The Implementation of a Problem-Focused Training to Increase Faculty Participation in Scholarly Activities.

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Introduction

The Department of Physical Medicine and Rehabilitation at UT Health San Antonio has undergone many significant changes over the past two years. With the exception of our new Department Chair, all Professor-level faculty and the vast majority of our experienced researchers have retired or have left the department. On one hand, this has resulted in an influx of young, talented faculty with high-energy for patient care and resident education. However, most of the faculty are not actively engaged in any type of scholarly activity. In addition, according to Doximity, our program is in the 44th percentile for publications among alumni. Most of our graduates pursue careers in the private sector and never participate in scholarly activity post-residency.

As a department and residency program, we have taken steps in the past two years to attempt to bolster our scholarly output. We recently hired a PhD -level researcher with significant amounts of experience and resources to serve as the Vice Chair of Research for our department. We have also appointed our only full-time clinical researcher as the Faculty Advisor for Resident Research who has developed a research lecture module series presented during didactics. We have created an additional Chief Resident position dedicated solely to mentoring residents in research and quality improvement projects. And lastly, in May 2021, we held an inaugural multidepartment “Research Day” event showcasing the scholarly activities of our residents. These changes have provided a structure that can enhance the research culture within our department. However, now the focus needs to be placed on eliciting active participation from more faculty.

The aim of this project was to identify any specific barriers among previous and current faculty in our department that prevents more participation in scholarly activity and work towards tailoring specific faculty training aimed at addressing/overcoming these obstacles as well as instructing them on the resources our department has for support in research.

Methods

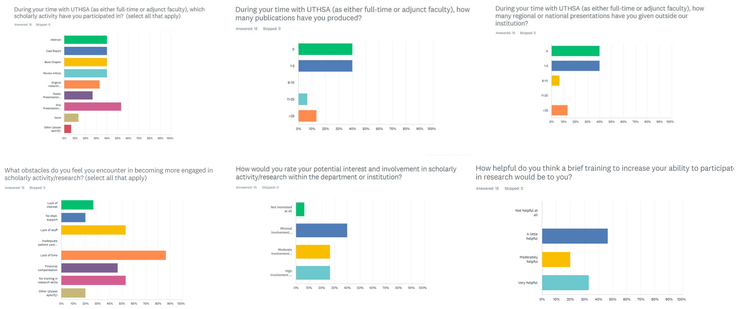
A survey was conducted among alumni of the department to inquire about their current scholarly activity and how the department could have trained and supported them better in academic pursuits. A similar survey was sent among current full-time and adjunct faculty specifically aimed at delineating the barriers that they face as well as any potential academic interests they may have to pursue. Survey results were used to develop two individualized trainings aimed at addressing primary concerns identified. At the end of the study period, current faculty were surveyed again assessing the perceived effectiveness of two training sessions from department leadership.

Results

Alumni Survey

Figure 1
Survey results from residency alumni between 2000-2021 which consisted of 36 total respondents.

Faculty Survey: Pre-Training



Faculty Survey: Post-Training

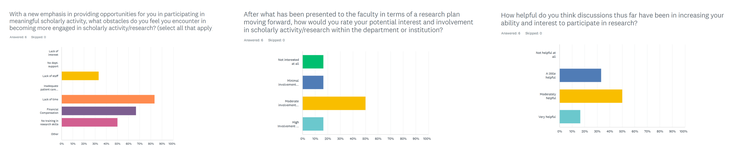


Figure 2
Survey results pre and post training of current faculty. Fifteen total faculty responded initially and participated in the trainings. However, only six responded follow-up survey.

Discussion

Among the alumni who responded, the vast majority went into private practice and since leaving residency have done little to nothing in terms of scholarly activity. Most only had minimal participation in such activity during residency. Many reasons were cited as issues that impeded research involvement, but chief among them were a lack of time, lack of interest and a perceived lack of training in basic research skills during residency. Some stated that finding time in their current employment makes engaging in research difficult, but if they had a better experience during residency, they may be more inclined to engage now. Current faculty cite similar issues including lack of time, interest and support staff. 80% of current faculty who responded have less than five publications and less than five national presentations. In commentary from these faculty, it appears that at least to some degree, a lack of interest stems from a lack of familiarity with how to become involved with research altogether.

From September to November, two individual trainings from the department’s Vice Chair of Research emphasized dispelling myths of common barriers to engaging in research and sought input for a department plan moving forward. A post-training survey was distributed with a poor response rate (6 out of 15) that also appears to suggest that opinions on research within the department hadn’t overtly changed. This isn’t entirely unexpected as we suppose that more personalized training and interactions with department leadership will likely be more successful

Conclusion & Next Steps

Single didactic-type trainings focused on research do not generate significant motivation in a group of faculty who are currently not engaged in it. However, this process has provided a new foundation in promoting more robust amount of scholarly activity. After consultation with the department, consensus has been reached to proceed with the following plan moving forward:

- Evaluate current datasets that are being utilized within the department and assess them for the potential of secondary analysis
- Curate publicly available datasets and to look into data that you want through our health informatics for clinically available data from both UH and UT.
- Collaborate with our institution's informatics department on what type of data faculty want to evaluate regularly from our ongoing clinical medical record.
- Evaluate the immense amount of VA data for retrospective analysis untapped that is retrospective in nature. Being a polytrauma center gives access to huge amount of data.
- Hire staff to analyze data and use current grants to fund hires (currently in the process).
- Formal training on how to submit a testable question, establish a desired dataset or how to compose an IRB.
- Individual meetings starting in January between faculty, PD and Vice Chair of Research to set specific goals and create personal plans for with scholarly activity over the next calendar year.

Our hypothesis moving forward is that individualized application of the above plan will yield more interest and generate higher quality presentations and publications from our department.

Just Keep Wagging!!! Implementation of Writing Accountability Groups within a PM&R Division Using a QI Approach

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Background

Following annual faculty evaluations which were completed in April 2021, our division director identified the need for an improved structure to promote consistent faculty scholarship and thus ensure that all faculty attain promotion. Studies across disciplines have identified an inverse relationship between RVU production and academic productivity.[1,2] As clinical demands have increased in our division in recent years (due to a multitude of factors), many faculty members have anecdotally expressed difficulty with maintaining consistent scholarly output. Furthermore, it has been identified that due to the COVID-19 pandemic, academic productivity, especially with female faculty or those with younger children has decreased due to competing demands withing the workplace and family life.[3,4] Thus challenges have increased during the most recent academic year for many individuals.

One way that consistent scholarly activity has been encouraged at our institution is through joining writing accountability groups (WAGs). Goals of WAGs reported in the literature include helping faculty develop writing habits by meeting more frequently for shorter duration.[5,6] WAGs have been demonstrated to increase academic productivity and improve writing quality across disciplines,[7-9] however, there is no data to support their use in physical medicine and rehabilitation.

AIM Statement: Increase the percentage of rehabilitation faculty who participate in at least one hour of scholarly activity per week from 60% to 80% over an 11 week period.

Methods

Study Design: Qualitative Improvement Project/Mixed Methods

Participants: PM&R faculty and Pediatric PM&R faculty at University of Cincinnati and Cincinnati Children's Hospital. Participation was recruited through monthly faculty meetings and was voluntary.

WAG Structure:
- Faculty were assigned to one of three WAG groups based on their schedule preferences with each WAG having 3-4 faculty.
- WAGs met for one hour every week for a total of 11 weeks
- WAG session Agenda: Report on writing for the previous 7 days and goal setting for todays writing session (0-15 min); "Writing" Session (16-45 min); Report on attainment of goals for today's session and goal setting for the upcoming week (46-60 min)
- One WAG member kept track of time each week

Outcome Measures:
- Writing Accountability Group (WAG): Pre-WAG Assessment[10] + Demographics
- Weekly log of hours spent participating in scholarly work
- Every 4 weeks answered ~~following~~ two questions to drive PDSA cycles
  - *-Over the past 4 weeks, how has participation in the WAG helped you?*
  - *-Over the past 4 weeks, what challenges/difficulties have you faced as it relates to time dedicated to scholarly work or your WAG?*
- Writing Accountability Group (WAG): Post-WAG Assessment[10]
- Qualitative feedback (Written + Feedback Session)

Tests of Change:
- Change to variable WAG date (to allow more flexibility with clinical schedules)
- Add "Troubleshooting/Advice" part to agenda for each session

Definition of Scholarly Activity

Included
- Working on any activity that ultimately results in you putting another entry on your CV
- Reading abstracts or articles, entering data, analyzing data, writing letter to journal reviewers, making charts or figures, writing manuscripts, preparing presentations for regional or national presentations
- Attending meetings related to scholarly projects. Can also include time spent communicating with others regarding scholarly projects (i.e. emails or phone calls)

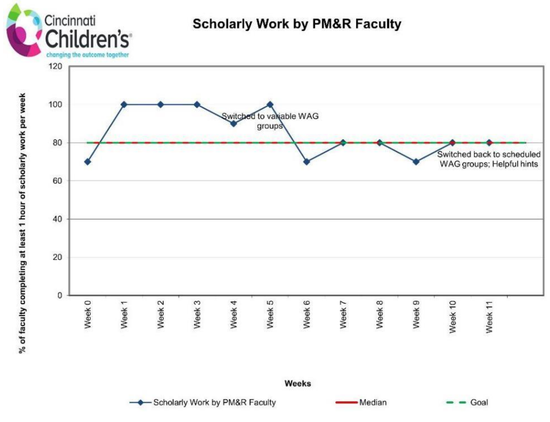
Did not include
- Completing clinical documentation, writing or answering emails, completing tasks related to patient care
- Preparing presentations/lectures for trainees unless related to a larger, potentially publishable scholarly project.

Pre-WAG Data

Demographics:
- 30-39 years old (6) ; 40-49 years old (2) ; 50+ years old (2)
- Current academic rank: 8 Assistant Professor, 2 Professor
- No participants had previously participated in a WAG

Why are you joining a WAG/What do you hope to gain?
"Improve my consistency on working on scholarly activity. I tend to do a lot in one week and then don't touch projects for months so it results in many projects never being completed."
"I want to hold myself accountable to work on writing / research more frequently, ideally allowing me to work in smaller chunks of time."
"I am curious about this method and want to try it."
"Establish a pattern of regular reading and writing habits to improve scholarly accomplishments and stay abreast of the literature."

Run Chart



Pre- and Post-WAG Comparisons

	Pre-WAG (n=10)	Post-WAG (n=6)
How often do you write?		
Almost Every Day	1 (10%)	1 (17%)
Once a week	0	2 (33%)
Twice A Month	3 (30%)	0
Once A Month	1 (10%)	2 (33%)
Rarely	5 (50%)	1 (17%)
How often do you wish you would write?		
Almost Every Day	1 (10%)	2 (33%)
Once A Week	8 (80%)	2 (33%)
Twice A Month	0	2 (33%)
Once A Month	1 (10%)	0
Rarely	0	0
Duration of typical writing session?		
46-60 minutes	2 (20%)	4 (67%)
1-2 hours	1 (10%)	2 (33%)
2+ hours	7 (70%)	0
Duration you wish you would write?		
46-60 minutes	7 (70%)	3 (50%)
1-2 hours	3 (30%)	3 (50%)
2+ hours	0	0

Top 5 Barriers To Writing

	Pre-WAG (n=10)	Post-WAG (n=6)
I have trouble getting started	9 (90%)	4 (67%)
I have too many clinical commitments	8 (80%)	3 (50%)
My perfectionism prevents me from finishing	6 (60%)	
I don't have adequate statistical/data analytic support	6 (60%)	
I have too many administrative commitments	5 (50%)	3 (50%)
I have too many teaching commitments		3 (50%)
I have too many personal/family commitments		3 (50%)

Biggest Barrier To Writing

	Pre-WAG (n=10)	Post-WAG (n=5)
I have trouble getting started	5 (50%)	
I have too many clinical commitments	3 (30%)	2 (40%)
I have difficulty with time management	2 (20%)	1 (20%)
I have too many administrative commitments		1 (20%)
Other		1(20%)

Challenges

1) Clinical commitments
"Time was still an issue. Missed some WAGs due to conflicts with clinical work. Difficult to find time/motivation in between sessions to continue with work."
"Consistent attendance on my specified day/time due to inconsistent clinical schedules. I'd be curious to see how this worked out while on inpatient."
"Challenging sometimes to pull away from clinical duties."

2) Continuing behaviors that are sub-optimal
"I felt like even though I was more consistent in writing I still fell into similar traps (like doing marathon sessions). Would have loved to receive more advice in some way from my group."
"Setting realistic goals was initially a challenge, but this improved with subsequent sessions."

3) Scheduling
"My group moved to other time slots so I was alone for the final several weeks."
"One time I tried to go to another WAG but no one else was there that day."
"Feel like the accountability was lost when we changed to more variable scheduling"

Benefits

1) Scheduled Time to Write
"It made me think more about the time that I carve out for writing and how I prioritize it."
"Carving out an hour per week to do something scholarly. Definitely not something I did pre-WAG."
"Dedicated time each week to write. Motivation to continue moving my project forward."
"No matter how busy you are you can always find an hour. It made me feel good about getting something done, and I often continued on after the hour

2) Time Management
"I have done so much more in the last 2 months than I would have ever done previously. I have been able to consistently work on multiple projects and make significant progress on all of them."
"I gained a better appreciation and strategy to be productive with my time for the hour."
"Loved the consistency because I didn't have to reorient myself to the project."

3) Sense of Community
"I gained a community with whom I shared common goals, realized that we all face similar challenges, and felt supported by the group. The accountability really worked."
"I got to see people on a weekly basis that I wouldn't have been able to otherwise which was a hidden benefit."
"By setting weekly goals I always felt accountable to my group members… I had this internal guilt if I showed up to the WAG and had to report out that I didn't meet my goal for the week."

Conclusions

- Writing accountability groups are a feasible and well received option for increasing scholarly output in an academic PM&R practice.
- Committing to a dedicated hour and a definitive time period was preferred by participants to optimize accountability.
- While sample size was limited, participants seemed to write more regularly with shortened duration of writing sessions
- Overall fewer barriers to writing were reported after participation in a WAG, and the largest barriers were no longer difficulty getting started but rather additional commitments in participants' schedules.

References

1. Eschelman DJ, Sullivan KL, Parker L, Levin DC. The relationship of clinical and academic productivity in a university hospital radiology department. American Journal of Roentgenology 2000;174(1):27-31.
2. Kaplan PE, Granger CV, Pease WS, Arnett JA, Huba JC. Development of an academic productivity scale for departments of physical medicine and rehabilitation. Archives of physical medicine and rehabilitation 1997;78(9):938-941.
3. Krukowski RA, Jagsi R, Cardel MI. Academic productivity differences by gender and child age in science, technology, engineering, mathematics, and medicine faculty during the COVID-19 pandemic. Journal of Women's Health 2021;30(3):341-347.
4. Madsen TE, Dobiesz V, Das D, et al. Unique Risks and Solutions for Equitable Advancement during the Covid-19 Pandemic: Early Experience from Frontline Physicians in Academic Medicine. NEJM Catalyst Innovations in Care Delivery 2020;1(4).
5. Houfek JF, Kaiser KL, Visovsky C, et al. Using a writing group to promote faculty scholarship. Nurse educator 2010;35(1):41-45.
6. Skarupski KA, Foucher KC. Writing accountability groups (WAGs): a tool to help junior faculty members build sustainable writing habits. The Journal of Faculty Development 2018;32(3):47-54.
7. Al-Imari L, Yang J, Pimlott N. Peer-support writing group in a community family medicine teaching unit: Facilitating professional development. Canadian Family Physician 2016;62(12):e724-e730.
8. Harris S, Wiebe C, Knell E, Berger S. A physician peer support writing group. Fam Med 2003;35(3):195-201.
9. White A. Implementation of a Peer Writing Accountability Group to Improve Scholarly Productivity: A Quest for Protected Time. 2018.
10. Skarupski KA. WAG Your Work. Writing Accountability Groups. Bootcamp for Increasing Scholarly Productivity. Monee, IL: Kimberly A. Skarupski, PhD, MPH, 2018.

Feeling Un-Qualified To Do Research? A Simple Approach To Completing A Quality Improvement Project

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Background

Residents have an annual research requirement, and attendings have a QI project every 5 years (for maintenance of board certification). Quality improvement is rooted in the scientific method yet utilizes rapid-cycling methodology versus classically designed research methods. QI projects can be used as a springboard for ensuring foundational knowledge in improvement science, completion of a Continuing Quality Improvement (CQI) designation from the Institutional Review Board (IRB), and then completing a retrospective IRB submission for publication if required by a scientific journal. Many residents and attendings approach research as a daunting challenge. Barriers for residents performing research have been identified in literature (time constraints, personal disinterest, inadequate mentorship, lack of funding), and when research curriculum have been implemented during residency, increased academic productivity (abstracts, publications, national presentations) and increasing fellowship acceptance rates have been reported.

Objective

To improve resident physician comfortability with designing and implementing a Quality Improvement (QI) project through some center-specific resources (e.g., online presentation, toolkit, mentoring) based on the Institute for Healthcare Improvement (IHI) Science of Improvement model.

Methods

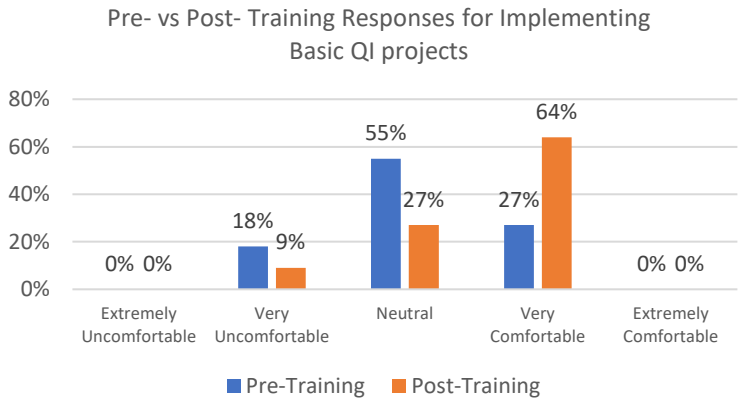
Improving resident physician comfortability and competency at designing and implementing a QI project was achieved by:

1. Administer a baseline assessment of resident perception of knowledge of and comfortability in completing a QI project.
2. Completing an online training module (approximately 30 minutes).
3. Administer a post-test assessment of resident perception of knowledge and comfortability in completing a QI project.

Results

- 11 PM&R residents completed pre-training and post-training survey
- On pre-training survey regarding comfortability implementing basic QI projects, 2/11 residents reported they were extremely uncomfortable, 6/11 residents reported they were neutral, and 3/11 residents reported they were very comfortable.
- On post-training survey regarding comfortability implementing basic QI projects, 1/11 residents reported they were extremely uncomfortable, 3/11 residents reported they were neutral, and 7/11 residents reported they were very comfortable.

Implementing Basic Quality Improvement Projects				
	Pre	% Pre	Post	% Post
Extremely Uncomfortable	0	0%	0	0%
Very Uncomfortable	2	18%	1	9%
Neutral	6	55%	3	27%
Very Comfortable	3	27%	7	64%
Extremely Comfortable	0	0%	0	0%



Discussion

The main objective of the project was to improve resident physician comfortability with designing and implementing a Quality Improvement (QI) project. Barriers for residents performing research have previously been identified in literature and include time constraints, personal disinterest, inadequate mentorship, lack of funding. In creating a toolkit (online training module) we were able to demonstrate that residents would use it. Additionally, the post-training surveys indicate that completing the online training module leads to a generalized increase in comfortability reported by residents. We will observe the impact of this training module annually at the residents' research day presentations. The creation of this toolkit also provides a long-term resource that is available for residents and attendings to use to design and implement a QI project.

Conclusions

- Generally, improvement in self-perceived comfortability was noted on post-training survey after completing an online training module on designing and implementing a QI project.
- Some notable feedback from the residents included: 30 minutes was "too long" for the training session

References

1. Deming, EW. The Plan-Do-Study-Act (PDSA) The New Economics for Industry, Government, and Education. Cambridge, MA: The MIT Press, 2000.
2. Hames K, Patlas M, Duszak R. Barriers to Resident Research in Radiology: A Canadian Perspective. Can Assoc Radiol J. 2018 Aug;69(3):260-265. doi: 10.1016/j.carj.2018.03.006. Epub 2018 Jun 28. PMID: 30078398.
3. Langley GL, Nolan KM, Nolan TW, Norman CL, Provost LP. The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (2nd edition). San Francisco: Jossey-Bass Publishers; 2009.
4. Miner TJ, Richardson P, Cioffi WG, Harrington DT. The Resident Outcome Project: Increased Academic Productivity Associated with a Formal Clinical Research Curriculum. J Surg Educ. 2019 Nov-Dec;76(6):e161-e166. doi: 10.1016/j.jsurg.2019.07.016. Epub 2019 Aug 3. PMID: 31383615.
5. Rothberg MB, Kleppel R, Friderici JL, Hinchey K. Implementing a resident research program to overcome barriers to resident research. Acad Med. 2014 Aug;89(8):1133-9. doi: 10.1097/ACM.0000000000000281. PMID: 24751975.

The Effect of a Structured Research Training Program on Resident Participation in Scholarship

Rebecca Dutton, MD[1]

Internal Mentor: Dustin Richter, MD[1] External Mentor: Kathleen Bell, MD[2]

Background and Design

Importance of Research in Residency Programs

- ❑ Builds critical thinking skills
- ❑ Facilitates evidence-based care
- ❑ Related curriculum is required by the ACGME

Barriers to Research Participation in Residency

- ❑ Lack of personnel support
- ❑ Lack of technical support
- ❑ Lack of faculty support
- ❑ Lack of funding
- ❑ Time constraints due to residency
- ❑ Time constraints due to personal obligations
- ❑ Lack of interest
- ❑ Lack of statistical knowledge

Objective: The proposed project submits the implementation of a structured research training program, with the goal to improve resident participation in research.

By December of 2021, it was expected that 100% of residents would have identified and begun participation in an original research project.

Methods: All PGY-2 and PGY-3 residents within the UNM-Lovelace PM&R Residency Program were expected to participate in structured research meetings as follows:

30-45 minute didactic

Sample topics:
- Developing a research question
- Study design
- Interfacing with the IRB
- Basic biostatistics

30-45 minute project review

Active discussion related to current resident research projects, including examination of challenges or barriers to implementation.

Outcome Measures and Results

Outcome Measures

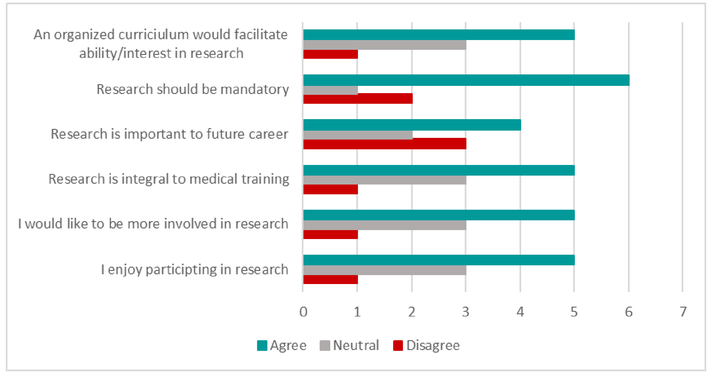
1° Total number of residents participating in a residency-approved research project

2° Resident perception of research

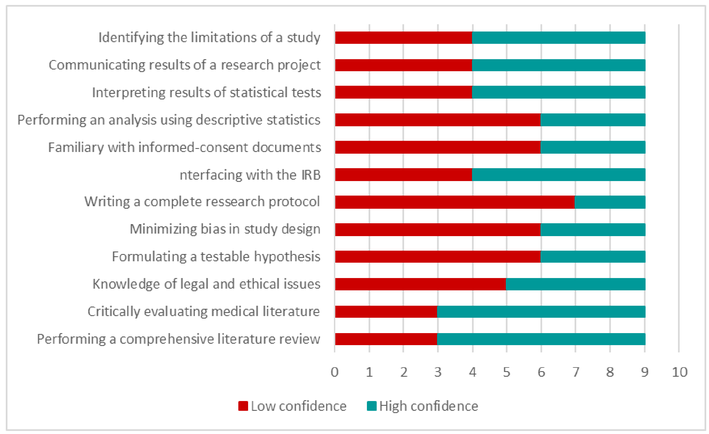
Resident knowledge and confidence in research-related activities

Baseline Perceptions and Confidence

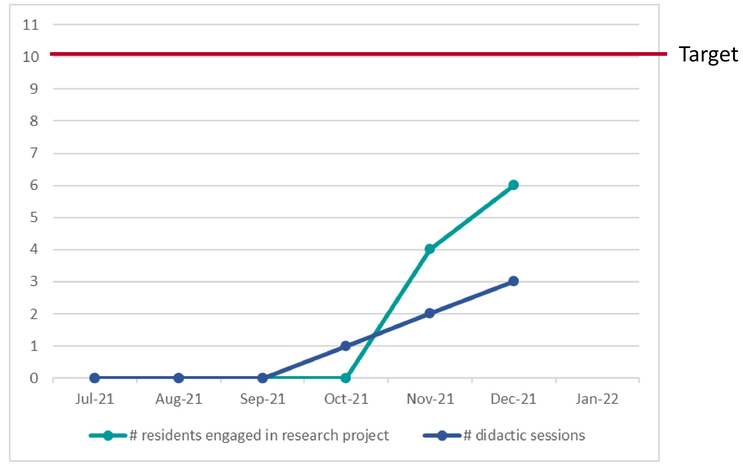
Resident Perceptions of Research During Residency Training



Resident Confidence in Research-Related Activities



Residents Participating in Research



Conclusion and Future Directions

The implementation of a structured research meeting monthly, improved resident participation in research.

However, the goal of all PGY-2 and PGY-3 residents participating in an original research project has not yet been attained.

Future Directions

The UNM-Lovelace PM&R Residency Program intends to continue its monthly research meetings with the current construct.

- Resident participation in research will be reassessed monthly.
- Resident perception of and confidence in research-related activities will be re-evaluated at the end of the year.

References

1. Bateman EA, Teasell R. Publish or Perish: Research Productivity During Residency Training in Physical Medicine and Rehabilitation. *Am J Phys Med Rehabil*. 2019;98(12):1142-1146. doi:10.1097/PHM.0000000000001299
2. Ercan-Fang NG, Mahmoud MA, Cottrell C, et al. Best Practices in Resident Research- A National Survey of High Functioning Internal Medicine Residency Programs in Resident Research in USA. *Am J Med Sci*. 2021;361(1):23-29. doi:10.1016/j.amjms.2020.08.004
3. ACGME Program Requirements for Graduate Medical Education in Physical Medicine and Rehabilitation. Published online July 1, 2020.
4. Boninger ML, Chan L, Harvey R, et al. Resident research education in physical medicine and rehabilitation: a practical approach. *Am J Phys Med Rehabil*. 2001;80(9):706-712. doi:10.1097/00002060-200109000-00013
5. Millis SR, Campagnolo DI, Kirshblum S, Elovic E, Sheela Jain S, Delisa JA. Improving Resident Research In Physical Medicine and Rehabilitation: Impact of A Structured Training Program. *The Journal of Spinal Cord Medicine*. 2004;27(5):428-433. doi:10.1080/10790268.2004.11752232
6. Ellis JJ, McCreadie SR, McGregory M, Streetman DS. Effect of pharmacy practice residency training on residents' knowledge of and interest in clinical research. *American Journal of Health-System Pharmacy*. 2007;64(19):2055-2063. doi:10.2146/ajhp070063

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Strengthening Research Foundations in Pediatric Physiatrists and Therapists

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Internal Mentor: Matt McLaughlin, MD, MS; External Mentor: Preeti Raghavan, MD

Background

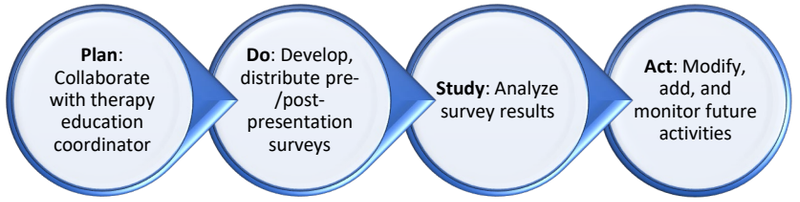
- Children's Mercy (CM) Kansas City is a large academic institution affiliated with both the University of Missouri—Kansas City School of Medicine and the University of Kansas School of Medicine
- CM's mission includes dedication to translational research and breakthrough innovation
- Providers in the division of Pediatric Rehabilitation Medicine (PRM) would like to increase scholarly work and research endeavors
- PRM providers partner with therapists for patient care but there is minimal collaboration in research

Objectives

1. Develop a research-related needs assessment
2. Engage providers and therapists in research-related Grand Rounds
3. Analyze knowledge acquisition, participation trends, and interest levels

Hypothesis: *If PRM providers and therapists participate in research-related presentation, awareness of research resources and interest in research will increase.*

Design

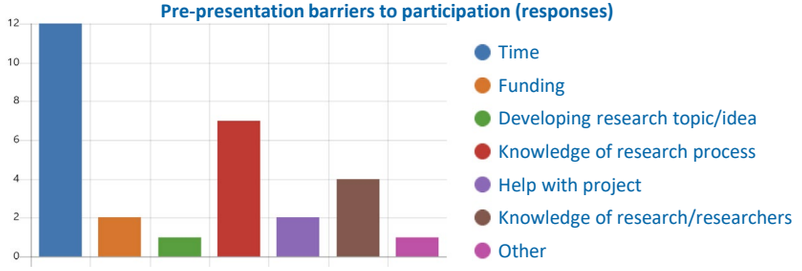


Results

Participants (15):
OT 6
PT 5
SLP 0
Provider 3
Other 1

Participation in research in 2021:
Yes: 5 (33.3%)
No: 10 (66.7%)*
** 100% of OTs did not participate in research*

Pre-presentation barriers to participation (responses)

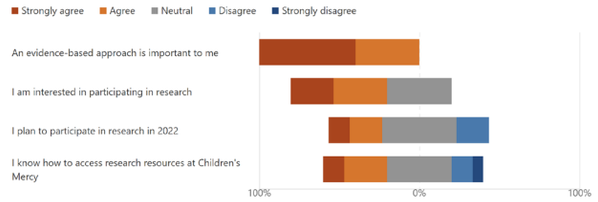


Post-presentation additional resources requested

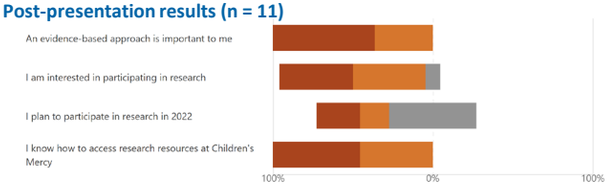
Annual in-service Finding grants
Help with IRB **TIME** Stats class
Copyright tool

Results (continued)

Pre-presentation results (n = 15)



Post-presentation results (n = 11)



Conclusions & Next Steps

- After the presentation, increases in:
  - Resource awareness (40% → 100%)
  - Interest in participation (60% → 90%)
  - Intent to participate (33.3% → 45.5%)
- Time identified as major barrier and resource needed

Future directions

- Continue education annually, including education on institutional review board (IRB), stats, grants
- Generate list of ongoing research projects/ideas and potential partners to help
- Advocate for more time for research
- Compare research participation and scholarly activity in 2022 to prior years

Was the activity beneficial to your development as a medical educator?
Strongly agree (40%), Agree (60%)

KU SCHOOL OF MEDICINE The University of Kansas
UMKC School of Medicine
Children's Mercy KANSAS CITY

Stimulating Potential: Using an Education Research Model to Transform an Electrodiagnostic Medicine Curriculum

Laura Y. Huang, MD[1]
Internal Mentors: Barry Issenberg, MD[1], Elba Gerena, MD[1]. External Mentor: Gary S. Clark, MD[2]
[1]University of Miami Miller SOM, Jackson Rehabilitation, [2]Case Western Reserve University SOM, MetroHealth Rehabilitation

UHealth Jackson Rehabilitation Care
CHRISTINE E. LYNN REHABILITATION CENTER FOR THE MIAMI PROJECT TO CURE PARALYSIS

Analysis

Despite being a fundamental physiatric skill and Accreditation Council for Graduate Medical Education requirement for graduation from a Physical Medicine and Rehabilitation (PM&R) residency program, many residents at our program do not currently feel comfortable performing electrodiagnostic (Edx) procedures independently upon graduation, and therefore do not plan to perform studies or sit for the American Board of Electrodiagnostic Medicine exam. Prior curricula have not employed an education research model that provides structure and functions as a tool for continuous improvement. The goal of this project is to use an education research model to create a formalized curriculum with structure for continuous refinement, and thereby increase resident Edx knowledge, comfort with planning, performing and interpreting studies, and resident pursuit of Edx medicine as part of their career path. A secondary goal is to partner with our university Academy of Medical Education Scholars to plan a education research methods workshop to bolster faculty curricula development skills.

Design

Learning Outcome	Learning Opportunity	Assessment Tool
Understand CMAP and SNAPs	Didactics, pre-learning, workshop	All PGY: pre & post curric. survey, Edx SAE, Edx subsection of PM&R SAE, post curric. exam; PGY4: OSCE
Know Edx anatomical landmarks	Didactics, pre-learning, workshop	All PGY: pre & post curric. survey, Edx SAE, Edx subsection of PM&R SAE, post curric. exam; PGY4: OSCE
Understand EMG waveforms and recruitment patterns	Didactics, workshop	All PGY: pre & post curric. survey, Edx SAE, Edx subsection of PM&R SAE, post curric. exam; PGY4: OSCE
Improve comfort planning Edx	Didactics, pre-learning, workshop	All PGY: pre & post curric. survey; PGY4: OSCE
Improve comfort performing Edx	Didactics, pre-learning, workshop	All PGY: pre & post curric. survey; PGY4: OSCE
Improve comfort interpreting Edx	Didactics, pre-learning, workshop	All PGY: pre & post curric. survey; PGY4: OSCE
Increase overall knowledge of Edx	Didactics, pre-learning, workshop	All PGY: pre & post curric. survey, Edx SAE, Edx subsection of PM&R SAE, post curric. exam; PGY4: OSCE
Improve overall course rating	Didactics, pre-learning, workshop	All PGY: prior year curric. survey, pre & post curric. survey

†There are 24 residents in the program. The extra (+1) pre curriculum response is likely due to a resident completing the survey twice. Missing (-3) post curriculum responses can be attributable to three planned absences, and one other resident not completing the survey for unknown reasons.

Development

The course consisted of a pre-curriculum 55-minute OSCE that used standardized patients and was evaluated by two supervising attendings using a tool based off the validated EMG-DOT‡. Didactic content (18 hrs) was given over eight days and included lectures and assigned readings/videos. A 2.5-hour hands on workshop provided skills practice. The final exam included 50 written questions, followed by immediate answer review as a group. Surveys were developed to collect information regarding learner experience, self assessment, comments on educators, and open feedback for comments. We also developed a two-question survey to gauge faculty interest in medical education research. The workshop curriculum was adapted to our department feasibility and efforts for coordinating availability of both department and course faculty are ongoing.

Implementation

The course took place between October 5th and December 3rd, 2021. All 24 residents participated in didactics, workshops and exams, except for excused absences. Six of the eight PGY-4 residents participated in the pre curriculum OSCE. Faculty were surveyed to gauge interest and availability, with >50% reporting interest in a workshop.

Limitations

PGY2,3 residents did not participate in the pre curriculum OSCE, and the PGY-4 post curriculum OSCE was delayed barriers in time which limited further content curation, standardized patient training, and coordination of other examiners and procurement of equipment. Post OSCE feedback from learners and faculty contributed to ongoing efforts for improvement of the OSCE process and content. Due to scheduling constraints, faculty development workshop planning continues, and will tentatively take place in March and April of 2022.

Acknowledgements

Tim Knight, Cadwell EMG Systems and the staff of The Gordon Center for Simulation and Innovation in Medical Education

‡EMG-DOT = Leep H, et al. Validity and feasibility of the EMG direct observation tool (EMG-DOT). Neurology. 2016 Apr 26;86(17):1627-34. Epub 2016 Mar 30. PMID: 27029634.

Evaluation

Learner Self Evaluation ('21-'22) Likert scale 1-5 (1=very low, 2=low, 3=moderate, 4=high, 5=very high) Data given as mean of all scores.	Pre (n = 25†)	Post (n = 20†)
Current overall level of knowledge of Edx Medicine?	1.92	2.65
Current level of knowledge of basic Edx terminology?	1.88	2.75
Current level of knowledge of basic Edx anatomic landmarks?	2.28	2.85
Current level of knowledge CMAPs and SNAPs?	1.84	2.95
Current level of knowledge basic EMG waveforms?	2.08	2.75
Current comfort level independently planning an Edx study?	1.72	2.45
Current comfort level independently performing an Edx study?	1.96	2.65
Current comfort level independently interpreting an Edx study?	1.92	2.6
Plan to incorporate Edx in your future clinical practice?	Y = 44%	Y = 35%
Plan to take the Edx medicine board examination?	Y = 24%	Y = 15%

OSCE Evaluations '21-'22 Data given as mean of all learner scores from two evaluators. Likert Scale 1-5 (1= not done, 2= major errors, 3= minor errors, 4 = no errors, 5 = 4+ done automatically and effortlessly). *=pending	Pre (n = 6)	Post
Generates ddx from history and exam	3	*
Sets up median and ulnar sensory and motor NCS	4.21	*
Adjusts ddx and study design based on data from history, exam, NCS data	2.5	*
Indicates accurate needle placement for selected EMG muscles	4	*
Verbalizes needle manipulation technique	3.25	*
Verbalizes sweep and gain settings for EMG evaluation	1.58	*
Correctly identifies fibs and PSWs	3.58	*
Correctly identifies motor unit recruitment pattern	3.5	*
Reports Edx findings with accuracy, completeness and organized	3.08	*
Overall interpretation of findings, pathophys. significance, clinical context, referral reason	2.17	*

Post Curriculum Evaluation Likert scale 1-5 (1=very low, 2=low, 3=moderate, 4=high, 5=very high); Score given as a mean of all scores	'20-'21 (n = 8)	'21-'22 (n = 20)
Course content relevant to my needs	4.125	4.65
Course content was up to date, organized, presented in depth	4	4.85
Objectives were clear and met	4.375	4.65
Overall course rating	4.125	4.55

Conclusions & Next Steps

A research education model provides objective data regarding the content and process of curricular development and can be used as an ongoing tool for continuous quality improvement. In this curriculum, residents increased their self-reported understanding and comfort in Edx medicine. However, the percentage residents planning to utilize this procedure in their future practice and intention to take EDx board exam decreased. Anonymous comments included low reimbursement rates, too painful for the patient, and too tedious as reasons. Short term follow up will include results of standardized Edx testing in 2022, and a post curriculum PGY-4 OSCE. Longitudinal follow up would be useful to determine actual outcomes in Edx testing utilization and practitioner attitudes.

Research Opportunities: Improving Access for Residents and Medical Students.

Sara Huss, MD; Mitchell Siwa MS-3

Dept of Neurology, Division of PM&R – Albany Medical College

Internal Mentor: George Forrest, MD External Mentor: Rita Hamilton, DO

BACKGROUND:

Scholarly activity is an important part of medical education. Over the years we have had an increasing number of both students and residents interested in pursuing research projects. Scholarly activity is now a required part of our residency program. While our residency is small (2 residents/year), over the past 5 years we have increased the average number of resident posters accepted at national conferences from <1/year to 2-3 per year with goal for continued increase. We also hope to improve our publication rate for residents as none of our current residents have had peer reviewed publications during residency.

GOAL:

Overall, we aim to improve medical student and resident access and comfort with participating and completing research projects. Ultimate goal is to improve academic productivity for our learners in PM&R at Albany Medical Center with increased number of national presentation and publications.

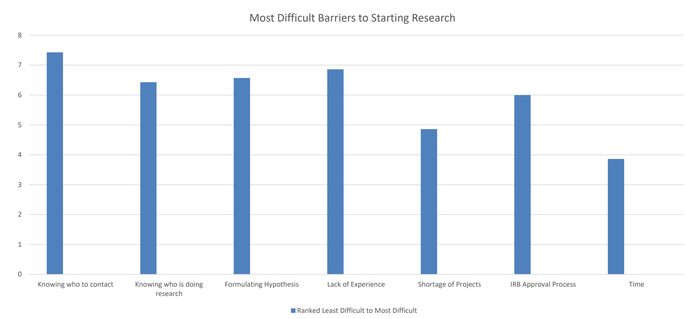
Methods:

To improve medical student and resident access to projects we developed a centralized database of ongoing research projects in PM&R. Database includes project topic, faculty contact, status of project and availability. This also allows us to monitor the status of ongoing projects within the Division.

We surveyed our residents on the barriers to research involvement/completion. Survey topics to address research access, mentorship, research process, IRB, regulations, statistics etc… Based on the results of this survey we implemented educational sessions to address these barriers in the fall of 2021.

A post curriculum survey was also utilized to assess the success of our curriculum/database.

RESULTS: PRE-CURRCULUM SURVEY



DATABASE SET-UP:

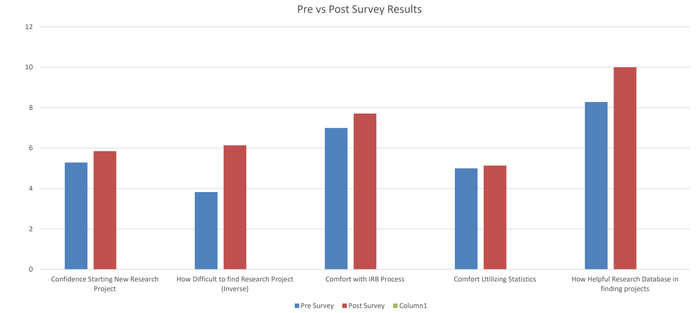
Ongoing Projects

Attending	Research Topic	Resident (s) involved in project	Medical Student (s) involved in project	Needs Resident?	Needs Medical Student?	Project Complete?	Attending e-mail	Resident e-mail	Medical Student e-mail
Dr. Sara Huss	Hospital Education about PT/OT and improvement in PT/OT consults	Krystal Lee	Sharon Hsu	No	No	No	husss@amc.edu	leek3@amc.edu	hsus@amc.edu
Dr. Sara Huss	NIHSS and Haitian Creole translation	Krystal Lee	Valerie Bresier	No	No	No	husss@amc.edu	leek3@amc.edu	bresiev@amc.edu
Dr. Sara Huss	Analyzing the impact of adaptive video gaming services on Quality-of-Life: A longitudinal study		Drew Redepenning		No	No	husss@amc.edu	N/A	redeped@amc.edu
Dr. Matthew Sonagere	High Intensity Gait Training	Kelsey Albert, Yaser Albataineh	None	Paused due to COVID but if resumes could use resident and student	Yes	No	matthew.sonagere@sphp.com	albertk1@amc.edu	N/A
Dr. Matthew Sonagere	Post Stroke Pain Manamgement	Doug Hunter, Joey Ievy	None	No	No	No	matthew.sonagere@sphp.com	hunterd@amc.edu	N/A

CURRCULUM SET-UP

- ✓ Initiated Group Discussions in didactics regarding research opportunities.
- ✓ Didactics on topics including IRB approval process, statistical analysis, research methods, etc…
- ✓ Individual meetings between residents and PD to discuss projects.
- ✓ Recognized a point of contact (research Coordinator) for our inpatient site.
- ✓ Discussed Research project database and placed in accessible location to all faculty/residents.
- ✓ Assigned resident “research liaison” to ensure database stays up to date.

RESULTS: POST-CURRICULUM SURVEY:



OUTCOMES:

Post curriculum survey of residents revealed improvement in all areas surveyed. Comfort in utilizing statistics was the least improved category however all residents reported they were comfortable finding help in this category. All residents felt the Research Database was significantly helpful in finding projects.

CONCLUSIONS/FUTURE:

We anticipate ongoing use of the database and educational curriculum for years to ensure a continued improvement of scholarly activity within our Division. While we were unable to include medical students in our surveys, we are utilizing the database to vastly improve the access of research projects to medical students interested in PM&R. Long term we would also like to improve the academic productivity of faculty and engage more faculty in research endeavors, however this will entail more time and resources then available for this project alone. Ultimately, our goal is to improve our national academic presence and enhance the educational experience of our medical students and residents.

Cultivating Divisional Culture: Research in Practice

Implementation of a Baclofen Practice Guideline in a Pediatric Rehabilitation Division

Ashlee Jaffe, MD, MEd

Children's Hospital of Philadelphia

BACKGROUND

Adherence to evidence based clinical practice guidelines, or implementation science, can be a challenge for clinicians, and non-compliance rates of up to 70% have been reported[1]. Physicians believe they practice based on recommended guidelines, even when they do not. Variation in baclofen dosing in pediatric patients is a well-known phenomenon, and in different studies has been related to geographic region[2], age of the patient[3], patient weight[4], and GMFCS level[4]. Although some variation is justified, a recent Morbidity, Mortality, & Improvement (MM&I) conference highlighted an evidence to implementation gap in our pediatric rehabilitation medicine's utilization of enteral baclofen and monitoring practices. Buy in to practice standardization even when research is available to support a practice change has been a challenge in our division's culture. The global aim of this improvement work was to cultivate implementation of research into daily clinical workflows, increase adherence to practice guidelines, and decrease unnecessary lab monitoring.

INTERVENTIONS

Due to a safety concerns resulting from variation in prescribing of enteral baclofen, a Morbidity, Mortality, & Improvement conference was held in May 2021 to review patient cases and baseline data. To work towards practice standardization and implementation of best practices amongst our physicians, a practice guideline was developed based on available evidence in the literature and iterative review by faculty and advanced practice providers (APPs) over a 6-week period. The guideline was implemented in July 2021 with the support of our inpatient APPs, outpatient rehab nurses, and division chief.

Lab test ordering from intervention period of June 2021-November 2021 was audited in the outpatient practice to compare with baseline data from January 2018-May 2021. Patient charts were audited once per month from the list of active consults during the 6-month study time and deviations from practice guidelines were fed back to the attendings. Monthly reminders to attending physicians, rehab nurses, and APPs to send in challenging cases were sent out. Qualitative comments were solicited from our nursing and advanced practice provider teams at 3 months and 6 months post implementation of the new guideline.

SMART Aim

The aim of this project is to increase adherence to developed practice guidelines from 43% to 85% for enteral baclofen prescribing and to decrease inappropriate lab monitoring from 95% to zero by December 1st, 2021.

Age	Dose
<2 months *(consider corrected age)*	-Minimum starting dose 0.5mg daily, ideal start dose 0.5mg TID -Titrate in increments of 0.5-1mg/day (i.e. increase 0.25mg/dose TID)
2-6 months *(consider corrected age)*	-Minimum starting dose 0.5mg TID, ideal start dose 1mg TID -Titrate in increments of 1.5mg/day (i.e. increase 0.5mg/dose TID)
6 months – 2 years	-Minimum starting dose 2.5mg daily -Ideally start at 10-20mg/day divided q8hrs (i.e. 5mg TID) -Titrate in increments of 5-15mg/day (i.e. increase by 2.5mg per dose)
2 years – 7 years	-Minimum starting dose 2.5mg – 10mg (either daily or divided q8hrs) (i.e. 2.5mg TID) -Ideal start at 20-30mg divided q8hrs (i.e. 10mg TID) -Titrate increments of 5-15mg/day (i.e. increase by 5mg per dose) -Maximum dose 60mg/day
>8 years old	-Minimum starting dose 10mg – 15mg (divided q8hrs) (i.e. 5mg TID) -Ideal start at 30-40mg divided q8hrs (i.e. 10mg TID) -Titrate increments of 5-15mg/day (i.e. increase by 5mg per dose) -Maximum dose 120mg/day
Adults	-Minimum starting dose 5mg TID -Titrate up 5mg/dose every 3 days -Maximum dose 120mg/day

- Titrate every 3-7 days while monitoring for side effects of sedation/ somnolence and decreased spasticity
- No lab monitoring (unless renal impairment)
- Increase if current dose not having desired effect on tone; once dose maximized at TID can consider QID dosing
- Prescribe tablets whenever possible and dose in reasonable outpatient dosing regimen

Reduce Unnecessary Care

Reduce Disparities in Care

Research & Innovation

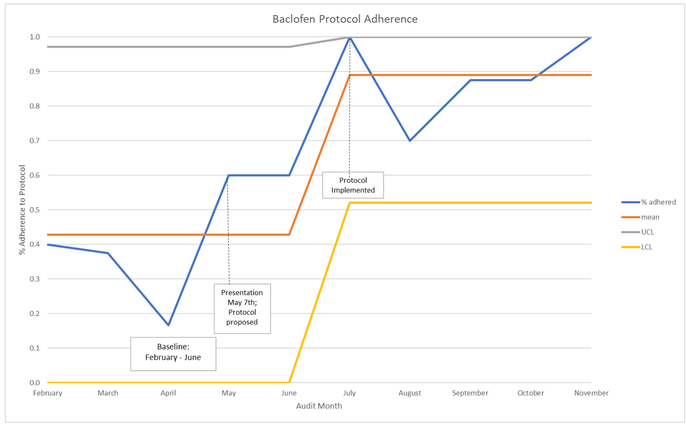
Clinical & Operational Excellence

OUTCOMES

Qualitative Comments:

- "I really, really appreciate that we are trying to make some of these improvements across the division"
- "I like the new recommendations. All looks good"
- "I'm trying to follow the new recommendations, but I have seen excessive sleepiness in premature infants… we should work on this"
- "Appreciate a more standardized approach for consistency amongst different attendings that rotate on service"
- "Decrease in need for prior authorizations with the use of tablets more consistently"

LAB TEST DATA	Baseline	Post Intervention
Unique Patients	170	2
Number of Lab Orders	250	2



IMPACT

Overall, this project established a division framework and process to collate available research and translate into practice. Specifically, this example improved consistency in baclofen prescribing amongst our attending physicians and significantly decrease unnecessary lab monitoring. These efforts began to cultivate cultural changes within the division regarding use of evidence-based medicine and practice guidelines. Consistency in dosing and monitoring recommendations will help our division provide safer care for our patients, reduce deviations from practice guidelines, and reduce unnecessary lab draws.

1. **Contributors Barth** JH, Misra S, Aakre KM, Langlois MR, Watine J, Twomey PJ, Oosterhuis WP. Why are clinical practice guidelines not followed? Clin Chem Lab Med. 2016 Jul 1;54(7):1133-9.
2. Harvey A, Reddihough D, Scheinberg A, Williams K. Oral medication prescription practices of tertiary-based specialists for dystonia in children with cerebral palsy. J Paediatr Child Health. 2018 Apr;54(4):401-404.
3. Scheinberg A, Hall K, Lam LT, O'Flaherty S. Oral baclofen in children with cerebral palsy: a double-blind cross-over pilot study. J Paediatr Child Health. 2006 Nov;42(11):715-20.
4. McLaughlin MJ, Ratnasingam D, McGhee E. Variability of Steady State Oral Baclofen Prescribing Practices in Pediatric Patients With Cerebral Palsy. Am J Phys Med Rehabil. 2020 May;99(5):441-443.

Acknowledgements to internal mentor Dr. Kathy Shaw and external mentor Dr. Chris Garrison

OPTIMIZING RESIDENT RESEARCH ENGAGEMENT, TRAINING AND PRODUCTIVITY

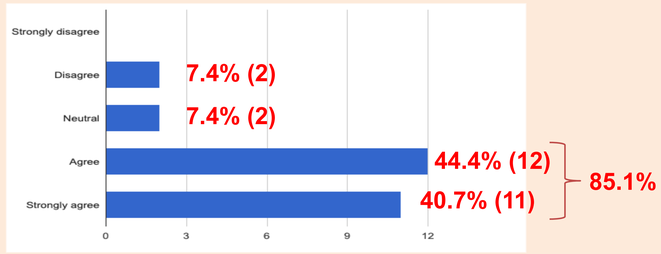
Prakash Jayabalan MD, PhD (Shirley Ryan AbilityLab)
Internal Mentor: James Sliwa DO (Shirley Ryan Abilitylab) External Mentor: Michael Boninger MD (UPMC)

PLAN

PROBLEM STATEMENT
Resident dissatisfaction with research education during training

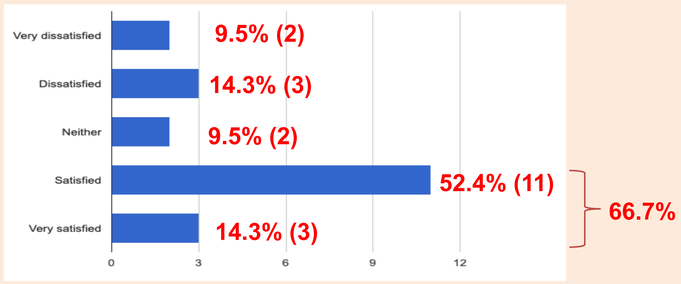
- PM&R residency programs have different methodologies and provision of opportunities for research training.
- Research opportunities are a known major reason for selection of residency programs for training.
- A survey showed that 85.1% of residents at our program are interested in performing research in residency

I AM INTERESTED IN PERFORMING RESEARCH IN RESIDENCY



- However, only 66.7% are satisfied with their research experience during residency

I AM SATISFIED WITH THE RESDENT RESEARCH EXPERIENCE AT SRALAB



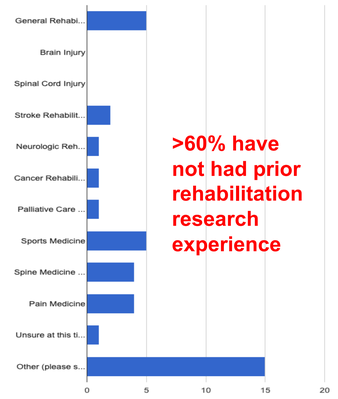
OPPORTUNITY STATEMENT
To improve satisfaction in resident research to 85%

PART 1: Root cause analysis consisting of a survey/focus group to identify barriers, enablers and potential solutions for residents

ROOT CAUSE

- REDCAP survey sent to PGY 2-4 residents (n=27 out of 36 possible respondents, response rate 75%)

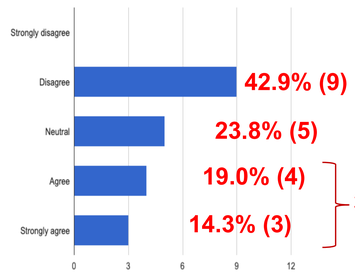
RESEARCH EXPERIENCE PRIOR TO RESIDENCY



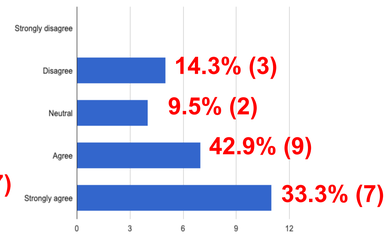
>60% have not had prior rehabilitation research experience

RESEARCH GOALS DURING RESIDENCY

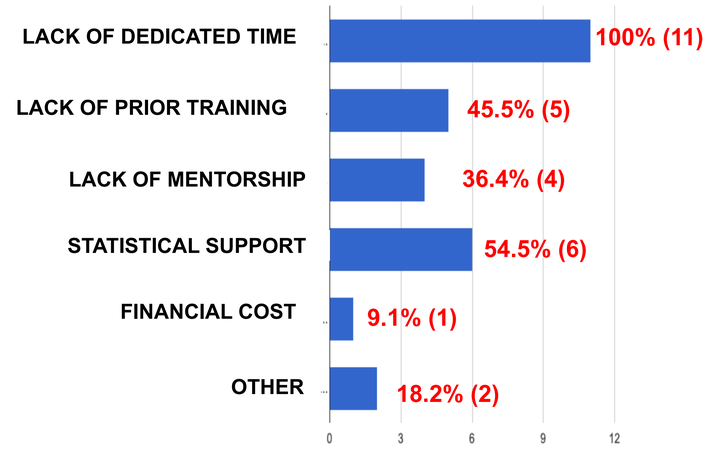
MY PROCESS MENTOR HAS BEEN BENEFICIAL FOR ME



MY PRIMARY MENTOR PROVIDES ADEQUATE INPUT ON MY PROJECT



BARRIERS TO PARTICIPATION IN RESEARCH DURING RESIDENCY



DO

1) Multiple opportunities for improvement.
- **Formation of our first residency research sub-committee**

2) Residents have varying backgrounds in research
- Holistic review of resident research skills, with individualized journeys in research based on interest matched with skills

3) Lack of dedicated time
- Highlight research continuity clinic and electives

4) Lack of prior research training
- Formalized resident research curriculum. Flipped classroom lectures, with focus on basic lecture series

5) Lack of Mentorship
- Residents will be asked research interests and individually matched with a mentor with skills and background in this domain.
- Mentors will also be provided direction as to the expectations of the resident and a checklist-based approach.

6) Publication and presentation experience
- Teach resident fundamental skills, in giving a presentation, writing an abstract, and creating a research poster ad writing a manuscript.
- These will be available as video lectures on our learning portal for residents. However individual residents will be given forums for practicing their presentations and/or get their presentations/posters evaluated prior to the conference.

STUDY

- **PART 2: Residents and faculty will be re-surveyed at 6 months and 12 months following the implementation of the interventions above**
- We will also track resident presentations and posters at national meetings as well as their satisfaction as new facets of the resident research experience.
- Ideally, they feel that the research skills they learn during their training will be beneficial to their career.

ACT

- Our actions will be based on the follow-up survey following implementation of the plan/solutions above.
- It will improve resident satisfaction and understanding of the research process and faculty engagement in the resident research process.
- We will serially re-evaluate the program on a yearly basis to examine the effectiveness.

Contact: Prakash Jayabalan pjayabalan@sralab.org

Improving Traumatic Brain Injury Model System Enrollment at Harborview Medical Center Inpatient Rehabilitation Unit

Cherry Junn, MD; Department of Rehabilitation Medicine, University of Washington, Seattle, WA
Onsite mentor: David Morgenroth, MD; External mentor: Gerard Francisco, MD

Background

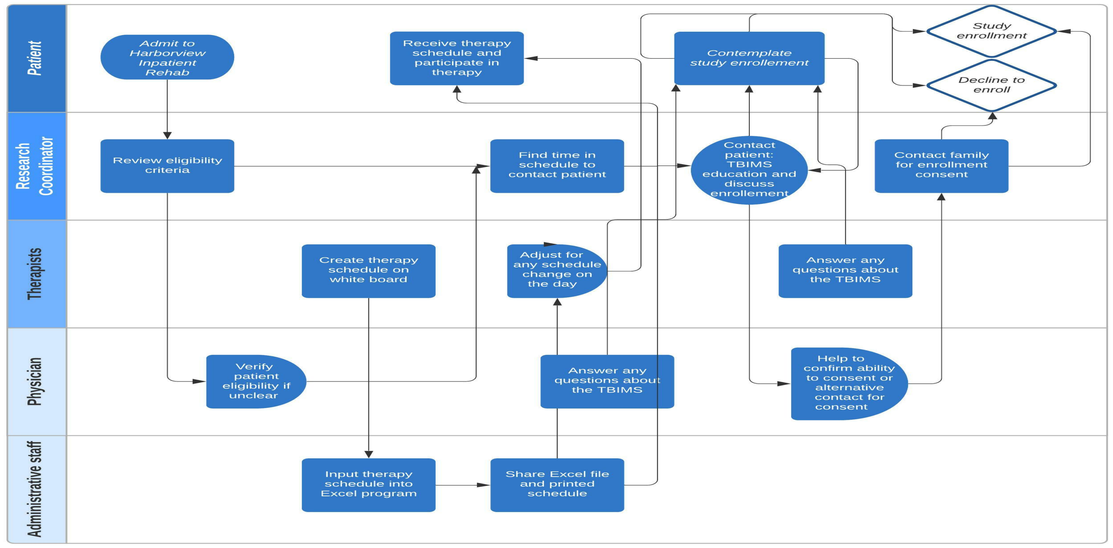
The University of Washington is one of the sixteen Traumatic Brain Injury Model System (TBI MS) centers. The TBI MS aims to understand recovery after brain injury and its sequelae. In 2020, the average quarterly enrollment rate at Harborview Medical Center (HMC) was 62.75%, below the 80% enrollment rate target. The research staff has noticed reluctance to enroll in the study despite the increased efforts. For one eligible participant, the research staff met in-person 12 times, only to decline enrollment.

Causes for such reluctance are unclear and likely multifactorial. One of the subjects expressed that they do not wish to talk to the research staff as they are not part of their rehabilitation team. Other causes include lack of understanding of ongoing research projects by the clinical staff, leading to miscommunication and distrust of the research staff. The COVID-19 pandemic added to this challenge as in-person interaction had to be discontinued, at times, based on the hospital policy.

AIM STATEMENT

This project aims to consistently reach the 80% TBI MS enrollment rate at Harborview Medical Center and decrease the average number of enrollment attempts to be fewer than 3 at 4 months.

Process Map



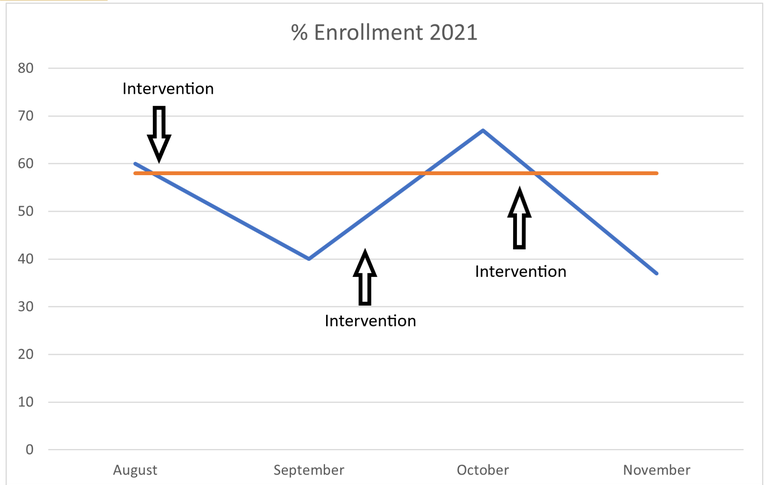
Driver Diagram and Intervention

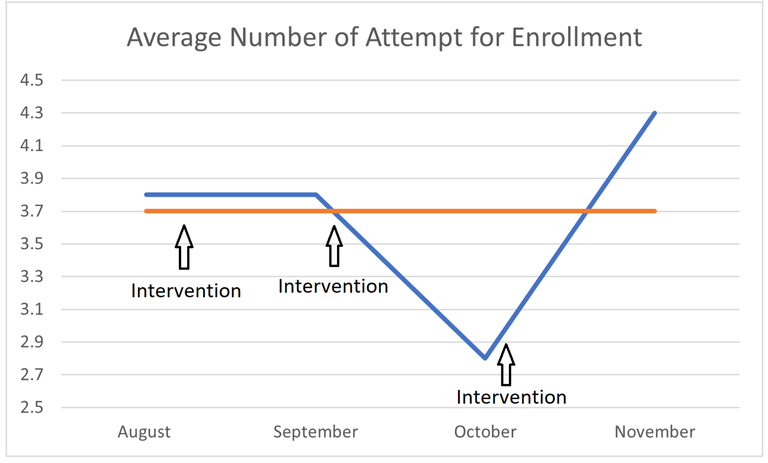
Determine Eligibility	Clear documentation of diagnosis in consults and IPR H&P
	Education: therapists and other clinical staff
	Check equity impact on eligibility criteria by comparing hospital admission data to eligible subjects
Getting Consent	Identify research enrollment attempts that occurred throughout the acute hospitalization to decrease confusion on different studies
	TBI MS education for clinical staff so that they can answer questions if asked
	Use up-to-date therapy schedule via EHR
	Clear documentation on cognitive function to help determine eligibility to contact
	Updated contact information for alternative person to consent if unable
	Education on TBI Model System
	Incorporate research staff into subject's daily schedule

First intervention:

- TBI MS education for residents and therapy staff to help facilitate turn around for eligibility determination and consent, as well as improving education of TBI MS for the participants

Run Chart





Conclusion

A clear trend could not be identified after the first set of interventions. Although both the enrollment rate and the average number of attempts for enrollment improved in October, this trend reversed in November. Both of the variables may have been affected by the presence of family to provide consent, small sample size, and lack of personal interaction with the research coordinators due to COVID-19 restrictions.

The goal is to continuously improve the enrollment rate and decrease the number of enrollment attempts by the research staff. The next step will be integrating the research staff into the subjects' daily inpatient rehabilitation schedule.

Research Facilitation on a Brain Injury Rehabilitation Unit

Kirk Lercher, MD
Kessler Institute for Rehabilitation West Orange, New Jersey
Internal Mentor: Miguel X. Escalon, MD
External Mentor: Clinton E. Faulk, MD

PHYSIATRY '22
New Orleans, LA
February 1-5, 2022

INTRODUCTION

One of the department's research programs, Abilities Research Center (ARC), has struggled to enroll patients into research studies directly from our inpatient rehabilitation unit. They requested assistance from physician leadership in coordination and facilitation of potential studies to recruit directly from our brain injury rehabilitation unit. Notably a feasibility study of a wearable technology, Axem functional near-infrared spectroscopy (fNIRS) headband, to help in the assessment of patient's stroke recovery and response to therapy, was developed with a plan to enroll patients admitted to the inpatient brain injury rehabilitation unit. The research coordinator reached out on a way to optimize enrollment into this study.

The Brain Injury Research Center (BIRC) at Mount Sinai Hospital has been recruiting patients from the inpatient brain injury rehab unit through a dedicated research coordinator who is funded by the TBI Model System grant and promotes participation in internal and collaborative studies. The coordinator communicates regularly with the inpatient medical team and approaches appropriate patients for recruitment.

Not all potential research projects have the staffing to match the BIRC efforts in recruitment and despite these efforts there is concern that even potentially appropriate patients may be falling through the cracks due to lack of awareness on the inpatient rehab staff of potential studies.

METHODS

I will survey inpatient therapy staff and residents/fellows who cover the inpatient brain injury rehabilitation unit to gauge the scope of their overall awareness of studies being recruited for from the inpatient unit and the stakeholders involved in research for the department. Additionally, I will assess their interest in participation in research and what their understanding is on how they seek out opportunities to collaborate in the department's research endeavors.

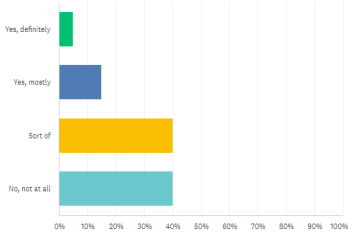
Regarding the specific fNIRS study, I will work collaboratively with the research team involved in this study as well as staff from the inpatient unit's admissions team to develop a streamlined mechanism to screen for potential patients who meet inclusion criteria for this study. The admissions team currently utilizes our hospital's electronic medical record (EMR) for communication of incoming admissions. Internally, the admissions team utilizes Microsoft Teams electronic files to communicate pending patients that are being screened for admission. I plan on accessing this internal system as a way to screen patients by diagnosis to facilitate transmission to our research team to optimize their ability to identify potential patients sooner rather than rely on EMR notifications of all incoming admissions of various diagnoses.

I will meet regularly with the research team to ensure enrollment is proceeding at an anticipated level for them to meet their proposed rate of enrollment of at least 4 patients per month by their timeline.

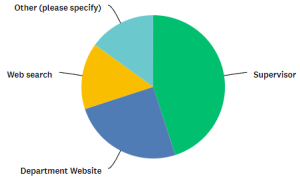
RESULTS

20 of 39 surveys were received from current residents, fellows and inpatient therapists. When asked how knowledgeable they felt regarding research studies taking place on the brain injury rehab unit; 16 responded 'sort of' or 'no, not at all'.

This was similarly reflected in a follow-up question asking respondents how many studies were backing actively recruited for with 6 saying they were unsure and 5 thinking there were no studies being recruited. The remaining responses showed 5 saying between 1-2 but not confident, 3 responders said 3 studies and 1 believed there were 5-7 studies.

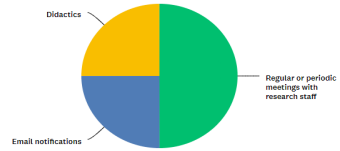


When asked what resources would they use to find information on a study their patient may be eligible for 45% of responders stated they would seek our their supervisor and another 25% said the department website and 15% said they would perform a web search. Of the remaining 15 % or responders 2 endorsed the would reach out to a research coordinator and one stated 'n/a'.



Respondents were asked to identify the name of the brain injury research group within the department. 55% of respondents were able to correctly identify the name of the BIRC, 30% identified 'Traumatic Brain Injury Model System' and 15 % identified the ARC, one the department's other research groups. When asked to identify the director of brain injury research, 60% of respondents were able to correctly identify the director of the BIRC and the remaining 40% incorrectly identified other research leaders in the department as the director of brain injury research.

Of all 20 respondents 17 endorsed that they would be interested in participating/collaborating in a research project, with one advising they were already collaborating. Of the remaining respondents, 2 said they were not interested and 1 responded 'occasionally'. 50% of respondents advised they would not know who to reach out to if they had a question about a research study or an idea for a research project. Of the remaining respondents to that question responses varied between 'supervisor', 'program director' or 'attending' with only one identifying one of the members of the research faculty as whom they would reach out to.



When asked what would be the best means of collaboration on research studies 50% of respondents endorsed 'regular or periodic meetings with research staff' and the remaining 50% was split between 'email notifications' and 'didactics'.

DISCUSSION

This project brought to light a disconnect that exists between clinicians on the inpatient rehabilitation units and researchers from our department. While the initial task here was driven by a goal to improve recruitment for one particular study it became clear that to optimize recruitment for that study a better understanding of this disconnect was needed in hopes of bridging this gap and thus facilitating improved recruitment for this and future studies.

A striking finding was that respondents do not feel knowledgeable about current research studies on the inpatient rehab unit with 16 out of 20 endorsing as much. This was verified with diverse responses to the question of how many studies are being done. Compounding this problem is that it appears that the respondents do not know where to seek information on research being done within the department. It also appears that respondents are unclear which group within the department is conducting brain injury research with only about half knowing the name of the group and 60% being able to identify the leadership of that group.

Promisingly, a majority of respondents endorsed an interest in collaborating on research and identified a desire to have periodic meetings with the research team as a means to facilitate this. Unfortunately, due to disruptions in our department brought on by the COVID-19 pandemic such meetings became limited but this information may reflect the benefits of bringing them back in some capacity to improve awareness and visibility of the research being conducted on the inpatient rehab unit. After such scheduled meetings with the research team are re-established on the inpatient unit a repeat survey will be re-submitted to assess efficacy in improving awareness of research on the inpatient rehab units.

CONCLUSION

Based on these findings we will propose a re-implementation of interdisciplinary meetings with members of the research team and clinical teams in some capacity (virtual or socially distanced) to promote awareness of and collaboration on research projects being done on the inpatient rehabilitation unit. Further, with improved awareness it is hoped that a more streamlined process can be developed to facilitate recruitment of patients into studies.

I anticipate with the development of this streamlined process for identifying potential patients it can be utilized and modified for future studies as well and ultimately will increase the research productivity that is generated by the inpatient rehabilitation units. Additionally, this collaboration will promote camaraderie amongst research and clinical staff to overall optimize patient outcomes.