appointment Outcomes

- This quality improvement initiative established core infrastructure for standardized bowel management in a multidisciplinary Spina Bifida clinic. Although provider comfort with a bowel management algorithm and perceptions of a systematic process did not change significantly, the project successfully launched a weekly PM&R-led telemedicine bowel clinic, onboarded and educated staff, and implemented standardized screening tools and patient education materials.
- Next steps include integrating EHR-based pre-visit assessments, routinely administering standardized Neurogenic Bowel Dysfunction measures in the telemedicine clinic, and developing a structured onboarding and training process for the bowel management algorithm to support sustainability and outcome measurement.

Acknowledgements/References

1. Kelly MS, Hannan M, Cassidy B, et al. Development, reliability and validation of a neurogenic bowel dysfunction score in pediatric patients with spina bifida. *Neurourol Urodyn*. 2016;35(2):212-217. doi:10.1002/nau.22694
2. Findings from the National Spina Bifida Patient Registry. Centers for Disease Control and Prevention. May 15, 2024. Accessed May 18, 2025. https://www.cdc.gov/spina-bifida/data/findings-from-the-nsbpr-registry.html.
3. Kelly MS, Wiener JS, Liu T, et al. Neurogenic bowel treatments and continence outcomes in children and adults with myelomeningocele. *J Pediatr Rehabil Med*. 2020;13(4):685-693. doi:10.3233/PRM-190667

Thank you to project mentor: Maggie Weimer

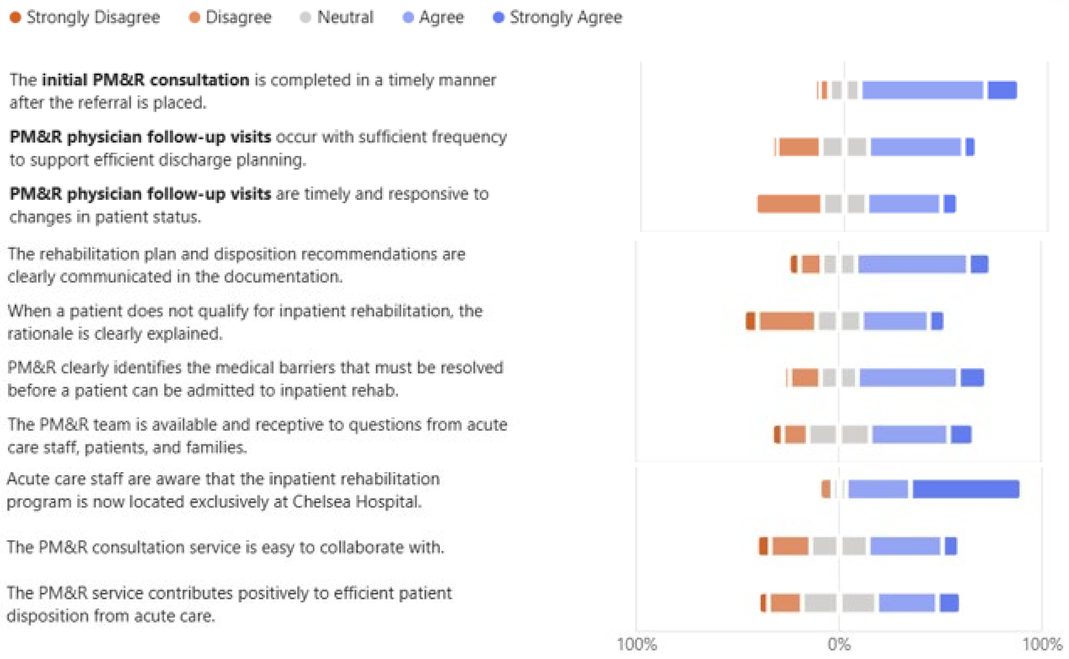
Improving Physical Medicine and Rehabilitation Consultation Services

Cody C Andrews, MD
Internal Mentor: Ted Claflin, MD; Joshua Startup, MD
External Mentor: Holly Pajor, DO

MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

PHYSICAL MEDICINE AND REHABILITATION

Background



Satisfaction with PM&R consultation services at Michigan Medicine has been poor over the past at least several years. In general, it is thought that PM&R consultation provides unclear recommendations and is difficult to collaborate with by members of the acute care teams.

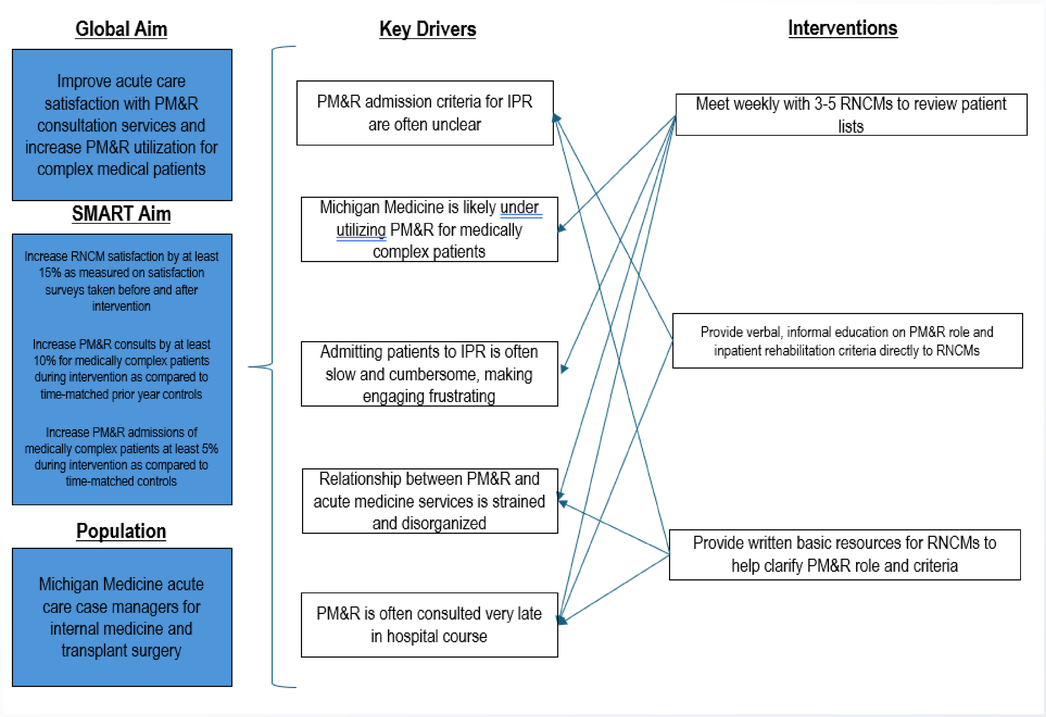
Do

Despite initial enthusiasm with case management leadership, and potential participants, only one case manager was able to participate. A free form questionnaire targeting barriers to participation was provided. Time constraints were identified as the primary limiting factor on a questionnaire.

Next Steps

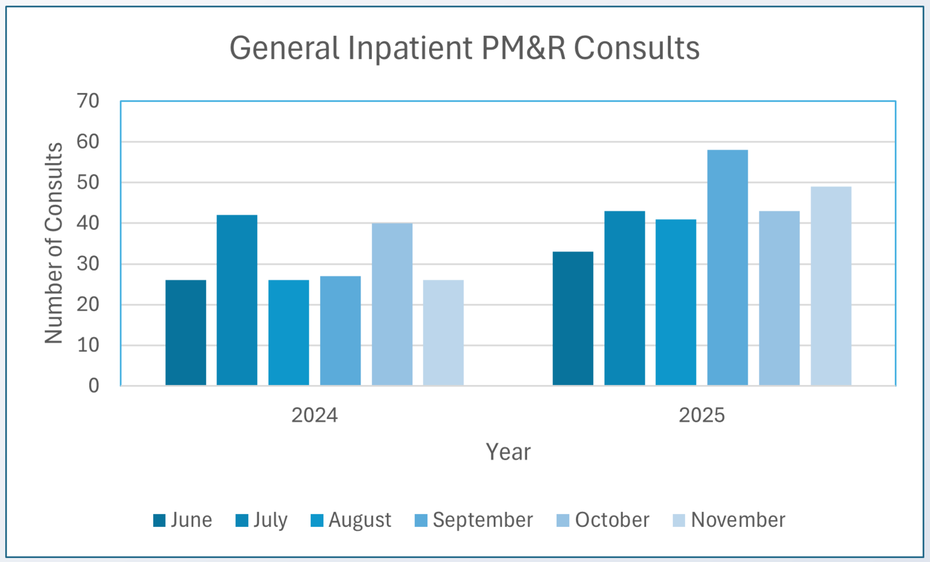
- Follow up on current sentiments toward PM&R consultation services
- Currently meeting with acute care therapy leadership to evaluate potential for creation of a solid organ transplant consult line with dedicated therapy staffing
- Work with case management leadership to identify improvements that are feasible within time demands

Plan



In collaboration with ongoing efforts to optimize communication with primary teams, a project focusing on increasing physician footprint with acute case managers was designed. A single physician (Andrews) was the primary general consultation physician for the entire 2025-26 academic year, providing greater consistency with communication style and availability.

STUDY



Overall general consults increased significantly during period of single physician staffing even though original project was unable to be fully implemented.

Centralization of Intra-Departmental Physical Medicine and Rehabilitation Outpatient Referrals

Allison Bean, MD, PhD[1], Christopher Standaert, MD[1], Briana Kelly, MOT, OTR/L[1], Adam Stein, MD[2]

[1] University of Pittsburgh/UPMC, [2] Zucker School of Medicine at Hofstra/Northwell

INTRODUCTION

- ***The Department of Physical Medicine and Rehabilitation (PM&R) at UPMC:***
  - More than 50 outpatient providers
  - ~10 clinic locations within 40-mile radius
  - Over 450 intra-department referrals per year
  - Scope of practice highly variable between providers
  - Average wait time to see new provider for evaluation: 34±36 days
    - Varies widely between providers (average range: 4 to 124 days)

- ***Key responses from pre-intervention survey (n=47 responses):***

- ***Additional challenges identified by survey respondents:***
  - No centralized method for scheduling
  - Difficulty identifying/recalling appropriate staff to contact
  - Several steps required to identify best provider based on location/availability
  - Inability for staff to schedule patients at other clinical locations
  - Patients unable to reach staff to schedule
  - Long wait times/lack of providers for some services

OBJECTIVE & GOALS

Objective:
- Develop a centralized method for intra-departmental PM&R referrals for outpatient specialty services.

Goals:
- Reduce administrative/scheduling burden on referring PM&R providers
- Reduce time between referral and patient appointment with new provider

INTERVENTION

RESULTS

- Number of referral orders placed:

Graph showing average time to see new provider compared with previous

Graph showing responses to question: the Epic based referral system has made it easier for me to refer patients to my PM&R colleagues

Comments from providers about the new referral workflow:

CHALLENGES

- Some providers have struggled to adapt to new system ("Old habits die hard")

- System-wide Epic rebuild scheduled for May 2026 prevented ability to make updates to referral order and pool assignments due to freeze.

FUTURE DIRECTIONS

- Interim feedback from providers will enable refinement of referral orders post-launch

- Knowledge gained from intra-departmental referral process will be applied to increase efficacy of inter-departmental referrals received from non-PM&R colleagues

UPMC | REHABILITATION INSTITUTE

Streamlining Botulinum Toxin Visits in Pediatric Rehabilitation Clinics

Priya D. Bolikal MD[a,b], Brad G. Kurowski MD, MS[a,b,c], Jared Placeway MD[d]

[a]Division of Pediatric Rehabilitation Medicine, Cincinnati Children's, Cincinnati, OH, [b]Departments of Pediatrics and Neurology & Rehabilitation, University of Cincinnati College of Medicine, Cincinnati, OH, [c]James M. Anderson Center for Health Systems Excellence, Cincinnati Children's, Cincinnati, OH, [d]Department of Physical Medicine and Rehabilitation, MetroHealth / Case Western Reserve University, Cleveland, OH

Objective / SMART Aim *(Plan)*

SMART Aim Statement: Decrease median botulinum toxin procedure visit time from 42 minutes to 30 minutes by December 2025

Secondary goal: Improve or maintain physician and nurse satisfaction with clinic flow.

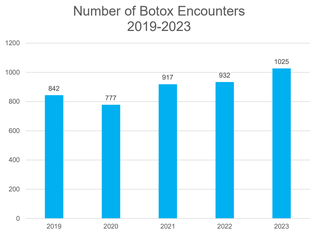
Global Aims:

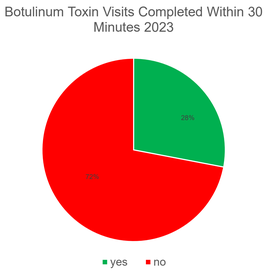
- Improve access
- Improve physician, nursing, and patient experience
- Minimize wasted time during visits
- Optimize safety
- Maximize time spent on patient care
- Increase efficiency

Background *(Plan)*

- Botulinum toxin injections are a commonly performed procedure in the division of Pediatric Rehabilitation Medicine for treatment of spasticity.

- Our growing patient population has led to access challenges and the need to improve efficiency in outpatient clinics.





Clinic structure has remained unchanged for decades.

General rehab clinics consist of a mix of new visits, follow up visits, and botulinum toxin injections.

New visits are scheduled for 60 minutes, follow up visits are 30 minutes, and botulinum toxin procedure visits are scheduled for 30 minutes.

Clinics frequently run behind and can feel chaotic for providers. Additionally, patients may experience long wait times.

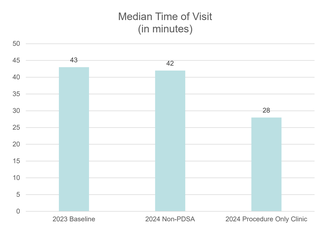
Prior Work *(Plan)*

Using principles of LEAN, we aimed to reduce procedure visit times, and performed pilot in 2024 with a single provider (Provider A) within our division.

Process Improvement Summary

Problem	Prior Process	New Process (PDSA)	Results
Procedure start time is delayed due to clinic running behind	Procedure visits were mixed into general clinics with other visit types.	Creation of "procedure clinics" and "Follow up/New visit clinics" in order to schedule patients with similar needs (botulinum toxin injection vs. follow up) together to take advantage of staff flow	Qualitative feedback showed an increase in staff satisfaction including physician, nursing, and child life. Quantitative results showed a decrease in injection visit time.
Time needed to prepare medication was inconsistent and sometimes longer than the procedure itself	Medication preparation room was not organized in a user-friendly way Only one nurse was assigned to clinic regardless of the number of procedures scheduled	Medication preparation room received a 5S reorganization Two nurses were assigned to procedure clinics	Qualitative feedback showed an increase in staff satisfaction. Quantitative results showed a decrease in injection visit time.

Pilot Results *(Plan)*



Data from pilot clinics (n=4 clinics), median procedure visit time decreased from 42 minutes to 28 minutes, and 50% more procedures were able to be scheduled during the 4-hour clinic period.

Subsequent PDSA, moved to "procedure hour" within a larger clinic so patients could receive follow up appointment and procedure on the same day.

This resulted in a mean procedure time of 34 minutes.

Method *(Do)*

For this cycle, we recruited a second pediatric rehabilitation provider (Provider B) to participate in pilot "procedure hour" clinics

Converted ~3 general rehabilitation clinics per month for each provider to pilot clinic templates.

	Provider A Template	
8:00	40 min follow up	
8:20		
8:40	40 min follow up	
9:00		
9:20	40 min follow up	
9:40		
10:00	40 min follow up	
10:20		
10:40	20 min break	
11:00	30 min Procedure	30 min Procedure
11:30	30 min Procedure	30 min Procedure

	Provider B Template
8:00	40 min follow up
8:20	
8:40	40 min follow up
9:00	
9:20	40 min follow up
9:40	
10:00	40 min follow up
10:20	
10:40	20 min Procedure
11:00	20 min Procedure
11:20	20 min Procedure
11:40	20 min Procedure

Summary of interventions:
- Implemented longer follow up visits (40 minute compared with prior 30 minute)
- Scheduled Botox visits in a group at the end of clinic with 2 different models (detailed above)
- Botox visits were scheduled for shorter lengths of time (15-20 minutes compared with prior 30 minute visits)
- Scheduled two nurses to be present during the procedure portion of clinic to assist with medication preparation and procedures
- Continued utilizing new organization of medication preparation room

Inclusion criteria:
- Botulinum toxin visits (Dysport or Botox)

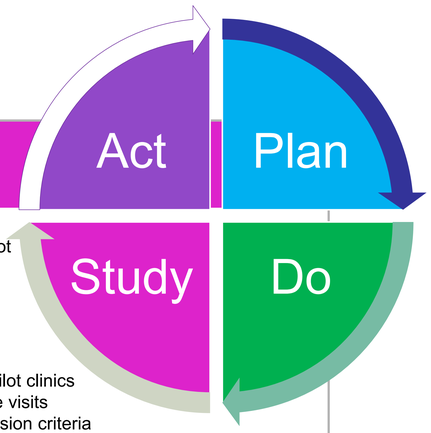
Exclusion criteria:
- Visits that involved medication administration for anxiolysis (For some patients, enteral midazolam is administered 20-30 minutes prior to procedure. In this case, visits are expected to be longer)
- Specialized procedures including phenol nerve blocks and ultrasound guided botulinum toxin injections that were intentionally scheduled for longer times

Results *(Study)*

Data was collected from July 2025-December 2025

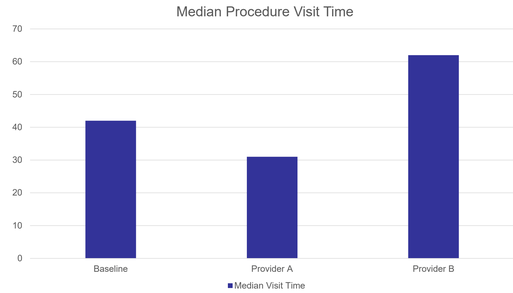
Note: Provider A was on maternity leave until mid-August, so data collection began after return. Additionally, Provider A's clinics ended 30 minutes early after return from leave reducing the number of available procedure slots to 2 per clinic.

Results *(Study)*



Provider A completed 8 pilot clinics with a total of 15 procedure visits
→ 10 encounters met inclusion criteria

Provider B completed 13 pilot clinics with a total of 34 procedure visits
→ 17 encounters met inclusion criteria



Median visit time for provider A improved to 31 minutes.

Median visit time for provider B did not improve and was higher than baseline at 62 minutes.

Though median visit time did not improve,
- Actual procedure times were short – in one clinic in which all 4 procedure visits occurred, Provider B completed 4 procedures in 66 minutes
- Provider B reported that she appreciated the flow of clinic separating follow up visits from procedures. She also reported that she was able to complete more of her documentation during her clinic time with this set up.
- Procedure appointments sometimes started late due to first part of clinic running behind
- Some procedure times may have been inflated due to delayed check out times that were manually recorded by nursing.

Future Directions *(Act)*

Next steps:

- Continue with piloted clinic model for Provider A
- Increase number of clinics with this setup for Provider A
- Explore additional clinic scheduling models for Provider B
- Determine factors leading to delays with non-procedure portion of clinic for Provider B
- Expand pilot clinics to other providers

From Order to Action: A Quality Improvement Initiative to Reduce Wait Times for PM&R in Outpatient Settings

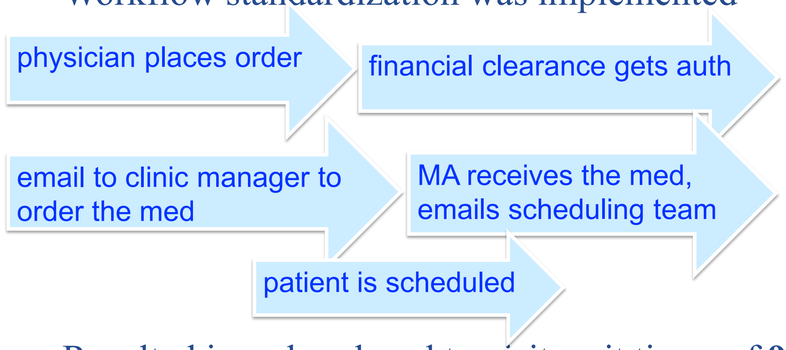
Alexis Coslick DO[1] Mohammed Emam MD[1] Erik Hoyer MD[1] Bingqing Ye[1] Kelly Daley[1] Mohamed Soliman[1] Amna Haider MD[1] DJ Kennedy MD[2]

[1]Physical Medicine and Rehabilitation Johns Hopkins University School of Medicine Baltimore, Maryland

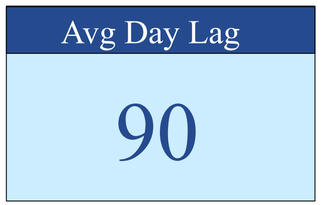
[2]Physical Medicine and Rehabilitation Vanderbilt University School of Medicine Nashville, Tennessee

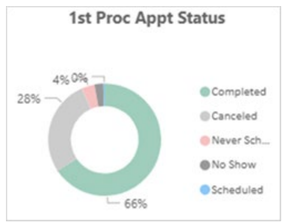
Background

- Procedures remain a common treatment option
- Previously patients arrived in clinic for procedures lacking medications available and pre-authorizations
- Workflow standardization was implemented



- Resulted in order placed to visit wait times of **90 days** with **66 % completion rate** in 2024





"The breakdown in communication … plays a big part."

"Providers being scheduled months out … There are instances where … the patient then cancels their appointments."

"Patient not updated during process calls clinic multiple times for updates, time consuming."

Aim

To expedite the time from deciding to perform a procedure to the patient undergoing the procedure.

Objectives

- Reduce wait times by 33% (to 60 days)
- Increase completion rate from 68% to 75%

Interventions

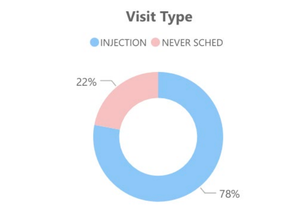
- Baseline data retrieval with help from informatics team
- Interview those involved in the steps to obtain information about barriers and inefficiencies

- **Streamline existing process**
  - **Add on slots for injections**
  - **Teams file to aid communication**

Patient Name	Order Date	Provider	Open Days	Financially Cleared?	Injection Appt Location	Med Ordered	Med Arrived	Med Arrival Date	Med Details	Status	First Appt
TEST Patient 1	10/23/2025	Dr. Cordova	29	Yes	GSS	Yes	Yes	11/17/2025		In Progress	
TEST Patient 2	10/24/2025	Dr. Manor	28	Yes	GSS	Yes		11/17/2025	ABC	In Progress	
TEST Patient 3	11/4/2025	Dr. Coslick	17	Yes	MEYER	No					
TEST Patient 4	10/28/2025	Dr. Emam	24	Yes		No					
TEST Patient 5	11/5/2025	Dr. Manor	16	Yes	ODEN	Yes					
TEST Patient 6	10/27/2025	Dr. Coslick	25	Yes	GSS	Yes	Yes	11/14/2025			

Outcome

- Wait times reduced to **47 days** from September to November 2025
- Completion rate improved to **78%**



Impact

- Expedited patient care
- Reduction in lost revenue
- Improved teamwork, communication, and collaboration

Future Direction

- Direct physician-MOC system
- Continue add on slots
- Make applicable to other divisions in PM&R
- Continue to use actionable oversight to drive improvements

Cost stratification of lumbar surgery patients undergoing rehabilitation based on disability outcome measures

Dr. Roger De la Cerna

Hospital Nacional Edgardo Rebagliati Martins, Peru

- External mentor: Dr. Eric Wisotzky
- Internal mentor: Dr. Nives Santayana

INTRODUCTION

Lumbar spine surgery (LSS) has increased substantially in recent years, yet many patients continue to experience persistent pain, disability, and poor return-to-work outcomes. Disability in these patients is commonly assessed using the Roland Morris Disability Questionnaire (RMDQ) and Oswestry Disability Index (ODI), although each tool is better suited to different severity levels. LSS patients often become "high-cost" due to ongoing disability and high healthcare utilization, yet rehabilitation costs remain understudied—especially in Latin America—prompting this study's cost stratification analysis at a Peruvian referral hospital.

METHODS

Cross-sectional descriptive study using medical records and in-person functional-disability assessments (RMDQ and ODI) of all the patients enrolled in the Occupational Spine Rehabilitation Program (OSRP) at Rebagliati Hospital (HNERM) in September 2025. Participants were adults with a history of LSS undergoing rehabilitation. Data extracted included sociodemographic, clinical, functional-disability, work-disability, and rehabilitation service–utilization variables. Patients were stratified into high-cost and non–high-cost groups based on functional-disability scores, and rehabilitation-related expenses were estimated using EsSalud's fee schedule and temporary disability–benefit calculations.

RESULTS

A total of 63 LSS patients were evaluated; the median age was 58 years and 54% were female. Herniated nucleus pulposus, spinal stenosis, and foraminal stenosis were the most frequent diagnoses, with a median pain score (VAS) of 6/10 and over half reporting pain radiation to the lower limbs. Patients received a median of 46 PT sessions, 10 OT sessions, and 7 psychological sessions, with a median program length of 689 days and 254 days of accumulated work-disability leave. Significant functional disability was identified in 65.1% of patients using the RMDQ and 92.1% using the ODI.

Table 1. Characteristics related to significant disability according to RMDQ score (n=63).

	Significant disability according to RMDQ score		P*
	No (n=22) n (%)	Yes (n=41) n (%)	
Age (years)*	60 [54-65]	57 [51-63]	0.634**
Sex			0.550
Male	9 (40.9)	20 (48.8)	
Female	13 (59.1)	21 (51.2)	
Level of work intensity	3 [2-4]	2 [1-3]	0.351
Herniated nucleus pulposus			0.833
No	7 (31.8)	12 (29.3)	
Yes	15 (68.2)	29 (70.7)	
Spinal stenosis			0.643
No	11 (50.0)	18 (43.9)	
Yes	11 (50.0)	23 (56.1)	
Foraminal stenosis			0.446
No	14 (63.6)	22 (53.7)	
Yes	8 (36.4)	19 (46.3)	
Vertebral fracture			**0.018†**
No	16 (72.7)	39 (95.1)	
Yes	6 (27.3)	2 (4.9)	
Pain severity (VAS)	5 [4-6]	6 [4-7]	0.111
Pain radiation to lower limbs			**0.017**
No	15 (68.2)	15 (36.6)	
Yes	7 (31.8)	26 (63.4)	
Muscle weakness in lower limbs			0.096
No	17 (77.3)	23 (56.1)	
Yes	5 (22.7)	18 (43.9)	
Number of PT sessions	42 [36-69]	52 [25-93]	0.299
Number of OT sessions	9 [4-13]	10 [5-14]	0.756
Psychological therapy sessions	7 [1-11]	7 [1-15]	0.439
Rehabilitation care time (days)	697.5 [309-987]	689 [450-1283]	0.604
Accumulated work disability time (days)	231.5 [153-393.5]	259 [58-399]	0.574

Table 2. Comparison of rehabilitation and disability-related expenses between potential low-cost and high-cost patient types (according to RMDQ score) (n=63).

	Potential patient type according to the RMDQ score	
	Low-cost (n=22)	High-cost (n=41)
Total expense for PT (USD)	294 [252-483]	364 [175-651]
Total expense for OT (USD)	45 [20-65]	50 [25-70]
Total expense for psychological therapy (USD)	70 [10-110]	70 [10-150]
Total expense for temporary disability benefits (based on daily minimum wage) (USD)	2546.5 [1683-4328.5]	2849 [638-4389]

The RMDQ was used for cost stratification because it displayed greater score variability than the ODI, which classified nearly all patients into a single disability category. Median total expenses associated with rehabilitation service–utilization were similar between RMDQ-based non–high-cost and high-cost patient types; however, total PT expenses showed a noticeable difference (294 USD vs. 364 USD), consistent with a higher number of sessions in the high-cost group. Costs for OT and psychological therapy were comparable between groups. Total expenses for temporary disability benefits exhibited similar medians, with wider variability in the high-cost group.

CONCLUSIONS

The RMDQ showed stronger discriminatory capacity than the ODI, suggesting it could be used at program entry to identify high-cost LSS patients. Early stratification may allow clinicians to prioritize these patients and reduce prolonged work-disability–related expenses. Although most clinical and service-utilization variables were similar across groups, higher disability was linked to greater socioeconomic burden, reinforcing the value of targeted rehabilitation strategies.

Atrium Health

Wake Forest University School of Medicine

Atrium Health Carolinas Rehabilitation
Department of Physical Medicine & Rehabilitation

Faculty Development Workshops

Sima A. Desai, MD[1], Internal Mentor: Kelly Crawford, MD [1], External Mentor: Benjamin Seidel, DO[2]
[1] Atrium Health Carolinas Rehabilitation, Charlotte, NC [2] UT Health San Antonio, San Antonio, Texas

Introduction

BACKGROUND

- Annual surveys showed that faculty wanted more exposure to faculty development opportunities for general career enhancement and progression.
- Currently, we have only 1 faculty development workshop per year in the topic of bias training
- **Goal was to develop 2 faculty development workshops of topics that were of most interest to faculty**

OBJECTIVE

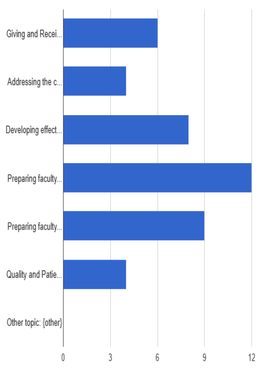
- Develop 2 Faculty Development Workshops to occur during the lunch hour based on survey feedback for the best timing
- 1 hour workshops from 12:00-1:00 PM

METHODS

- Created a pre- and post-program survey distributed to the faculty to gauge current satisfaction, interest, topics of interest, barriers, and any additional feedback regarding future faculty development suggestions
- Pre and Post Surveys for each faculty development workshop were completed to assess usefulness and effectiveness of the topics
- 2 one hour workshops occurred over one quarter period

Pre-Survey

Topics of Interest?



Topic Options were as follows

- Giving and Receiving Feedback
- Addressing the challenges of faculty burnout and promoting well-being
- Developing effective mentoring relationships with residents and other faculty
- Preparing faculty for leadership roles
- Preparing faculty for research opportunities
- Quality and Patient Safety

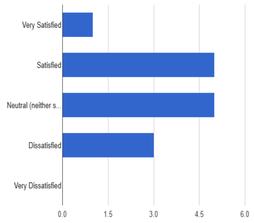
Pre-Survey – The two most popular topics were preparing faculty for leadership roles and preparing faculty for research opportunities

Post Survey –- addressing the challenges of faculty burnout, preparation of faculty for leadership roles, and research opportunities were the 3 most popular topics requested

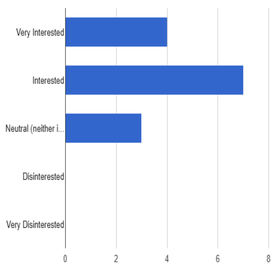
Survey Results

Pre-Survey

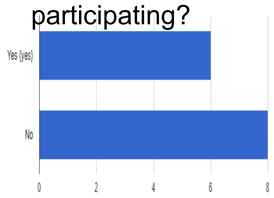
How satisfied are you with current faculty development?



How interested are you in participating in workshops?

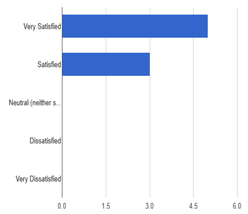


Do you anticipate any barriers to participating?

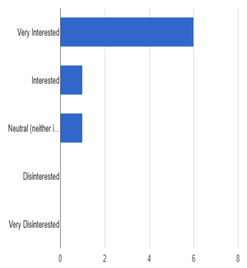


Post Survey

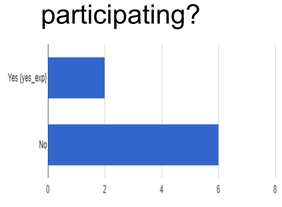
How satisfied were you with 2 workshops?



Interest in participating in future workshops?

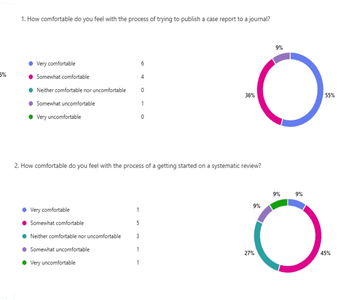


Do you anticipate any barriers to participating?



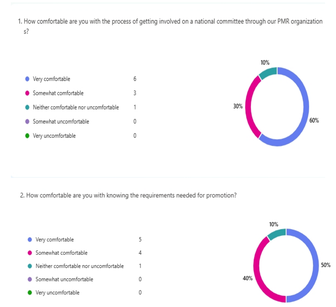
Workshop on Research Pre-survey

Workshop on Research Post Survey



Workshop on Leadership Pre Survey

Workshop on Leadership Post Survey



Pre-Survey Feedback

Barriers to Participation	Other suggestions for enhancing career
Care Team	Procedural workshops
Time	Individualized career plan
Clinical Duties	Brief emails with faculty development topic & updates on projects to be involved in
	Research funding assistance

Post-Survey Feedback

Barriers to Participation	Other suggestions for enhancing career
Care team	Small group breakout sessions
Time	Research funding assistance
Clinical Duties	Early Career Mentor Program

Discussion

- Pre and Post Surveys found the workshops were generally well received and helpful
- Pre and Post Survey results from the Research Opportunities showed improved comfort seen in how to approach case report publications, systematic reviews, and accessing CTSI resources
- Pre and Post Survey results from the Leadership topic showed improved comfort with involvement on national committees and the internal promotional process
- Other topics of suggestion were for research funding, early career mentorship program, and procedural workshops
- Total of 11 faculty participated in both workshops which were all inpatient faculty this year

Conclusion

- 2 Faculty Development workshops were successfully attended on the topics of research opportunities and leadership development by 11 faculty
- We hope to attract more faculty in the future as the primary attendance was by inpatient physicians
- We hope to add faculty from our outpatient and outlying inpatient rehabilitation sites in the future as well
- Time will remain a barrier as this program occurs during the lunch hour of the work-day
- This program provides a feasible option to continue quarterly faculty development workshops for all faculty and implement a year-long program to enhance career development

References

1. Accreditation Council for Graduate Medical Education in Physical Medicine and Rehabilitation. (2025). *Common Program Requirements*.

Contact Info

- Sima.Desai@advocatehealth.org

Acknowledgements

- We would like to thank the Department of Physical Medicine and Rehabilitation at Atrium Health for supporting this project. I would also like to thank both my internal and external mentor for their guidance throughout this process.

Develop a Physical Medicine and Rehabilitation/Physiatry Residency Program in Nepal within 3 years.

Dr. Raju Dhakal, Medical Director, Spinal Injury Rehabilitation Center and Program Director – Physical Medicine and Rehabilitation Fellowship, Patan Academy of Health Sciences, Nepal
External Mentor – Prof. James Sliwa
Internal mentor - Prof. Balakrishnan M Acharya

1. PLAN

1a. Problem statement – People in Nepal face significant challenges to get appropriate rehabilitation services.

1b. Supporting data – The WHO estimated in 2021 that 16% of the total world population and 2.2 % of Nepal's 30 million people are living with disability. There are only 2 actively practicing physiatrists in the country and no training programs. The Nepal Ministry of Health and Population (MoHP) has identified the huge unmet need of rehabilitation services including Physiatrists.

1c. Statement of Aim – To develop a Physical Medicine and Rehabilitation/Physiatry residency program in Nepal within 3 years.

✓ **1d. Root cause –** Why do people in Nepal not receive adequate rehabilitation services?

✓ There is poor recognition of the benefits of rehabilitation by hospitals and medical schools.

✓ Doctors who seek training in Physiatry have had to leave Nepal to get it.

1e. Why there is no PM&R residency program in Nepal?

✓ Lack of advocacy and understanding for Physiatry in Nepal by academic and clinical institutions.

✓ Inadequate support from Medical Education Commission (MEC), Ministry of Education, Science and Technology (MEST).

✓ Inadequate faculty as required by MEC/Nepal Medical Council (NMC) to run a residency.

✓ Lack of financial resources to support Physiatry residency training

NEPAL

PATAN ACADEMY OF HEALTH SCIENCES

SPINAL INJURY REHABILITATION CENTER

SIRC-PAHS Team

2. ACTIONS (DO)

Pathway to start a Physiatry Residency in Nepal

2.1a. Academic, and Clinical Institutions

✓ Met the Vice Chancellor, Academic Dean/Registrar/Rector and other faculty/academic administration of Patan Academy of Health Sciences (PAHS)

✓ Series of presentations from 2023 to explain the scope and need of Physiatry, on national and international levels.

✓ After careful consideration of faculty and capacity of academic institutions, agreed to develop a 2-Year post-residency Fellowship Program.

✓ MoU between Spinal Injury Rehabilitation Centre (SIRC) and Patan Academy of Health Sciences was signed in 2023 to run a Fellowship Program.

✓ One Physiatrist appointed as a Faculty and Program Director from SIRC at PAHS

✓ Competency-based Fellowship curriculum was developed and was approved by the Academic Council of PAHS.

✓ Two Fellows in Physiatry enrolled in a 2-year Fellowship Program and will complete training in 2026

✓ Planning continuation of Fellowship Program and development of a full Physiatry Residency Program to meet the national needs and standards.

2.1b. National Regulatory Agencies

✓ Met with Medical Education Commission (MEC) and Nepal Medical Council (NMC) to inform about Physiatry and unmet needs in Nepal

✓ MEC and NMC approval obtained. Funding discussed.

✓ Funding sources had to be secured by PAHS and SIRC .Public funding potentially available.

✓ Due to lack of Nepali physiatric faculty, PAHS faculty supported the teaching program in person, and international physiatry faculty virtually.

✓ On completion of training, the fellows can become faculty on meeting PAHS criteria (research publications and of work experience).

2.1c. Development Partners, International and National level

✓ The Fellowship Program started with a grant from International Development, Aid and Collaboration of the Royal College of Physicians and Surgeons of Canada

✓ Further support was from Spinal Cord Injury Collaboration (SpiNepal), UBC, Vancouver, Canada; Global Academy of Physiatry

✓ Continuous international mentoring, academic and financial support sought until our program achieves sustainability.

3. FUTURE (CHECK AND ACT)

✓ In the fiscal year 2028/29, a formal Residency Program will be started in Nepal with recruitment of current Fellows as faculty.

✓ A 3-year Physiatry Residency Program continues at PAHS, fully funded within Nepal.

✓ Physiatry Department/Units open in other academic institutions or universities.

✓ Root cause analyses to be done as part of Quality Improvement (QI) cycle for the Residency Program, if problems arise.

Rehabilitating the Review:
Evaluation and Intervention Aimed at Improving Numbers and Timeliness of Faculty Evaluations for Residents in a PM&R Residency Program

Kaile Eison,DO

Background

End of rotation faculty evaluations of residents are essential for providing feedback, tracking progress, and ensuring competency development. Low completion rates can impact resident learning, hinder accurate performance assessments, delay institutional reporting. In 2023-2024: 322 requests for faculty evaluations of residents across 7 clinical training sites; 43.5% completion; 30% on-time.

Sampling

79 total core teaching faculty were identified with potential to evaluate residents). Exclusion criteria: 23 non-NYP faculty, 3 on parental leave, 1 quit, 10 offsite at NYP campuses, 4 neurologists, 9 do not work with residents, 1 program directors ⇒ 28 possible faculty members to evaluate. Surveyed bottom 25% of responders in the 2023-24 academic year (8 faculty members), which correlated to all faculty members </= 55% completion rate.

Aim

Increase number and timeliness of faculty completing end-of-rotation resident evaluations.

Interview Questions

• What are the barriers you perceive to the current process?	• Adequate alerts?
• Do you feel there are barriers with the process of completion?	• Do you know what the content is used for? If not, would it be helpful to know? If so, are you more likely to complete the evals knowing the import?
• Do you feel you have adequate training in how to complete the evals?	• Would an incentive make a difference?
• Do you have adequate time for completion?	• 2 easy changes

Plan

Data and suggestions were obtained from the 8 lowest-completion attendings via individualized calls; provide support/training; monitor real-time rates.
Suggestions have been made to departmental and residency program leadership to implement several of the suggestions, including, but not limited to embedding feedback surveys into an email (bypassing the evaluation site), dedicated time during steering committee and faculty meetings for completion of evaluations, and including more patient case based content.
Effectiveness will be evaluated in the 2025-2016 academic year.

Optimizing Revenue from G2211 Modifier

Stephen Hampton, MD[1], Lori Pray, MBA, FACHE[1], Gary S. Clark, MD[2]
1 Department of Physical Medicine and Rehabilitation, University of Pennsylvania, Philadelphia, Pennsylvania
2 Department of Physical Medicine and Rehabilitation, Case Western Reserve University/Metro Health Medical Center, Cleveland, Ohio

Plan

Starting January 1, 2024, the Centers of Medicare & Medicaid Services (CMS) reduced the conversion factor for reimbursement of RVUs. Simultaneously, a G2211 modifier was introduced to be used when a provider has a long-term relationship with a patient and is either 1) providing all care needs like a PCP or 2) providing longitudinal care of a serious or complex medical condition. This modifier is particularly relevant to PM&R practices given the emphasis on managing chronic, disabling conditions. In our department, use of the G2211 modifier has been limited resulting in missed revenue. We suspect there are two primary reasons for limited use of the G2211 modifier: 1) awareness of when it is appropriate to use and 2) forgetting to add during a busy clinic day.

Do

We aimed to increase the use of the G2211 modifier to at least 20% of return visits with the same provider. Education regarding the G2211 modifier was provided at Bi-Monthly Faculty Meetings and our annual Faculty Retreat. An optional alert suggesting consideration of the G2211 modifier was added to visits when 1) it is a return visit and 2) no procedure codes have been billed. Adding this required discussion during our monthly Rehab EMR Governance committee, which I chair as the Chief Medical Information Officer (CMIO) of PM&R.

Study

We monitored the use of the G2211 modifier from January 2024 through December 2025.

Act

Educational presentations had an impact on G2211 usage, however the optional reminder at chart closure had a much greater impact. The months following this reminder have seen an **average increase in G2211 modifier use of 54% and revenue of $6,875.90 per month**. If this trend holds, it would result in **approximately $80,000 in additional department revenue per year** Individual provider analysis demonstrated the marked uptick in G2211 usage for the majority. Targeted outreach to the provider who continue to underutilize this modifier is warranted.

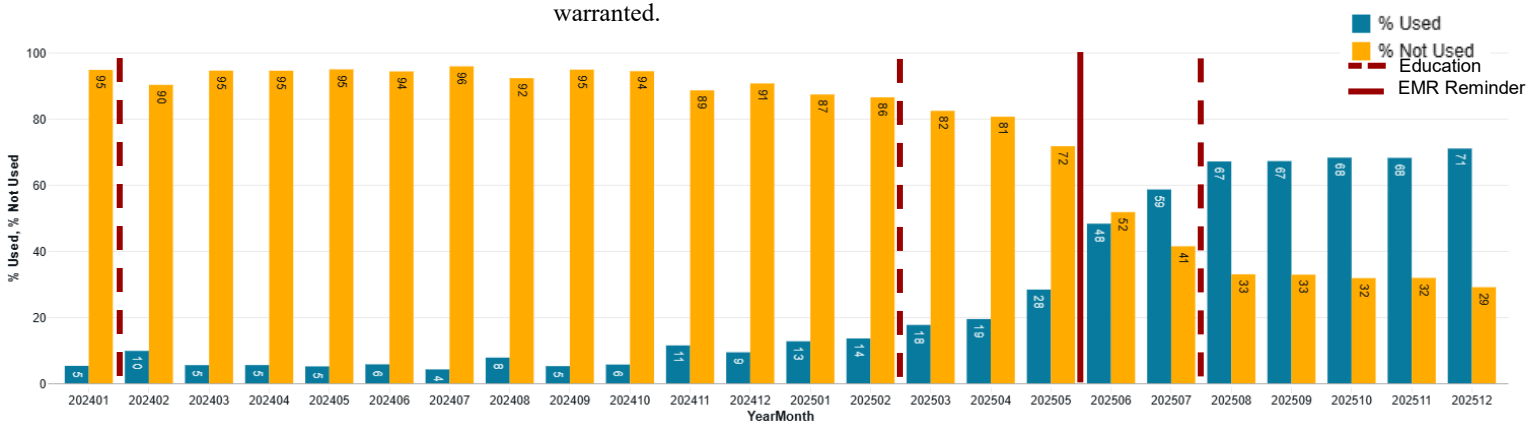


Figure 1. Percent Usage of G2211 Modifier for Return Patient Visits. In January 2024, an email communication was sent to all faculty encouraging use of G2211 modifier without measurable impact. G2211 was discussed during a faculty meeting in March 2025 and conversations following AAP 2025 while this project was in development. An EMR reminder was deployed in mid-June 2025 and discussed in the following faculty meeting.

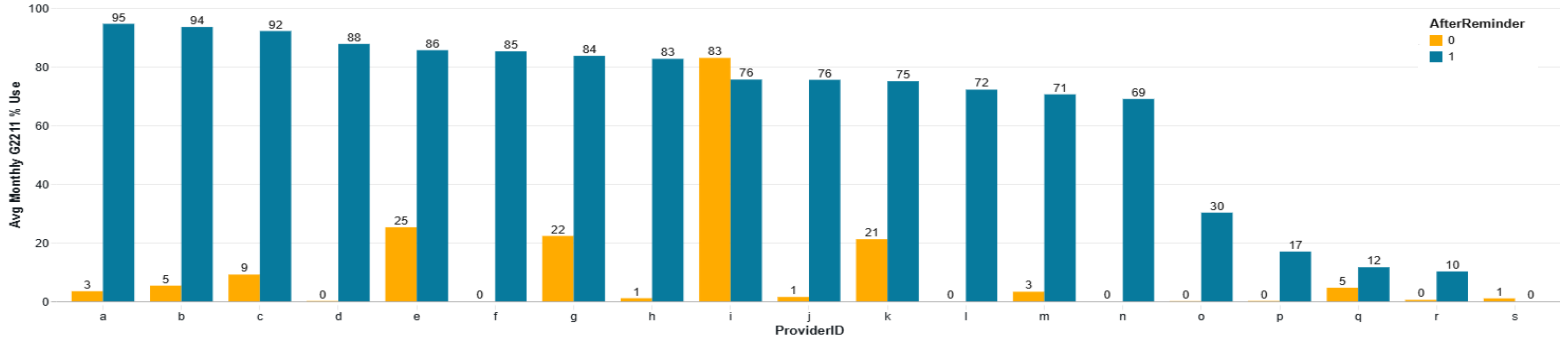


Figure 2. Percent Usage of G2211 Modifier for Return Patient Visits Per Provider. Providers were excluded from individual analysis if they had <5 visits per month on average during the study period**.** 15 of 19 providers increased to the 20% target with the majority vastly exceeding this. 13 providers increased their usage by >50%. There was one notable individual with high pre-reminder usage, who had a relative decrease following the reminder and 5 individuals with continued relative low usage of G2211.

Building a Sustainable PM&R Residency Infrastructure Through Stakeholder Alignment, Workflow Redesign, and Early Implementation

Author: Jennifer Hankenson, MD **Internal Mentor: Chad Washington, MD** **External Mentor: Christopher Garrison, MD, MBA**
Institution: University of Mississippi Medical Center

📘 INTRO / OBJECTIVES

UMMC previously attempted to establish a PM&R residency in 2018 but was unable to proceed due to limited stakeholder alignment, insufficient rotation structure, and lack of administrative infrastructure.

In 2025, a renewed initiative using Quality Improvement (QI) methodology was launched to evaluate and rebuild the educational, administrative, and clinical framework necessary to support residency accreditation.

Objective:

To build a sustainable PM&R residency infrastructure by December 2025 by strengthening stakeholder engagement, establishing clinical rotations across 10+ training domains, developing administrative pathways (funding + program coordinator), drafting the ADS application, and initiating early implementation workflows.

🧪 METHODS

A PDSA Cycle 1 framework guided development:

PLAN

- Identify cause of the 2018 failure, map institutional needs, design stakeholder strategy, outline curriculum domains, and create administrative workflow.

DO

- Conducted 16 structured stakeholder meetings across 7 departments (Neurology, Emergency Medicine, Pediatrics, Neurosurgery, NeuroSpine, MMRC, PM&R).
- Confirmed rotations in Neurology (consults, stroke, ICU), Emergency Medicine, Sports Medicine (pending), Pediatrics (Clark Center + outpatient), and NeuroSpine (procedures, MSK, EMG).
- Redesigned medical student rotation.
- Established Program Coordinator pathway and confirmed UMMC funding.
- Began drafting ADS application.

STUDY

- Stakeholders increased from 3 → 16 with ~95% support.
- Curriculum map expanded beyond target (10+ domains).
- Administrative barriers from 2018 addressed.
- Enhanced interdepartmental alignment.

ACT

- Finalize pediatric and sports medicine rotations.
- Build didactic schedule and evaluation system.
- Complete ADS application for January '26 GMEC review.
- Prepare Cycle 2 (implementation & evaluation tools).

BEFORE QI (2018 – Early 2025)	AFTER QI (Mid–Late 2025)
❌ **Stakeholders** • Only 3 active stakeholders	✅ Stakeholders • 16 engaged stakeholders across 7 departments • Strong cross-specialty alignment
❌ **Clinical Rotations** • No Emergency Medicine • No Sports Medicine • No Pediatrics • No NeuroSpine/EMG • No Neurology partnership	✅ Clinical Rotations Secured • Emergency Medicine (confirmed) • Neurology Stroke/ICU/Consults (confirmed) • NeuroSpine MSK/EMG/Procedures (confirmed) • Pediatrics: Clark Center + outpatient + inpatient consults (in progress) • Sports Medicine (connection established, rotation in progress)
❌ **Administrative Barriers** • Funding unclear • No program coordinator pathway • No ADS preparation • No GMEC-ready structure	✅ Administrative Infrastructure • Residency funding secured • Program Coordinator pathway formalized • ADS draft initiated • GMEC review scheduled for January 2026
❌ **Failed 2018 Attempt** • No sustainable momentum • No workflow or governance structure	✅ Leadership Structure • Sustainable system-wide momentum
❌ **Educational Gaps** • Curriculum not mapped • MSK/Ultrasound/EMG unstructured • Outdated student rotation • No pipeline development	✅ Educational Infrastructure • 10+ training domains mapped • Inclusion of MSK, Ultrasound, EMG, Spasticity, Procedures • Redesigned medical student rotation • PM&R interest group engagement strengthened

Figure 1. Before vs After QI System Transformation

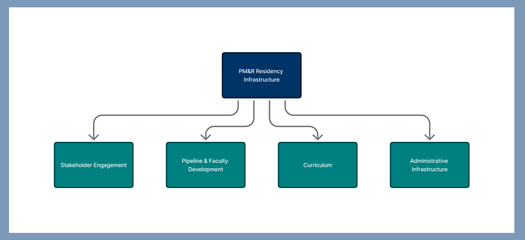


Figure 2. Residency Infrastructure Tree Diagram

Figure 3. Stakeholder Engagement Growth (2018 vs 2025)

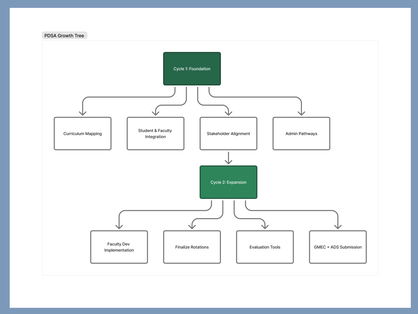


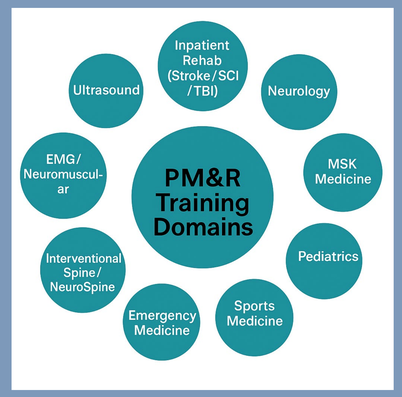
Figure 4. PDSA Cycle 1: Residency Infrastructure Development Vs Planned PSDA Cycle 2: Expansion

📊 RESULTS

- Stakeholder engagement improved 433% (3 → 16).
- 10+ core training domains established.
- Confirmed Emergency Medicine rotation.
- Initiated Sports Medicine collaboration.
- Defined pediatric rehab pathway.
- Confirmed UMMC residency funding and Program Coordinator process.
- Medical student rotation streamlined.
- ADS draft underway.

🧠 CONCLUSION

By applying a structured QI process, UMMC was able to overcome barriers that previously limited residency expansion and build a viable foundation for PM&R training. Early stakeholder alignment, thoughtful curriculum design, and clear administrative pathways were key drivers of progress. The resulting framework serves as a model that can be replicated by institutions facing similar challenges in developing new residency programs.



📚 CITATIONS

- Grover L, Garstang S, et al. PM&R Residency Quality Improvement and Research Curriculum: Design and Implementation. Am J Phys Med Rehabil. 2021.
- AAP. Strengthening PM&R Departmental Research: Insights From AAP Research Consulting Program. 2023.
- Garstang SV, et al. Designing the OSCE to Cover All Major Areas of PM&R Over 3 Years. Am J Phys Med Rehabil.
- ACGME. Program Requirements for Graduate Medical Education in PM&R. 2024 update.
- UMMC Internal Communications supporting residency development, 2025.

Utilizing the Epic Narrator to Streamline the Injection Process in an Outpatient Musculoskeletal Clinic

Donald Kasitinon, MD[1]
Internal Mentors: Amanda Molina, MHA[1] and Ankit Patel, MD[1]; External Mentor: Gerard Francisco, MD[2]

[1]The University of Texas Southwestern Medical Center (Dallas, Texas)
[2]UT Health Houston (Houston, TX)

Background

The University of Texas Southwestern Medical Center (UTSW) outpatient musculoskeletal clinic injection procedure workflow involved multiple steps and lacked standardized documentation of the entire procedure workflow including one-step medication ordering which allow clinicians to document a medication administration in one step and in real time. As a result, providers and staff had to document across several tabs within the encounter. Clinical staff would pend medication orders in advance for provider review and during the injection visit they would need to record medication NDC, lot number, and expiration date in the Medication Administration Record (MAR).

During a high volume, fast-paced clinic day, these tasks were not always completed in real time and lead to breakdowns in the information being documented. Additionally, any missing information or mistakes resulted in emails from the revenue cycle department with instructions to retrospectively correct the documentation, adding additional time spent outside of direct patient care.

The Procedure Narrator tool in EPIC allows for customization and integration of toolboxes that include frequently used medications for injection procedures. Providers and clinical staff can easily access the Narrator to select and document medication administration in a single, streamlined step, ensuring real-time accuracy. By automatically logging medication details such as NDC, lot numbers, and expiration dates directly into the Medication Administration Record (MAR), the Narrator reduces the risk of errors and omissions. Minimizing the need for retrospective corrections typically prompted by the revenue cycle department, thereby decreasing documentation-related burdens on staff and providers.

Aim Statement

The goal of this Quality Improvement (QI) project is to enhance clinic efficiency and reduce documentation errors through customization of the Procedure Narrator tool for injection procedures by November 2025. By tailoring the tool to meet the specific requirements of injection procedures, we aim to streamline workflows, eliminate redundancies, and support real-time, accurate documentation, ultimately improving both staff satisfaction and patient care outcomes

Design

Collaborated with Clinical Informaticist and Epic analyst team to tailor and implement the Procedure Narrator tool in Epic to support the medication order/documentation process for injection procedures.

The Procedure Narrator provides the team with a single activity in Epic to document injection procedures. The narrator contains three key elements:

- One-step medications so clinicians can document the administration of the 14 most common medications in one step and in real time
- A narrative of all actions that take place during the procedure encounter including procedure start and end times within the Event Log
- Flowsheets for vitals and pain assessment

Desired outcomes included decreasing charting time and medication documentation errors and enhancing provider and staff satisfaction, visit volumes per session, and wRVUs.

- Measured provider and staff satisfaction level of injection procedure workflows through pre and post implementation satisfaction surveys.
- Measured clinic volumes, number of revenue cycle emails requesting corrections pre and post implementation of Procedure Narrator tool.

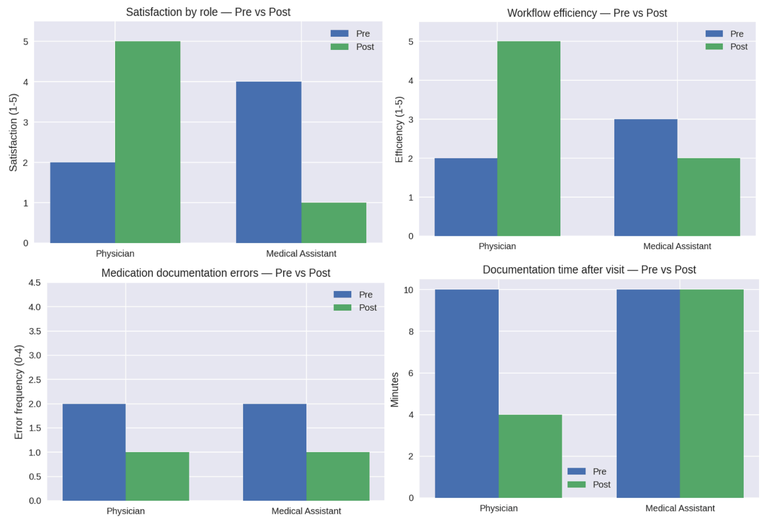
Results

Pre- and Post Implementation Satisfaction surveys for provider and medical assistant:

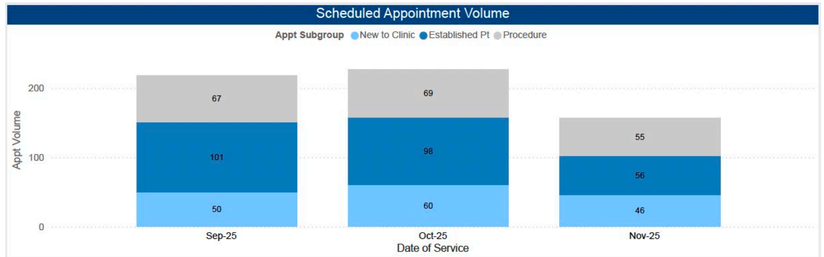
- Provider satisfaction of the process and perception on workflow efficiency increased, while these parameters decreased for the medical assistant.
- Medical documentation errors were perceived to be less by both the provider and medical assistant.
- Post-visit documentation time: provider improved from 5–10 min to <5 min; Medical Assistant remained at 5–10 min.
- Billing clean-up improved, email frequency moved from “Occasionally” to “Rarely” for both roles, and medical assistant’s weekly time correcting billing-identified errors improved from 30–60 min to <30 min.
- Provider burnout impact improved from “Significantly contributes” to “Slightly contributes”, and available patient care time shifted from “Significantly reduces” (pre) to “Slightly increases” (post).

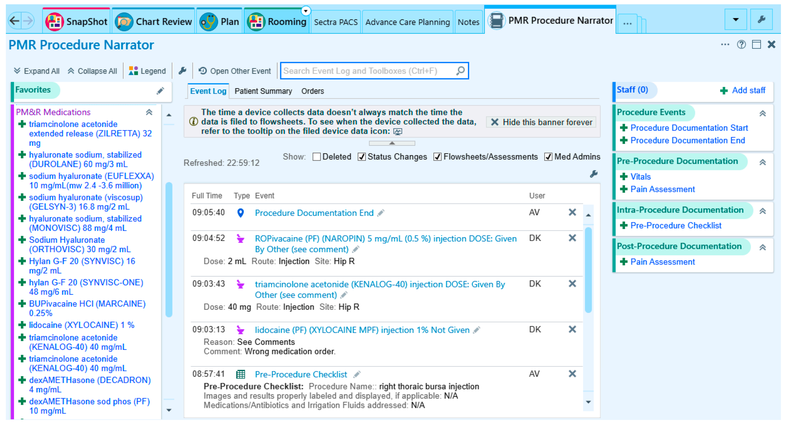
Number of Revenue Cycle Emails Received:

- Pre-Implementation (Average per Week): September- October 2025 1 to 2 discrepancy emails
- Post- Implementation (total): November 2025- 2 emails, December 2025- 3 emails



Appointment volumes pre- and post-implementation of the procedure narrator: In September 2025, there were 218 visits, and in October 2025, visits slightly increased to 227. Following the implementation, November 2025 recorded 157 visits. It's important to note that the provider was on vacation for a week in November, which meant that the average number of visits per clinic session remained consistent despite the overall decrease.





Discussion

- Provider experience improved substantially, but medical assistant experience worsened on workflow and clinic flow.
- The Procedure Narrator tool seemed to decrease the documentation burden for the provider and did the opposite for the medical assistant. This likely represents a transfer of the medication documentation burden from the provider to the medical assistant. Additionally, the process required the medical assistant to remain in the patient room the entire procedure visit which decreased available time to manage patient throughput and maintain clinic flow.
- Documentation time after the visit did seem to decrease with the Procedure Narrator, but clinic volumes remained relatively unchanged. This is likely due to the small sample size of only one provider and the decrease in available clinic time due to the provider being out of the office over the Thanksgiving holiday.
- Medication record discrepancies remained about the same post-implementation of the Procedure Narrator which can be looked at as a positive given the troubleshooting usually expected with a new process.

Conclusions

- The Procedure Narrator is a single user-friendly activity that streamlines procedure documentation of medications administered, and injections performed at the University of Texas Southwestern Medical Center (UTSW) outpatient musculoskeletal clinic.
- Overall, the Epic Narrator appears to be a promising tool to optimize administrative tasks associated with injection procedures in our outpatient musculoskeletal clinic. There is some fine tuning to be done, however, and the post-survey results emphasize the importance of taking into account how new processes may affect the role of all stakeholders.

Future Directions

- Continue utilizing Procedure Narrator while no longer requiring the medical assistant to stay in the room once initial documentation has been completed. Procedure end time would be logged when the physician leaves the room.
- Addition of new toolboxes to the Procedure Narrator to incorporate imaging orders
- Analyze impact to billed collections and patient experience to analyze the metrics with and without the Epic Narrator.
- Expanding Procedure Narrator to additional providers and implementing for a longer period will increase the sample size and clarify any other positive and negative effects in clinic flow utilizing the Narrator.

Improving Return-to-Rehab Rates after an Emergent Transfer

Michael Kryger MD, MS

Penn State Health, Penn State Health Rehabilitation Hospital

Mentors: Prateek Grover MD, PhD and James McDeavitt MD

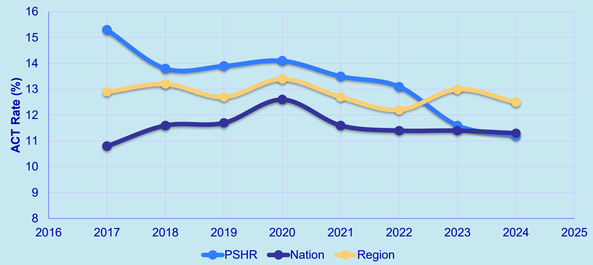
Problem

Our facility is a stand-alone inpatient rehabilitation hospital (IRF) that is a joint-venture partnership between a for-profit corporation that specializes in post-acute care, and a large academic health system, which includes a level 1 trauma center as our primary patient source. We have historically had a relatively high acute care transfer (ACT) rate compared to national and regional averages. While several interventions have taken place over the years to reduce ACT rates, we are still finding instances in which patients are sent out for a specific request to the Emergency Department (ED), and the patient is admitted without the opportunity to review the case to potentially return to rehab. In discussions with Emergency Department leadership, they note that their ED Physicians are too busy to figure out who to contact at the Rehab hospital. If patients avoid admission to the STACH (short-term acute care hospital) from the ED, then it does not count as an ACT.

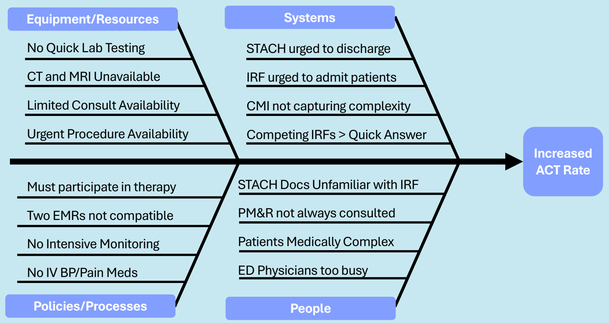
Background

Average ACT rate in the nation is about 10.6%, and for our region, about 12.6%. This number is influenced by the medical complexity of the patients, requiring weighted averages. The system for assigning medical complexity is inadequate to capture the modern patient who enters a rehab hospital, resulting in very medically complex patients who do not have an elevated Case Mix Index (CMI) based on diagnosis codes alone. Being in an academic standalone rehab hospital, we are thus very reliant upon our emergency department to rapidly work up patients. Despite these headwinds, we have made progress in reducing our ACT trends over time. However, it still lags behind the national average, and with a goal to become a top-tier rehab hospital, we would like to exceed those expectations.

ACT Trends- PSHR vs Nation/Region



QI Analysis- Fishbone Diagram



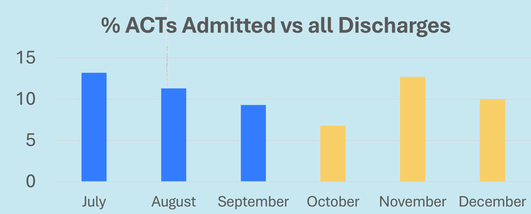
Goal

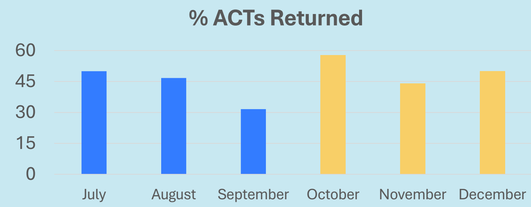
The goal of this project is to reduce our ACT Rate from 11.2% to 10%, which would improve our percentile ranking to approximately 65%. We hope to achieve this by improving the bridge of communication between the PM&R Providers and ED Providers, in order to better establish whether a patient can return to rehab once workup is complete. By giving the ED an easy point of contact, we expect that they will be more willing to collaborate on facilitating a patient return after send-out.

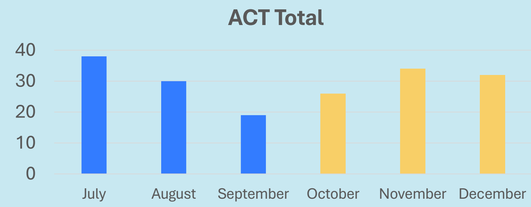
Intervention

The change to our procedures is to now *require* PM&R Providers to determine the ED provider caring for the patient, and reach out to them via a HIPAA compliant texting app. This intervention was chosen due to a large number of ACTs being admitted that potentially could have returned to IRF. It is also a more easily modifiable process. The intervention was initiated starting on October 1st, and data was collected on ACTs from July to December.

Results







Discussion

While October data seems promising, with a significant increase in returning ACTs, and reduction in ACT Rate, this drop is not sustained in November or December. Ultimately, more data will likely have to be collected to make stronger conclusions given the lack of trends in the three intervention months. It may also require a deeper dive into the reason for transfer and confirmation that the ED was contacted.

The project proves to be more challenging than anticipated, as it requires a significant change in provider practice, and also needs coordination with a different department to implement the intervention. It also highlights the many different factors that contribute to ACT Rate. Ultimately it looks like the best strategy to reduce ACT rate is to reduce the total number of patients needing to go to the Emergency Department. But we will continue to run through the PDSA cycle to examine the factors that contribute to ACT rate and create initiatives to improve this metric.

Conclusions

There was a significant increase in patients returning to Rehab after the intervention was implemented, but this was not sustained over time. More data would need to be collected to see if this intervention is helpful.

PennState Health Rehabilitation Hospital
In Partnership with Select Medical

Faculty Peer Mentoring to Address Burnout, Moral Injury, & Disconnect

Adam G. Lamm MD MA[1,2]
Internal Mentor: Benjamin Bruinsma MD[1,2]
External Mentor: William N. Niehaus MD[3]

[1]Mary Free Bed Rehabilitation Hospital, Grand Rapids, Michigan
[2]Division of Rehabilitation Medicine Michigan State University College of Human Medicine, Grand Rapids, Michigan
[3]Department of Physical Medicine & Rehabilitation, University of Colorado School of Medicine, Aurora, Colorado

Introduction

- Burnout is a syndrome of emotional exhaustion, lack of meaning in work, feelings of ineffectiveness, and depersonalization[1]
- Burnout metrics remain high among U.S. physiatrists[2] and high rates of depression in practicing physicians[3]
- Causes of burnout are multifactorial including excessive workload, work inefficiencies, lack of meaning in work, and work-life balance disruption, among others[4,5]
- High levels of burnout are associated with medical errors, reduced clinician responsiveness, empathy, and educational effectiveness[6]
- Many strategies have aimed to improve burnout, including allocating increased time to self-identified important work components,[7] leadership coaching,[8] and investment in career development[9]
- Current faculty wellbeing metrics at our institution were below intended targets on ACGME accreditation surveys (unpublished data)

Methods

- Voluntary participation for faculty & advanced practice providers
- Peer mentorship structure over a meal, ideally monthly
- Food cost paid by Medical Group
- Mentorship worksheet used for meal reimbursement
- Aims: learn new information about each other, discuss goals and solutions, what you hope to change, and set personal goals to meet by the next meeting
- Primary outcome: ACGME Faculty Wellbeing Questionnaire, Moral Injury Outcome Scale

Results

- 12 faculty and APPs volunteered to participate
- Relatively favorable pre-intervention faculty wellbeing metrics, and 2 individuals who reported moral injury (8 total responses; 66.7% response rate)
- Faculty wellbeing metrics remained favorable post-intervention, with 1 individual reporting moral injury (7 total responses 58.3% response rate)
- Range of meetings per pair ranged from 0 to 4 in the study period
  - Those reporting no mentor meetings reported lower levels of support in balancing responsibilities, implementing strategies, sense of community, progress toward personal goals
- Reported barriers to meeting included:
  - Scheduling challenges (finding a mutually acceptable time)
  - High clinical workload
- Faculty generally favored meetings during the workday when possible

Discussion

- Those who participated in mentor meetings reported more support toward meeting personal goals, implementing strategies for success, and building a sense of connectedness and community
- Burnout metrics remained relatively stable from pre- to post-intervention; those with higher burnout scores may have been less likely to participate
- This intervention may not have optimally addressed those who may benefit the most; further steps are needed to identify strategies to engage burnt-out and at-risk faculty
- Scheduling challenges and high clinical workload posed barriers to scheduling peer mentorship meetings

Acknowledgements

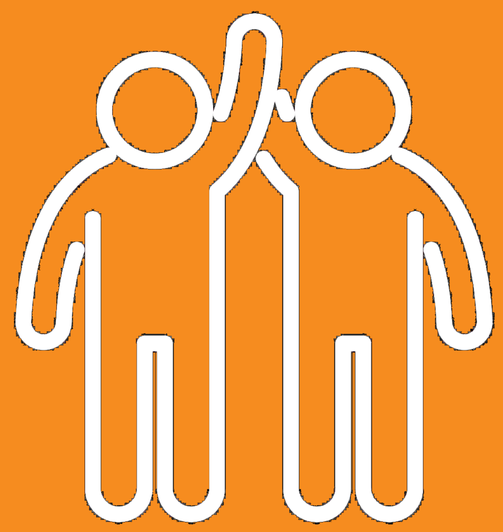
A special thank you to Emily DeFouw for helping procure funding for provider meals during mentorship sessions and to Sarah Thompson for processing reimbursement requests throughout the pilot intervention project

References

1. Maslach C et al. Maslach burnout inventory manual, 3rd ed. Palo Alto, CA: Consulting Psychologists Press, 1996.
2. Sliwa JA, Clark GS, Chiodo A, et al. Burnout in diplomates of the American Board of Physical Medicine and Rehabilitation – prevalence and potential drivers: a prospective cross-sectional survey. *PMR*. 2019. 11(1): 83-89.
3. Shanafelt TD et al. Changes in burnout and satisfaction with work-life balance in physicians and the general US working population between 2011 and 2014. *Mayo Clin. Proc.* 2015. 90(12): 1600-1613.
4. Wetterneck T et al. Work life and satisfaction of general internists. *Arch. Intern. Med.* 2002. 162(6): 649-646
5. Derby L et al. Relationship between work-home conflicts and burnout among American surgeons: a comparison by sex. *Arch. Surg.* 2011. 146(2): 211-217
6. Dewa CS et al. The relationship between physician burnout and quality of healthcare in terms of safety and acceptability: a systematic review. *BMJ Open*. 2017. 7(6).
7. Shanafelt TD et al. Career fit and burnout among academic faculty. *Arch Intern. Med.* 2009. 169(10): 990-995.
8. Shanafelt TD et al. Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clin. Proc.* 2015. 90(4): 432-440.
9. Linzer M et al. 10 bold steps to prevent burnout in general internal medicine. *J. Gen. Intern. Med.* 2014. 29(1): 18-20.

Mary Free Bed Rehabilitation Hospital

School of Medicine
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS



Peer mentoring can be a tool to build **community** and may **combat burnout**, especially for junior faculty

Take a picture to **download** the **peer mentorship worksheet**

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
I find my work to be meaningful	0	0	2	6
I work in a supportive environment	0	1	3	4
The amount of work I am expected to complete in a day is reasonable	0	1	3	4
I participate in decisions that affect my work	0	3	4	1
I have enough time to think and reflect	0	2	5	1
I am treated with respect at work	0	0	2	6
I feel more and more engaged in my work	0	1	7	1
I find my work to be a positive challenge	0	0	5	3
I find new and interesting aspects in my work	0	0	4	4
I often feel emotionally drained at work	0	5	3	0
After work, I need more time than in the past to relax	1	5	2	0
I feel worn out and weary after work	0	5	3	0

Table 1: Pre-intervention ACGME Faculty Wellbeing survey results

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
I blame myself	1	1	0	0	0
I have lost faith in humanity	1	0	0	1	0
People would hate me if they really knew	1	1	0	0	0
I have trouble seeing goodness in others	2	0	0	0	0
People don't deserve second chances	2	0	0	0	0
I am disgusted by what happened	0	0	0	2	0
I feel like I don't deserve a good life	2	0	0	0	0
I keep myself from having success	1	1	0	0	0
I no longer believe there is a higher power	2	0	0	0	0
I lost trust in others	1	1	0	0	0
I am angry all the time	2	0	0	0	0
I am not the good person I thought I was	1	1	0	0	0
I have lost pride in myself	1	1	0	0	0

Table 2: Pre-intervention Moral Injury Scale results

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
I feel more supported in balancing my responsibilities	0	1	3	3	0
I have been able to utilize practical strategies to enhance my effectiveness as a faculty member	0	1	3	3	0
I have been able to strengthen my sense of connection & community	0	0	2	3	2
I have been able to make meaningful progress toward my personal/professional goals	0	0	4	3	0
I have improved self-confidence	0	0	4	3	0

Table 3: Post-intervention faculty responses to program effectiveness

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
I find my work to be meaningful	0	0	3	4
I work in a supportive environment	0	0	3	4
The amount of work I am expected to complete in a day is reasonable	0	1	4	2
I participate in decisions that affect my work	0	3	4	0
I have enough time to think and reflect	0	4	3	0
I am treated with respect at work	0	0	3	4
I feel more and more engaged in my work	0	0	5	2
I find my work to be a positive challenge	0	0	5	2
I find new and interesting aspects in my work	0	0	4	3
I often feel emotionally drained at work	0	6	0	1
After work, I need more time than in the past to relax	0	6	1	0
I feel worn out and weary after work	2	3	2	0

Table 4: Post-intervention ACGME Faculty Wellbeing survey results

	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
I blame myself	0	1	0	0	0
I have lost faith in humanity	0	0	1	1	0
People would hate me if they really knew	1	0	0	0	0
I have trouble seeing goodness in others	0	1	0	0	0
People don't deserve second chances	1	0	0	0	0
I am disgusted by what happened	0	0	0	1	0
I feel like I don't deserve a good life	1	0	0	0	0
I keep myself from having success	1	1	0	0	0
I no longer believe there is a higher power	1	0	0	0	0
I lost trust in others	1	1	0	0	0
I am angry all the time	0	1	0	0	0
I am not the good person I thought I was	1	0	0	0	0
I have lost pride in myself	1	0	0	0	0

Table 5: Post-intervention Moral Injury Scale results