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**2019-2021 MedStar Health Teaching & Research Scholars
Capstone Program**

Poster Presentations	3:30 - 5:00 pm
Research Scholars (3:30 - 4:00 pm)	
Graduating Teaching Scholars (4:00 - 4:30 pm)	
First-Year Teaching Scholars (4:30 - 5:00 pm)	
Welcome	5:00 - 5:05 pm
Tamika Auguste, MD	
Opening Remarks	5:05 - 5:15 pm
Stephen R.T. Evans, MD	
Teaching Scholars Presentation	5:15 - 5:35 pm
Heather Hartman-Hall, PhD	
<i>MFSMC Medicine</i>	
“We don’t really talk about it.” Role modeling and coping with patient deaths in the ICU	
Research Scholars Presentation	5:35 - 5:55 pm
Pashna Munshi, MD	
<i>MGUH Hematology/Oncology</i>	
“ <i>We’re In This Together: Self-Preparedness, Caregiver Burden, and Patient-Reported Outcomes in Patient/Caregiver Dyads in the Hematopoietic Stem Cell Transplantation Setting</i> ”	
Closing Remarks	5:55 - 6:15 pm
Aviad Haramati, PhD	

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Selena Briggs, MD, PhD, MBA, MAUML, FACS

MedStar Washington Hospital Center

Selena E. Briggs, MD, PhD, MBA, MAUML, FACS, is an attending otologist, neurotologist and skull base surgeon holding board certification in both Otolaryngology and Neurotology. Dr. Briggs is the Vice Chairman of the Department of Otolaryngology at MedStar Washington Hospital Center. She is an Associate Professor within the Department of Otolaryngology at Georgetown University School of Medicine. She previously served as the Director of Otology, Neurotology and Audiology at Beth Israel Deaconess Medical Center, attending surgeon at Boston Children's Hospital and as an Assistant Professor of Otolaryngology at Harvard Medical School in Boston, Massachusetts.

Dr. Briggs is a fellow of the American College of Surgeons (FACS) and a fellow of the American Neurotology Society (ANS). She has service in leadership within multiple national organizations. Dr. Briggs was elected to the Audit Committee of the American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNSF) where she served as chair of the committee. She

has also served on numerous committees of the AAO-HNSF including the Patient Safety and Quality Improvement Committee, Imaging Committee, and Humanitarian Efforts Committee. Dr. Briggs served as chair of the Geriatric Committee of the AAO-HNSF and co-chair of the taskforce that developed the MIPS age related hearing loss measures for CMS on behalf of the Academy. She also serves on the Executive Committee for the American Society of Geriatric Otolaryngology. She also serves on the ANS Continuing Education Committee.

She is frequently invited to speak at meetings of professional societies. Her lecture topics have ranged from the understanding the business of medicine to cochlear implantation in the geriatric population. Dr. Briggs is a peer reviewer for several publications, including *Otology & Neurotology*, *International Journal of Pediatric Otolaryngology*, and *Otolaryngology – Head and Neck Surgery*. She serves on the Editorial Board for *Operative Techniques in Otolaryngology* and the *Connections Magazine*. Her research has been published in scientific journals, including *Nature Biotechnologies*. She has authored and edited numerous texts and written multiple chapters on various topics related to otology and skull base surgery.

Dr. Briggs obtained her bachelor's degree for the University of Pennsylvania. She completed her medical degree at the University of Cincinnati College of Medicine, followed by a surgical internship and otolaryngology-head and neck surgery residency at the University of Minnesota, and a fellowship in neurotology at New York University. Dr. Briggs earned an MBA from the University of Cincinnati. She also earned a PhD in otolaryngology from the University of Minnesota for her research on prevention and management of age-related hearing loss.

Dr. Briggs' research interests include:

- Age related hearing loss treatment and prevention
- Cochlear implantation
- Healthcare disparities
- Quality and safety in the care of otolaryngology patients
- Innovations in neurotologic surgery
- Leadership development and wellness
- Impact of followership on organizational success

[Link to Abstract](#)

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The Impact of Leadership Development on Team Wellbeing

Author: Selena E. Briggs, MD, PhD, MBA, FACS^{1,2}; Co-Author: Felicia Hamilton, MD, FACOG¹

¹MedStar Washington Hospital Center, ²MedStar Georgetown University Medical Center



Abstract

Aim: To evaluate the impact of leadership development on burnout and fulfillment amongst direct reports.

Background: Within the literature, perceived skill level of leaders by direct reports has been correlated with rates of burnout and fulfillment among direct reports.

However, there is no data evaluating whether augmenting a leader's skill level would impact burnout and fulfillment in direct reports.

Methods: Pilot study of leadership training intervention utilizing chief residents as leaders and junior residents as direct reports. Pre and post training surveys were performed of leaders and direct reports regarding perceived leadership skill of the chief residents, personal burnout and personal fulfillment.

Conclusions: Although the sample size of the study is limited, leadership training appears to improve junior resident perception of chief resident leadership skills and positively correlate with junior resident fulfillment.

Introduction

Physicians and healthcare providers rank amongst the highest in rates of burnout across professions. Burnout has a myriad of impacts on an individual both personally and professionally. From a physical health perspective, burnout has been correlated with shorter life expectancy as well as increased rates of substance abuse, depression, suicide and motor vehicle accidents.^{1,6} Professionally, amongst healthcare providers, burnout has been linked to a decline in professionalism, a lost sense of calling in medicine, decline in career satisfaction, decreased productivity, decreased work effort, and increased physician turnover.⁵⁻¹⁰ Physician burnout can have a negative impact of patient care leading to increased medical errors, lower patient satisfaction scores, increased malpractice and decreased patient compliance.^{8,13} Specifically, amongst residents, burnout has been correlated with worsened residency performance, worsened self-reported patient care, lower scores on standardized medical knowledge tests and a higher likelihood to leave academic medicine.^{13,17} Specific to MedStar, from the most recent system survey, rates of burnout amongst residents at MedStar Washington Hospital Center (MWHC) and MedStar Georgetown University Hospital (MGUH) were 42% and 45%, respectively. Rates of fulfillment for MWHC and MGUH were both 31% amongst residents with an intention to leave specialty rate of 30% and 27%, respectively. When comparing female to male counterparts, rates of burnout were higher amongst females with a more pronounced difference noted at MWHC (female 51%, male 37%). Interestingly, within the literature and within the internal survey, leadership was correlated with burnout. In a study by Shanafelt in which employees rated their leader on a 60 point composite score, a 1 point increase in leadership score of the immediate supervisor was correlated with a 3.3% decrease in likelihood of burnout ($p<0.001$) and 9% increase in likelihood of satisfaction ($p<0.001$).

Methods

Leadership training was administered to chief residents in two surgical residencies: Otolaryngology and Obstetrics & Gynecology. The leadership training included two sessions of at least 2 hours of didactic and interactive small group sessions.

Surveys were administered to the chief residents and junior residents which included the modified Maslach fulfillment and burnout questionnaires, as well as a leadership assessment adapted from Shanafelt et al.¹⁰ Descriptive statistics were utilized to analyze burnout and fulfillment rates. A Pearson's correlation coefficient was calculated to assess the correlation between leadership scores as compared to burnout and fulfillment scores.

Figures

Figure 1.

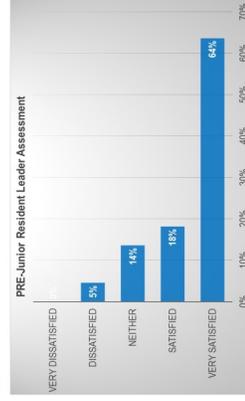


Figure 1
Leadership satisfaction scores reported by junior residents of their chief residents prior to the leadership intervention.

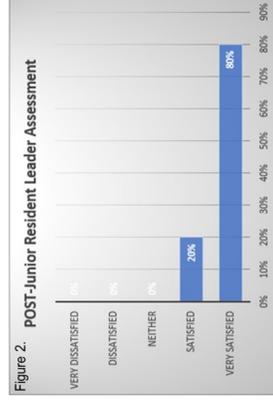


Figure 2
Leadership satisfaction scores reported by junior residents of their chief residents following the leadership intervention.

Results

A total of 22 junior residents completed the pre intervention survey with a total of 10 residents completing the post intervention survey. According to the overall burnout survey, 36% of junior residents were at risk of burnout in both the pre and post intervention survey. According to the burnout by fulfillment survey, 23% of junior resident in the pre intervention survey and 27% of residents in the post intervention survey were at risk of burnout. Pre and post intervention satisfaction scores are presenting in Figures 1 and 2. On review of the correlation between pre intervention burnout/fulfillment scores and leadership, a Pearson correlation coefficient of -0.34 ($p=0.06$) was noted for burnout and leadership; a Pearson correlation coefficient of 0.22 ($p=0.15$) was noted for fulfillment and leadership. The Pearson correlation coefficient for burnout and leadership in the post intervention survey was 0.20 ($p=0.23$). Interestingly, in the post intervention survey, a Pearson correlation coefficient of 0.68 ($p=0.01$) was noted for leadership and fulfillment.

Limitations/Next Steps

The main limitation of the study is in sample size. As a pilot study, there was by design a limited sample size to assess the feasibility of the intervention and potential impact of the intervention. Similarly, limited follow-up participation impaired post intervention statistical analyses. Additionally, the timing of the post-intervention survey seasonally may have created a confounding variable.

Conclusion

Leadership training of chief residents has a positive impact of junior resident perception of chief resident leadership skills.

Leadership training of chief residents may have a positive correlation with junior resident fulfillment rates.

Further, larger scale study is necessary to further elucidate these findings.

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Acknowledgements

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Elizabeth Chawla, MD, FAAP

Medstar Georgetown University Hospital

Elizabeth Chawla, MD, FAAP, is a primary care pediatrician and attending physician at Medstar Georgetown University Hospital (MGUH), as well as an Associate Professor of Pediatrics at Georgetown University School of Medicine. At MGUH she is the Associate Program Director of the Pediatrics residency program, the residency continuity clinic director, and the co-director of the Integrated Mental Health Clinic at Medstar Georgetown Pediatrics at Tenleytown.

Dr. Chawla is a fellow of the American Academy of Pediatrics (FAAP) and is board-certified in General Pediatrics. She has been named a principle member of CENTILE at Georgetown University School of Medicine and is an active member of this Medical Education community of practice.

Dr. Chawla is active in several professional societies. She is a member of the Academic Pediatric Association (APA) and is the Georgetown delegate to APA Region IV, the American Academy of Pediatrics (AAP), and the Association of Medical Education in Europe (AMEE). She is a member of the Association of Pediatric Program Directors (APPD) and was recently named the Chair-Elect of the Mental and Behavioral Health Learning Community of the APPD. In this role she is co-leading a multi-organization collaboration to build a national Mental and Behavioral Health curriculum for pediatric residents.

Dr. Chawla has been selected to present as well as lead workshops at several national meetings of professional societies. These presentations have included the topics of mental and behavioral health education for pediatric residents, using standardized patients to teach communication skills, the innovative use of virtual SIM during the pandemic, and topics of faculty development and mentoring.

Dr. Chawla graduated with a medical degree from Georgetown University School of Medicine. She completed her residency training in pediatrics at Medstar Georgetown University Hospital, where she also was selected for an additional chief residency year.

Dr. Chawla's research interests include:

- Mental & Behavioral Health Care for pediatric patients
- Mental & Behavioral Health Education for pediatric residents
- Communication skills
- Innovative uses of simulation

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Maria Felton Lowry, PharmD

University of Pittsburgh

Maria Felton Lowry, PharmD is an Assistant Professor at the University of Pittsburgh School of Pharmacy in the Department of Pharmacy and Therapeutics in Pittsburgh, PA. In addition, she is a Palliative Care Clinical Pharmacy Specialist at University of Pittsburgh Medical Center (UPMC) Palliative and Supportive Institute. In her previous role, she served as a Palliative Care Clinical Pharmacist at MedStar Union Memorial Hospital in Baltimore, MD.

During her time at MedStar Health, she was awarded the Dr. Thomas Wilson Clinician of the Year Award within MedStar Health's Palliative Care Department for her dedication to patient care, teaching, and research.

Dr. Lowry is an active member of the Society of Pain and Palliative Care Pharmacists, where she serves on the Development Committee and Student and Resident Engagement Subcommittee. Through this Society, she was selected to be a member of a national workgroup responsible for developing Entrustable Professional Activities for hospice and palliative care clinical pharmacists.

Dr. Lowry has presented at national meetings such as American Academy of Hospice and Palliative Medicine, American Geriatrics Society, and Society of Teachers of Family Medicine. She is a peer reviewer for the *Journal of Palliative Medicine*. Her research has been published in scientific journals, including *Journal of Pain and Palliative Care Pharmacotherapy* and *American Journal of Hospice and Palliative Medicine*.

Dr. Lowry received her PharmD from the University of Pittsburgh School of Pharmacy. She then completed a Post-Graduate Year One Pharmacy Practice and Post-Graduate Year Two Geriatric Residency at UPMC St. Margaret as well as an Interprofessional Faculty Development Fellowship through University of Pittsburgh Department of Family Medicine in Pittsburgh, PA. Dr. Lowry is a Board Certified Pharmacotherapy Specialist and a Board Certified Geriatric Pharmacist.

Research Interests:

- Deprescribing
- Polypharmacy
- Interprofessional medical education

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Development and Validation of a Palliative Care Student Pharmacist Assessment Tool

Maria Felton, PharmD, BCPS, BCGP¹, Keshelle Lockman, PharmD², Chris Herndon, PharmD³, Rabia Aveye, PharmD⁴, Katherine Juba, PharmD⁵, Jayne Pawasauskas, PharmD⁶, Victor Phantumvanit, PharmD⁷, James Ray, PharmD⁸, Mary Lynn McPherson, PharmD⁹, Jennifer Pruskowski, PharmD¹⁰

1. University of Pittsburgh School of Pharmacy, 2. University of Iowa College of Pharmacy, 3. Southern Illinois University Edwardsville School of Pharmacy, 4. Skaggs School of Pharmacy and Pharmaceutical Sciences, University of California San Diego, 5. St. John Fisher College Wegmans School of Pharmacy, 6. University of Rhode Island College of Pharmacy, 7. Dana Farber Cancer Institute, 8. University of Maryland School of Pharmacy

Introduction

Palliative care (PC) is a growing field. As of 2019, 72% of hospitals with fifty or more beds report having a palliative care team.¹ Interprofessional PC teams are typical, however a 2014 Center to Advance Palliative Care (CAPC) report found only 56 of 389 (14%) inpatient palliative care programs included a pharmacist.²

This could be a result of the multiple career pathways that exist for PC Pharmacists, and limited standardized specialty training. Currently, there are only 26 PGY2 Pain/PC Residency Programs in the United States and board certification for palliative care pharmacists does not exist.

An overlap of PC principles, empathy, critical thinking, communication, exist in many other pharmacy specialties. Because of this an effort has been made for increased integration of PC principles into PharmD curriculum. A variety of design themes for integration of palliative care into PharmD curriculum have been suggested in the literature including but not limited to: simulation, elective courses, IPPE/APPE rotational experiences, and areas of concentration/certificate programs.³

At this time, we do not have a way to measure students' progress in PC or how successful these experiences are in achieving learning objectives as no assessment tool exists for student pharmacists specific to palliative care.

Project Aims:

1. Measure clinical progress in field of palliative care
2. Validate current educational efforts
3. Drive faculty assessment and development
4. Determine gaps in curriculum to improve integration of palliative care

Future research question:

Has "X" palliative care learning experience improved student pharmacist clinical performance?

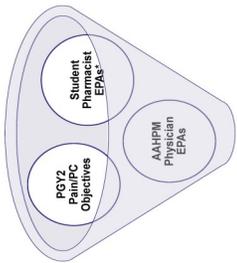
Objective

The objective of this project is to develop a valid and reliable, palliative care-focused, assessment tool for student pharmacists

Phase 1

Methods

Step 1 Domain Development



Hospice and Palliative Care (HAPC) Clinical Pharmacy Specialist EPAs

Student Pharmacist Palliative Care Assessment Tool

¹EPA, entrustable professional activity

Step 2 Validity Testing

1. Face Validity
2. Content Validity

CVI	Content Validity Index
I-CVI	Indicator Content Validity Index
MEP	Mean Expert Proportion
CVI-JUA	Content Validity Index-Universal Agreement
S-CVI/UA	Scale Universal Agreement

S-CVI ≥ 0.9 for validity

Step 3 Reliability Testing (Phase 2)

- University of Pittsburgh School of Pharmacy, 3rd year pharmacy students (n=4)
- Virtual Standardized Patient Exam
- Tool utilized by 10 evaluators to determine interrater reliability
- Reliability testing method: inter-rater reliability
- This is in progress

Results

Domain Development

Performance Assessment – Standardized Patient Interaction

- Stations (35 minutes total):
 - Simulated "pre-rounds"
 - Patient Interview
 - Recommendation to Interprofessional Team Member
 - Documentation as SOAP Note

JM is a 65 yo male with PMH: Stage IV pancreatic cancer, initially diagnosed March 2021, with metastases to liver and lymph nodes-T3 N1 M1, HTN, hyperlipidemia
 Oncologic Treatment History: On 3/10/21 started clinical trial, utilizing FOLFIRINOX versus modified dose FOLFIRINOX plus CPI-last treated 4/22/21, now off trial and is not pursuing further treatment.
 CC: Presents for a telehealth visit with the palliative care clinic with intractable pain. Chronic pain (> 3 months) in his abdomen and radiates around to his back for which he has had 2 celexa nerve blocks (last being about a week ago), using oxycodone 25mg Q4H without relief

Validity Testing

1. Face Validity
 - 4 rounds completed: consensus reached for face validity
2. Content Validity
 - Round 1: 14 HAPC EPAs
 - Consensus to remove 5 of the EPAs: administrative tasks like leading committees or medication stewardship efforts, managing palliative care emergencies, self care, psychosocial/spiritual/existential suffering, discontinuation of life-sustaining therapies
 - Supporting statements were drafted (n=34) for each of the EPAs kept.

Round	EPAs	Activities	CVI-JUA	MEP	S-CVI/UA
2	9	34	0.29412	0.8333	0.8333
3	9	30	0.76667	0.9593	0.9593

Tool Example

Patient Encounter	Completed Task
Interview student pharmacist role on HAPC team	
Introduce HAPC role in patient's care	
Assess adherence to current medication	
Assess location and quality of pain	
Assess timing and duration of pain	
Assess palliating and precipitating factors of pain	
Assess severity of pain	
Assess how the pain affects patient's activity	
Assess constipation	
Respond to patient's emotion	
Identify patient goals as it relates to treatment plan	
Discuss benefit and burden of medication therapy	
Provide education on medication use	

Limitations

- Variability with standardized patients; human "error"
- Checklist assessments could fail to capture more subtle communication skills
- Checklist assessment may alter learner's approach to communicating to maximize points
- Performance-based assessment are not identical to "real-life scenarios"

Next Steps

- Reliability testing for interrater reliability in progress
- After tool is deemed valid and reliable:
 - Assess student achievement of palliative care-specific learning outcomes after palliative care learning experience
 - Track progress of students participating in palliative care-focused experiences to show value of learning experience
 - Integration of palliative care into other areas of pharmacy curriculum

Conclusion

This validated tool will afford schools and colleges of pharmacy with integrated palliative care education, specifically clinical rotation experiences, an opportunity to assess student achievement of palliative care-specific learning outcomes and highlight opportunities for curriculum improvement.

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Acknowledgements

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 Thank you to the volunteers who assisted with the reliability testing phase: Dr. Ceria Khalaf, Dr. Kristel Chabeller, and "anonymous" student pharmacists at the University of Pittsburgh.

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Heather Hartman-Hall, PhD

MedStar Franklin Square Medical Center

Heather Hartman-Hall, PhD is a clinical psychologist on the MedStar Health Internal Medicine (MHIM) faculty as well as a behavioral health consultant in the Primary Care Center at MedStar Franklin Square Medical Center. As an assistant professor of Clinical Medicine in the Georgetown University School of Medicine, she teaches didactics and mentors research projects on well-being and behavioral health topics. Her previous experience includes work in the public mental health system and directing a American Psychological Association accredited doctoral psychology internship program.

Within MHIM, she is the Director of Residency Well-Being and Behavioral Health Education. She serves as co-chair of the residency's Clinical Competency Committee and chairs the MHIM Wellness and Social Committee. She clinical instruction and wellness training for 149 residents and dozens of medical students annually. She also serves on the MedStar Wellbeing Steering Committee, directing mental health initiatives for Medstar physicians and associates and chairing the Med-Star GME Wellbeing Committee.

The recipient of two MedStar SELECT grants for research relating to medical education as well as a MedStar Health Teaching Scholar, Dr. Hartman-Hall is conducting research projects on how training programs can effectively address resident well-being as well as behavioral health QI projects in the clinical setting. Dr. Hartman-Hall is regularly an invited speaker on wellbeing in academic healthcare settings, and has presented posters and workshops at national conferences.

Dr. Hartman-Hall earned her PhD from American University in Washington, DC and completed her doctoral internship at Springfield Hospital Center, a state psychiatric hospital in Carroll County, Maryland.

Her research interests include:

- Resident well-being and fatigue
- Physicians' coping with patient deaths
- Behavioral health screening and brief intervention in primary care
- Physician mental health
- Physician communication

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“We don’t really talk about it.” Role modeling and coping with patient deaths in the ICU.

Heather Hartman-Hall, PhD; Stephen Selinger, MD
MedStar Franklin Square Medical Center



Abstract

Role modeling has been identified as an important component of medical learners’ training in coping with patient deaths. In this qualitative study, internal medicine residents and their ICU attendings were interviewed to better understand what attendings are intending to teach and what residents perceive they are learning about how physicians cope with patient deaths. There may be gaps in role modeling, which could be addressed by team debriefings after a patient death.

Introduction

Physicians often experience distress when faced with the death of a patient under their care, and provider grief can have negative outcomes if unaddressed.^{1,2}

There is agreement that improved training in dealing with patient deaths is needed,³ and talking about patient deaths may be helpful especially for trainees.^{4,5}

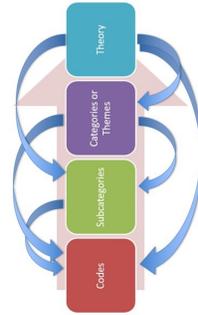
Role modeling is an important factor in medical education, and the informal or hidden curriculum may be a core component in how residents learn about coping with patient deaths.^{6,7}

A limitation in previous research on role modeling in coping with patient deaths was that data were not collected from the teachers and learners.⁸

Methods

-Qualitative study using semi-structured interviews
-MHIM* residents and their ICU attendings in 3 hospitals
-15 residents (9 female); 8 PGY1, 4 PGY2, 3 PGY3
-7 attendings (2 female); years in practice 1.5-34
-Interviews recorded and transcribed, coded for themes
-Interviews conducted until thematic saturation achieved

Grounded theory method



Research Question

What are ICU attendings role modeling to MHIM residents about coping with patient deaths?

You definitely don't see a lot of emotion or reactions from attendings

I cried so much, I cried

You don't necessarily want other people, you want to look and be tough. But that's not the reality.

Think, debriefing and I think back... taking people that were involved in deaths and talking about it. How to deal with death and dying and how to deal with that as a physician.

It becomes like so distressing to us...kind of traumatizing

We don't really talk about it.

Did I miss something? Did I do something that was wrong?

Interview Themes

1. Some deaths are more difficult than others
2. Residents and ICU attendings experience a range of emotional reactions to patient deaths
3. ICU attendings tend to not show reactions to patient deaths
4. Residents question their own competency, ICU attendings question the process
5. Deaths are rarely discussed
6. Team debriefings could be helpful

What is role modeled (or not) for residents in the ICU?

- Perception that attendings are not affected by patient deaths
- Residents negatively appraise their own reaction to patient deaths
- Negative beliefs about their own abilities go unchallenged

Putting it all together:

There are gaps in role modeling about coping with patient deaths in the ICU, creating an informal curriculum that may leave residents unprepared to cope with patient deaths.

Team debriefings after a difficult patient death could bridge these gaps.

Limitations and next steps

Results reflect the experiences of residents and ICU attendings in MedStar Baltimore hospitals and may not generalize to other settings. Biases of the authors, including the belief that discussion of emotional responses is generally helpful, may have influenced our findings.

Next steps include piloting team debriefings after patient deaths in the ICU to clarify the best methods and address potential barriers.

Conclusion

Gaps between role modeling by ICU attendings and perceptions of residents in how physicians cope with patient deaths may be creating an informal curriculum that leaves residents less than well-equipped to cope effectively. Semi-structured team debriefings after patient deaths may help bridge these gaps.

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Acknowledgements

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*MHIM, MedStar Health Internal Medicine residency, Baltimore

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Virginia Malatack MD

Medstar Georgetown University Hospital

Virginia Malatack MD is an Assistant Professor of Medicine at Medstar Georgetown University Hospital. She is the director of the Michael Adams MD Clinician Educator Track in the Internal Medicine Residency, which she co-founded in 2019 and has grown to 23 residents for the 2021-2022 cohort. She is also the Medical Director for the 2 North Intermediate Care Unit at Medstar Georgetown Hospital.

Dr. Malatack's career interests include resident and faculty career development and mentorship, and inpatient care at the end of life. She completed the VitalTalk Faculty Development program which focuses on communication of difficult news, and leads communication workshops for Internal

Medicine residents. She is on the steering committee that leads the Georgetown Inpatient Hospice program, which functions in conjunction with Capital Caring Hospice.

Dr. Malatack graduated from Jefferson Medical College in 2010 and completed her residency in internal medicine at Baylor College of Medicine in 2013, with awards in Humanism and Excellence in Clinical Medicine. She is a member of Phi Beta Kappa and Alpha Omega Alpha honors societies, as well as the Society for Hospital Medicine.

Dr. Malatack's research interests include professional identity formation during residency. Along with colleagues from Emergency Medicine, Pulmonary and Critical Care and Infectious Disease, she developed the Medstar COVID19 REDCap Registry which captured data on the first 1,000 patients cared for at Medstar Georgetown and Washington Hospital Center with COVID19. In addition, she is a co-investigator on two NIH studies for COVID19 treatments.

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Professional Identity Formation in a Clinician Educator Track for Medical Residents

Virginia J. Malatack, MD
MedStar Georgetown University Hospital



Abstract

Aim: We seek to answer if and how participation in a clinician educator track affects a residents' professional identity formation as a clinician educator.

Background: In recent years, residency and fellowship programs have started to offer clinician educator tracks (CETs) to prepare trainees for scholarly careers in medical education. We posit that CETs may have a meaningful impact on residents' professional identity formation as clinician educators.

Methods: Track participants answered 4 questions after a year in the program via audiojournaling. Responses were transcribed and reviewed by the author for themes.

Conclusions: We found that participating in the track did affect the residents' professional identity as clinician educators in that they found there was a broader meaning, that being a clinician educator does not just involve formal teaching, but also acknowledging the hidden curriculum, role-modeling, coaching, and being familiar with medical education research. Those that did not feel that their definition of identity changed still noted that the track affected the intentionality of their teaching and strategies for education. Finally, we found that areas that we can support residents' as clinician educators are in providing tools to deliver difficult feedback, engage disengaged learners, and use a virtual platform to teach.

Introduction

In recent years, residency and fellowship programs have started to offer clinician educator tracks (CETs) to prepare trainees for a breadth of scholarly careers in medical education. Literature on these tracks focuses on outcomes such as confidence in teaching, satisfaction and scholarly work. We posit that CETs may have a meaningful impact on residents' professional identity formation as clinician educators. Professional identity formation is critical to producing future clinician-educators who can mentor and guide junior trainees. We seek to answer if and how participation in a clinician educator track affects a residents' professional identity formation as a clinician educator.

Methods

Population: PGY2 and PGY3 Internal Medicine and Med Peds residents who are participating in the Michael Adams MD Clinician Educator Track at MedStar Georgetown Hospital

Target sample: 14 residents in the track

Sampling strategy: Residents responded to 4 prompts via audiojournaling. The responses were transcribed, and coded for themes

Research design: Qualitative Study, Thematic analysis

Results

What Does Clinician Educator mean to you? Describe a time when you felt like a clinician educator.

- Translating knowledge to bedside
- Debriefs, Clinical reasoning
- Coaching
- Modeling behavior
- Delivering prepared lectures
- "Triple threat": Clinical, Research, Education

Please describe a time when it was challenging to be a Clinician Educator.

- **Struggling Learner**
"Being critical of others when I know their intentions"
"When you have identified someone who you believe is struggling and trying so hard"
"A learner who was relatively disengaged...how to engage them"
"Residents who are struggling...I think those moments are hard to figure out how to make a resident feel like I'm not trying to attack them personally in any way."
- **Insecure about knowledge**
"Right now as a fellow...I don't feel like a clinician educator"
"extraordinarily steep...I don't feel like a clinician education"
- **Additional Clinical responsibilities**
"Bureaucracy in the academic hospital"
"If you have too many clinical responsibilities at the same time..."
- **COVID**

Has the meaning of clinician educator changed during the COVID19 pandemic? If so, how?

- **Not the meaning, but the challenges**
No longer at bedside
Virtual
Less engagement, don't see faces
Less interactive
Another skill to master
Focus on the social circumstances
Amount of work
Amount of information

Limitations and Next Steps:

Future directions including increase the number of responses by asking subsequent cohorts to participate in order to reach thematic saturation and to compare answers with those residents who are not in the track.

Conclusions:

Participation in the Clinician Educator Track did affect residents' professional identity as a Clinician Educator.

- Broader view. Not just formal teaching, but also hidden curriculum, role-modeling, coaching, medical education research.
- Affects intention and strategies for education.

Areas to support:

- Providing feedback to struggling learners
- Teaching on a virtual platform
- Engaging disengaged learners

Results (continued)

Did your view of what it means to be a Clinician Educator Change during your time in the track? If so, how?

- **Not the meaning, but the means.**
Intentionality
Ability
Confidence
- **Not just formal teaching**
Coaching
Modeling Behavior
- **Broader meaning**
You can be successful in academic medicine."

"It's definitely an evolving field right now...like a really broad concept and there are so many different options you can be successful in academic medicine."
"How much more broad it can be, whether that means you have an interest in kind of curriculum development, or really, um, some more of the, the, the, the direct hands-on teaching."

Acknowledgements:

THANK YOU to the Teaching Scholars Faculty and Co-Faculty. I have learned so much. The knowledge I gained from Teaching Scholars directly affected curriculum for the residents in the track. My own professional identity as a clinician educator evolved significantly during my time in Teaching Scholars.

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B. Sharmila Mohanraj, MD

MedStar Georgetown University Hospital

B. Sharmila Mohanraj, MD is an attending Infectious Diseases physician at Medstar Georgetown University Hospital (MGUH). In addition, she is an assistant professor of medicine at Georgetown University School of Medicine. Her previous experience includes service as an attending hospitalist at Massachusetts General Hospital, Boston, MA. At MGUH, she is the associate program director for the Infectious Diseases fellowship program.

In these roles, she provides clinical and academic instruction for the fellows as well as rotating Internal Medicine residents and medical students. She oversees the core curriculum lecture series for the fellows, and heads the clinical competency

committee as well.

Dr. Mohanraj is a member of the American College of Physicians and the Infectious Diseases Society of America. She served as Secretary for the Greater Washington Infectious Diseases Society from 2017-2018. She is board certified in Internal Medicine (2010, 2020) and Infectious Disease (2012) by the American Board of Internal Medicine.

Her medical degree is from the University of Connecticut School of Medicine. She continued her training in residency at Thomas Jefferson University Hospital and fellowship at Drexel University/Hahnemann University Hospital.

Dr. Mohanraj's research interests include HIV (epidemiology and antiretroviral adverse effects), technology and medical education and curricular innovation.

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Antibiotic module format: Basic multiple-choice vs gamified quiz.

B. Sharmila Mohanraj, MD
MedStar Georgetown University Hospital, Division of Infectious Diseases

Abstract

There can be significant gaps between entering first year Infectious Disease (ID) fellow's baseline antibiotic knowledge, but this topic is not always allotted formal teaching time in fellowship. This pilot project compared user experience for two formats of an antibiotic quiz that could potentially be used as an antibiotic "bootcamp" – a game-based online quiz versus a traditional online question bank. Due to diversion of resources for the pandemic, the format of the gamified quiz was changed mid-way through the study. Although participants were limited, there was a trend to evaluating the gamified format as more novel and efficient, as well as engaging and motivating. Learner preferences were varied, but regardless of quiz format, most would recommend the quiz to a peer/colleague.

Introduction

Basic knowledge of antibiotics is an essential part of the core clinical competency of "Medical Knowledge" for ID fellows. It is also an integral part of the competencies for effective "Patient Care" and "Practice-based Learning and Improvement." Antibiotics basics are not always assigned dedicated formal instruction time, as it's presumed that many entering fellows will already have a firm baseline knowledge. However, in our experience, this baseline can vary considerably among new fellows. An antibiotic module for entering PGY-4's could address this disparity in fellows' knowledge. In contemplating the optimal format to present this programmatic change, a serious game seemed to fit well.

Serious games use the principles of gaming (enjoyment, competition, rewards) for educational purposes. Due to their inherently interactive nature, games are particularly well-suited to engage the principles of Active Learning, including decision-making and self-reflection. They also utilize Csikszentmihalyi's theory of optimal experience and the concept of flow—a psychological state where enjoyment is stimulated while learning takes place. The rote nature of antibiotic basics makes for a dry subject that can be challenging to learn and memorize. Gamification could be a useful tool to better engage learners for this topic.

Methods

Phase 1: A bank of thirty multiple-choice questions covering fundamentals of anti-bacterial drugs (spectrum of activity, mechanism of action, mechanism of resistance, adverse effects, and pharmacology) was created by the author. Questions were validated for accuracy and scope by two independent ID faculty at MedStar Georgetown University Hospital.

Phase II: Although the ultimate target learners are ID fellows, for this pilot project, we included multiple learner levels to increase participation and solicit a broad array of opinions.

Our research question was: Among various levels of learners (medical students, residents, fellows), is a game-based online quiz assessed as more novel and engaging than a traditional online question bank as measured by a user experience questionnaire? The quizzes were untimed and estimated to take 20-30 minutes to complete.

For the gamified quiz, a reverse hangman-style game was developed with the assistance of SITEL engineers. Unfortunately, due to the necessity of diverting IT resources to telehealth implementation and support, game production was unable to be completed. As an alternative, Kahoot™, the online game-based learning platform was used as the format for the gamified quiz. For the basic quiz format, Google Forms was used.

On completion of either quiz, participants were provided with an answer key with explanations. They were also directed to complete an online user experience questionnaire, comprised of Likert scale and open-ended questions to gauge their feedback on either quiz.

Results

Eight MS3 students, nine MS4 students, three Internal Medicine residents and three ID fellows were enrolled in the study. Subjects were stratified by learner level and ultimately ten completed the basic quiz, while eight completed the gamified quiz.

The majority of the participants found the questions to be unambiguous and the answer explanations to be adequate. One subject self-identified as being uncomfortable navigating on computers. Notably two participants expressed the belief that games are not a useful tool for teaching medical knowledge.

While it's difficult to make meaningful quantitative comparisons between the two groups, given the low n, there was a trend towards subjects assessing the gamified format as more novel and efficient, as well as engaging and motivating (Figure 1).

Open-ended commentary

There was no consistent pattern in the open comments. When asked what they liked about the quiz, there was positive feedback in both groups. One subject in the basic quiz group said, "This was above my level of antibiotic knowledge [...] but I learned more than I would have if it was a review of basic pharmacology of antibiotics."

When asked what they did not like about the quiz, one participant responded, "I liked the Kahoot format, but there was a lot of clicking through the pointless scoring slides," while another said, "I did not care for Kahoot to take a quiz. Maybe if someone else was in charge of the leading questions, that would be useful. Overall, Kahoot isn't great by yourself."

When asked for suggestions to improve the quiz, answers varied widely, from having no suggestions, to just requesting more questions to specific requests to adjust question format and quiz style. Most encouraging, all but two participants (both who were assigned the basic quiz) reported they would recommend the quiz to a peer/colleague.

Figures

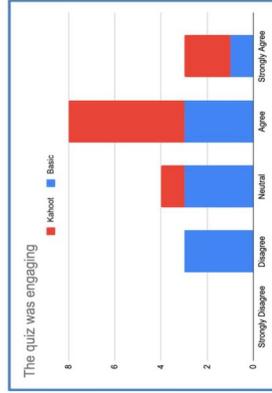


Figure 1
Likert survey response to the prompt "The quiz was engaging"

Limitations/Next Steps

The study was delayed and then modified due to the diversion of IT resources required by the 2019 COVID pandemic. However, useful results were still found.

As next steps, we will focus on expanding the question bank, re-considering the game format and ultimately, administering the gamified quiz to ID fellows nationwide.

Conclusion

While serious games can be a useful tool in medical education, not all game formats are created equal and importantly, not all learners have the same preferences.

However, even when a curricular format differs from a learner's baseline learning preference, it can still be well-received and impart useful knowledge.

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Clint Pettit, MD

MedStar Washington Hospital Center

Clint Pettit, MD, is a palliative care physician at MedStar Washington Hospital Center (MWHC). In addition, he is an assistant professor of Medicine at Georgetown University School of Medicine.

At MWHC, he is the Director of Quality and Safety for the section of Palliative Care and chairs the Clinical Competency Committee for their interdisciplinary fellowship that trains three palliative care physicians, a social worker, and a nurse practitioner. In addition, he supervises numerous Internal Medicine residents, medical students, Hematology-Oncology fellows, Critical Care fellows, and Cancer Rehabilitation fellows on inpatient rotations.

Dr. Pettit is a fellow of the American College of Physicians (ACP) and a member of the American Academy of Hospice and Palliative Medicine (AAHPM). He is certified in Internal Medicine and Hospice and Palliative Medicine by the American Board of Internal Medicine.

Dr. Pettit has presented nationally on topics ranging from palliative care in serious mental illness to intimacy concerns in the palliative care population. He has been published in the Journal of the American College of Surgeons and has written a book chapter on muscle and bladder spasms.

His medical degree is from the University of Nebraska Medical Center College of Medicine. He continued his training with an internship and residency in internal medicine at MedStar Georgetown University Hospital, and a fellowship in Hospice in Palliative Medicine with Capital Caring/MedStar Washington Hospital Center.

Research and Educational Interests

- learner assessment
- safety and quality improvement
- decreasing barriers to palliative care consultation
- interdisciplinary education

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Graduating Research Scholar



Kristin Lee Atkins, MD

Howard University College of Medicine

Kristin L. Atkins, MD is an Assistant Professor of Obstetrics and Gynecology specializing in Maternal Fetal Medicine at Howard University College of Medicine. Her clinical and research interest focus on high risk pregnancy and prenatal diagnosis, with a special interest in the impact of health disparities. She also has an interest in medical education.

Dr. Atkins has received financial support from DC Health to participate in the Preterm Birth Reduction Pilot, a collaboration with the city, Washington Hospital Center, Unity Health Services and Community of Hope to reduce the preterm birth rate in the District of Columbia. She has also received pilot funding support from Goergetown-Howard Universities Center for Clinical and Translational Science. She is the site co-investigator for PCORI funded project evaluating inter-

vention for maternal mental health and neonatal brain development.

Dr. Atkins is a founding member of the DC Maternal Mortality Review Committee. She also serves on the Washington, DC Perinatal Quality Collaborative, and the Improving Obstetric Care in DC committee.

She is a fellow of the American College of Obstetricians and Gynecologists. She is board certified in Obstetrics and Gynecology and Maternal Fetal Medicine. She is also a member of the Society for Maternal Fetal Medicine. She serves as an oral board examiner for the American Board of Obstetrics and Gynecology.

Dr. Atkins earned a medical degree from Eastern Virginia Medical School. She completed residency in Obstetrics and Gynecology at Eastern Virginia Medical School and fellowship in Maternal Fetal Medicine at Washington University in St. Louis.

Dr. Atkins's research interests include:

- Impact of health disparities on pregnancy outcomes
- Quality and safety in obstetrics
- Innovative methods of medical education

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Geospatial analysis of birth outcomes in Washington, DC: associations with environmental and community-based factors

Kristin L. Atkins, MD¹, Shamon Gopaul, MPH², Katherine Michel, PhD, MPH³
¹ Howard University College of Medicine, ² DC Health 3, School of Medicine, Georgetown University Medical Center, Washington, DC

Introduction

Worldwide, adverse birth outcomes like preterm birth (PTB) and low birth weight (LBW) affect 11.1%, and 16%² of infants, respectively. Complications from PTB were the leading cause of death for children under 5 globally in 2015¹. Recent studies suggest that community-level factors can also affect birth outcomes: air pollution, chemical exposure, violence, and markers of healthy living. There is a wide geographical variation across DC wards with respect to rates of PTB and LBW. DC Health has identified steps to preventing PTB and LBW

- addressing barriers to prenatal care
- improving the structural environment
- safety for mothers

The size of Washington, DC, as well as the diversity in the population allows a unique environment in which to study the environmental and community factors associated with PTB and LBW. We seek to achieve the following aims:

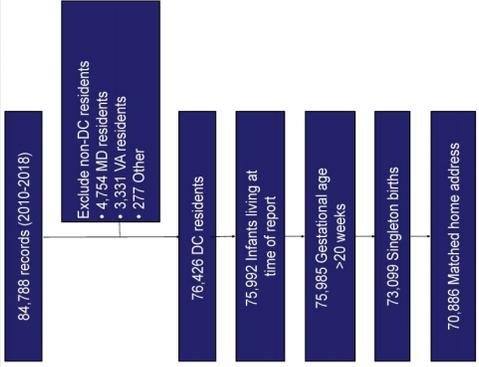
Aim 1 To determine spatiotemporal clustering of birth outcomes in DC. We hypothesize that birth outcomes like PTB will spatially and temporally cluster within and across DC, forming both hot-spots and cold-spots.

Aim 2 To examine how distance to prenatal care affects prevalence of birth outcomes in DC. We hypothesize that a mother's distance to prenatal care will spatially associate with adverse birth outcomes.

Aim 3 To quantify associations between spatial variables and longitudinal maternal outcomes in DC. We hypothesize that community/environmental level factors (e.g. violence, toxic exposures, healthy living resources) will affect birth outcomes in mixed models, controlling for individual level factors (e.g. insurance, prior pregnancy)

Methods

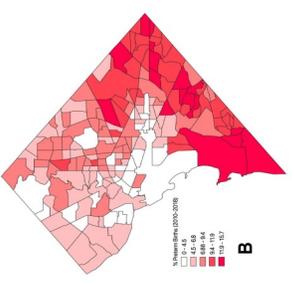
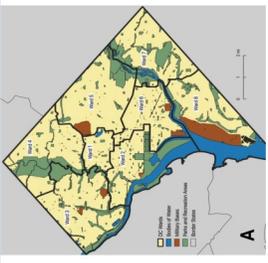
We received birth certificate data from the Washington, DC Health Vital Records Division (DCVRD) of the DC Department of Health. We excluded births occurring outside of DC, multiple births, congenital anomalies, and still birth. Data were requested for years 2010-2018 to look at the potential variation over time as the demographics within the city have shifted. Preterm birth is defined as delivery before 37 weeks and 0 days. Low birthweight defined as <2500 gms. We categorized key variables as listed in the adjacent table. The records were geocoded using Master Address Repository and the Census Bureau Geocoder, requiring 95% match score. The data was cleaned for accuracy. Further analysis will be undertaken as described in next steps.



Characteristics of preterm births, defined as gestational age <37 weeks, Washington DC, 2010-2018

Variable, n (%)	Total (n=72,978)	Term birth (n=6,923)	Preterm birth (n=6,923)
Mother age, mean (SD)	29.5 (6.5)	29.5 (6.5)	29.2 (6.7)
Mother non-US born	19,538 (27.3%)	18,397 (27.3%)	1181 (20.4%)
Mother pre-pregnancy weight, mean (SD)	152 (39.8)	152 (39.3)	156 (44.9)
Mother delivery weight, mean (SD)	182 (40.1)	182 (39.6)	181 (45.8)
Late to or no prenatal care (p=27 weeks)	9,626 (23.4%)	8,657 (22.9%)	969 (29.8%)
Week of first prenatal care, mean (SD)	15.0 (7.9)	15.1 (7.9)	14.2 (7.5)
Number of PNC visits, mean (SD)	10.7 (4.4)	10.9 (4.3)	8.2 (4.8)
Any cigarette smoking during pregnancy	737 (1.0%)	612 (0.9%)	125 (2.2%)
Private insurance (vs all others)	31,222 (43.5%)	29,431 (44.6%)	1,791 (31.1%)
Pre-pregnancy diabetes	616 (0.9%)	459 (0.7%)	157 (2.7%)
Gestational diabetes	2,392 (3.3%)	2,089 (3.1%)	303 (5.2%)
Pre-pregnancy hypertension	1,474 (2.0%)	1,160 (1.7%)	314 (5.4%)
Gestational hypertension	3,346 (4.6%)	2,752 (4.1%)	594 (10.2%)
Previous preterm birth	2,537 (3.5%)	1,841 (2.8%)	696 (12.0%)
Hypertension edemata	514 (0.7%)	339 (0.5%)	175 (3.0%)
Maternal race/ethnicity			
Hispanic	10,914 (15.0%)	10,101 (15.1%)	813 (13.8%)
African American/Black	37,979 (53.2%)	34,055 (51.9%)	3,924 (67.7%)
White	22,742 (31.9%)	21,604 (32.9%)	1,138 (19.6%)
American Indian/Alaskan Native	127 (0.2%)	115 (0.2%)	12 (0.2%)
Asian/Pacific Islander	3,287 (4.6%)	3,107 (4.7%)	180 (3.1%)
All others	7,237 (10.1%)	6,691 (10.2%)	546 (9.4%)

Next Steps
 Statistical analysis will be completed on these outcomes
 Sequential year maps of birth outcomes from 2010-2018
 Utilizing the expertise of ORNL, we will investigate air quality, travel patterns, and other environmental data and their impacts on these outcomes.



Acknowledgements

Supported by a Pilot Translational and Clinical Science grant from the GHUCCTS. We thank DC DOH for the pregnancy/birth data. We thank members of the Computational Sciences and Engineering Division at the Oak Ridge National Laboratory, operated by UT-Battelle, LLC under contract No. DE-AC05-00OR22725 with the U.S. Department of Energy

References

Graduating Research Scholar



Pashna Munshi, MD

MedStar Georgetown University Hospital

Pashna N. Munshi MD is an Assistant Professor of Oncology at Georgetown University and is the associate director of the MedStar Georgetown Stem Cell Transplant and Cellular Immunotherapy Program at MedStar Georgetown University Hospital (MGUH). Her clinical and research interests focus on management of cellular immunotherapy toxicities focused in improvements in patient and caregiver health-related quality of life.

At MGUH, Dr. Munshi focuses on the management of patients receiving autologous, allogeneic stem cell transplantation as well as chimeric antigen receptor T-cell (CAR T) treatments. Dr. Munshi also serves as the Chair of the Oncology IRB and is responsible for the educational curriculum and program development for hematology oncology trainees rotating through the program.

Dr. Munshi is active in several professional societies in the transplant community through the Survivorship and Aging Interest Groups.

With a focus to improve patient's quality of life following stem cell transplantation, Dr. Munshi's interests focus on psychosocial health of not only her patients but also their caregivers. She is the PI of a peer-reviewed grant funded investigator-initiated study where she is evaluating dyadic relationships between patients and their caregivers and the impact it has on health-related quality of life outcomes in collaboration with Lombardi-John Theurer Cancer Consortium and Cancer Prevention and Control Program at Georgetown University. She is also developing a protocol to assess interventions during hospitalization of transplant patients to improve physical function and activity in collaboration with Drs. Katherine Power and Kristi Graves. Keeping in mind the challenges faced by patients in the post-transplant recovery period, Dr. Munshi is engaging with her peers to develop standards that focus on using geriatric assessment metrics in elderly transplant patients.

Dr. Munshi was awarded the Melvin H. Motolinsky award recipient, Robert Wood Johnson University Hospital 2014 during her chief fellowship for scholastic activities. Dr. Munshi also serves as the Chair on the GU Oncology IRB Committee. She serves as an ad hoc reviewer for several peer review journals. She also serves on the Department of Medicine Faculty Development and Grant Peer Review Committee at Georgetown.

Dr. Munshi is board certified in hematology and oncology. She earned her medical degree from K. J. Somaiya Medical Research Center in India. She completed her residency at UMDNJ-Cooper University Hospital in NJ and her heme-onc fellowship at Rutgers – RWJ Medical Hospital also in NJ. She completed her sub-specialty fellowship in BMT at The Moffitt Cancer Center in Fl. She is fluent in English, Hindi and Gujarati.

Research Interests:

- Stem Cell Transplant survivorship and late effects
- Cellular immunotherapy and toxicities

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We're In This Together: Self-Preparedness, Caregiver Burden, and Patient-Reported Outcomes in Patient/Caregiver Dyads in the Hematopoietic Stem Cell Transplantation Setting

Pashina N, Munshi, MD; Jane M, Fall-Dickson², PhD; RN; Joanne Assarsson¹, LICSW; Felice Yang, MPH; Samira Beheshtian, BS¹; Tania Lobo, MS¹; Scott D, Rowley^{1,5}, MD; FACP; Kristi Graves³, PhD; MedStar Georgetown University Hospital¹; Georgetown University SNHS²; CPC, LCCC³; SRBSR⁴; LCCC⁴; John Theurer Cancer Center, Hackensack University Medical Center⁶



Abstract

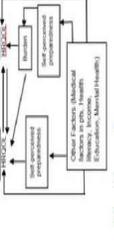
Few studies have examined patient/primary caregiver (PC) reported outcomes in the hematopoietic stem cell transplant (HCT) setting related to perceptions of preparedness for the HCT and PC burden. This observational, longitudinal, multi-site study examined HROOL trajectory in patient/PC to explore associations between patient and PC perceptions of preparedness and HROOL domains (anxiety, depression, fatigue, sleep, physical functioning and pain) using validated tools. Enrollment to date is 39 dyads. Interim analyses indicate that low caregiver preparedness negatively affected patients' post-transplant HROOL domains of anxiety, depression, fatigue, and sleep. Future work will identify intervention targets to improve self-perceived preparedness and HROOL in these dyads and to reduce PC burden.

Introduction

Autologous and allogeneic hematopoietic stem cell transplant (HCT) is a curative or life-extending treatment for hematological malignancies. Patients report acute and chronic HCT-related sequelae including chronic symptoms and health-related quality of life (HROOL). HCT patients are required to have a primary caregiver (PC) who is tasked with providing psychological and technical support to the patient. PCs have reported physical and psychological burden that may be exacerbated by increasing levels of HCT patients' symptom burden during the HCT recovery period.

Few studies have examined patient/PC dyadic reported outcomes in the HCT setting, specifically as related to perceptions of preparedness for the HCT and PC burden (Figure 1).

Figure 1. Conceptual Model of Interactions Between Self-Preparedness, Patient-HROOL, and Burden



Methods

Design: Observational, longitudinal, survey
Settings: MedStar Georgetown University Hospital (MGUH) and John Theurer Cancer Center (JTCC)
Sample: Convenience samples of HCT patient/PC dyads. The study was approved by the GURB for N= 80 patient/PC dyads.
Procedures: Eligible patient/PC dyads were consented and enrolled. Patients and PCs completed study questionnaires separately. **Measures and Data Collection Time Points** are presented in Table 1. Patients were followed post-hospital discharge via standard PC visits at our study site for 8 months (9 months for PC). Data were collected via PC self-reported data. Data questionnaires were administered with Research Electronic Data Capture (REDCap) secure web-based system in an electronic format or paper-and-pencil questionnaire per subject preference.

Methods

Data were analyzed using descriptive statistics (frequencies, percentages, means, and standard deviations) using the Statistical Product Moment calculator and linear regression modeling. The data analysis computer program was SPSS (V27).

Results

Study enrollment began in February 2020, at MGUH with a total of 20 patient/PC dyads and 20 patient/PC dyads at JTCC. 2021 at H.U.M.C. with 17 dyads enrolled at the time of this data analysis (Table 2).

Table 2. Participant Demographics

Characteristic	MGUH		JTCC		H.U.M.C.	
	Patients	PCs	Patients	PCs	Patients	PCs
All	100	100	100	100	100	100
Age	61.0 (10.0)	61.0 (10.0)	61.0 (10.0)	61.0 (10.0)	61.0 (10.0)	61.0 (10.0)
Sex	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Race	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Ethnicity	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Marital Status	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Employment Status	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Insurance	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Education	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Income	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Health Status	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Comorbidities	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Transplant Type	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)
Time Point	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)	50 (50%)

Results

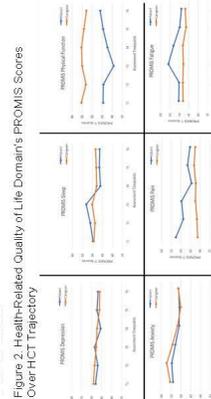


Table 1. Linear Regression Models Predicting Post-Transplant HROOL Outcomes Among Patients

Outcome	Pre-HCT	Post-HCT	3 months post-transplant	6 months post-transplant
Anxiety	7.9	7.6	7.3	7.0
Depression	7.8	7.5	7.2	6.9
Fatigue	7.7	7.4	7.1	6.8
Sleep	7.6	7.3	7.0	6.7
Physical Function	7.5	7.2	6.9	6.6
Pain	7.4	7.1	6.8	6.5

Table 4. Linear Regression Models Predicting Post-Transplant HROOL Outcomes Among Caregivers

Outcome	Pre-HCT	Post-HCT	3 months post-transplant	6 months post-transplant
Anxiety	13	10	7	4
Depression	12	9	6	3
Fatigue	11	8	5	2
Sleep	10	7	4	1
Physical Function	9	6	3	0
Pain	8	5	2	-1

In linear regression analyses, we evaluated the associations between caregiver preparedness, caregiver burden and patient physical and psychological HROOL domains. Caregiver burden (anxiety, depression, fatigue, sleep, physical functioning, and pain) and demographic factors (caregiver and patient age, gender, education) and baseline level (T1) of each HROOL domain, we found:

- Lower caregiver preparedness at T3 (immediately post-transplant, during hospitalization) was statistically significantly associated with several HROOL outcomes:
 - Higher Patient Anxiety at T3 and T6
 - Higher Patient Depression at T3; Higher Caregiver Depression at T3
 - Higher Patient Fatigue at T3; Higher Caregiver Fatigue at T3
 - Worse Patient Sleep at T3 and T6
- Lower caregiver burden at T3 was statistically significantly associated with lower patient physical functioning at T6
- Higher patient preparedness at T3 was statistically significantly associated with higher caregiver physical functioning at T3.

Limitations/Next Steps

1. Most data reported with single site experience; 2. Interim data therefore not adequately powered; 3. Short follow up.
- Next Steps: Complete this study to finalize need for a larger, more powered study. Future study to identify interventions targeted towards improving HROOL for patients/PCs and decreasing PC burden and to test effects of an intervention to improve self-perceived preparedness and HROOL for dyads and to reduce PC burden.

Conclusion

- Poor caregiver preparedness post-transplant negatively affects Patient and caregiver HROOL 3 months post-transplant
- High caregiver burden 3 months post-transplant negatively affects patient sleep and physical functioning at 3 months post-transplant

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Graduating Research Scholar



Ankit Shah, MD, MPH, FACC

MedStar Union Memorial Hospital

Ankit B. Shah, MD, MPH, FACC is Assistant Professor of Medicine at Georgetown University School of Medicine and Director of MedStar's Heart and Vascular Institute's Sports & Performance Cardiology Program. Additionally, he is staff cardiologist at MedStar Union Memorial, Good Samaritan, and Harbor Hospitals.

His clinical and research interests focus on the comprehensive evaluation, prevention, and treatment of cardiovascular disease in athletes and active individuals. He runs the cardiopulmonary exercise laboratory at MUMH, a cardiac performance lab designed specifically to evaluate athletes.

Dr. Shah is a Fellow of the American College of Cardiology and member of the International Institute of Race Medicine (IIRM). He is a member of the American College of Cardiol-

ogy (ACC) Sports and Exercise Cardiology Section Leadership Council and an Associate Editorial Lead for the ACC.org Sports & Exercise Cardiology section.

Dr. Shah has reviewed manuscripts for *JAMA Cardiology*, *Medicine & Science in Sports & Exercise*, *Annals of Internal Medicine*, *Cardiovascular Revascularization Medicine*, and *Scandinavian Journal of Medicine and Science in Sports*. His research has been published in peer-reviewed journals, ranging from *The Journal of Physiology* and *Journal of Applied Physiology* to the *European Heart Journal Cardiovascular Imaging* and *Clinical Transplantation*. He has presented at local and national meetings and has been faculty at the annual American College of Cardiology (ACC) Scientific Sessions and the Care of the Athletic Heart annual meeting, sponsored by the ACC.

Dr. Shah is a diplomate in Cardiovascular Disease and Internal Medicine, American Board of Internal Medicine. Additionally, he is a diplomate in Adult Comprehensive Echocardiography, Nuclear Cardiology and Cardiovascular Computed Tomography.

Dr. Shah earned his medical degree and master in public health from Tufts University School of Medicine in Boston, MA. He completed residency in internal medicine at Cedars-Sinai Medical Center in Los Angeles, CA, cardiovascular disease fellowship at Lenox Hill Hospital in New York City and a dedicated fellowship in sports cardiology in the Cardiovascular Performance Program at the Massachusetts General Hospital in Boston, MA.

Dr. Shah's research interests include

- Impact on long term endurance training on the heart
- Sports specific cardiac remodeling
- Prevention of sudden cardiac death in the athlete
- Safety and optimal exercise dose in those with cardiovascular disease

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Return to Play after COVID-19: Cardiac Implications for Athletes

Ankit B. Shah, MD, MPH
MedStar Union Memorial Hospital, Baltimore, MD.

Introduction

- Cardiac manifestations of COVID-19 include acute myocardial injury, arrhythmias, cardiogenic shock and death
- The pathophysiology of cardiac injury is likely multifactorial, but one cause, myocarditis, is specifically relevant to young, otherwise healthy competitive athletes
- Myocarditis, inflammation of the heart muscle by direct viral myocyte invasion, accounts for 4-20% of sudden cardiac arrest/deaths in athletes
- Murine models of viral myocarditis have shown exercise during the acute infection causes increased viral titers, increased myocardial fibrosis and increased mortality
- Given this, much attention has been given to evaluation and risk stratification of athletes after COVID-19
- Early and preliminary data suggested high prevalence of cardiac injury in competitive athletes with myocarditis seen in 15% (1) and pericarditis in 40% (2) of athletes after COVID-19
- More recent data from professional and NCAA athletes suggest a much lower prevalence, <1% (3,4)

Objectives

- 1) To evaluate short term outcomes after COVID-19 in competitive athletes
- 2) To evaluate the prevalence of inflammatory cardiac disease in competitive athletes after COVID-19

Methods

- 300 COVID-19 positive athletes ≥ 18 yo (high school, collegiate and professional) who were referred to our sports cardiology program for evaluation/testing prior to return to play were included
- Following recommendations (5), all athletes underwent ECG, troponin and echocardiogram
- Recommendations were updated October 2020 (6) and only athletes with moderate COVID-19 illness underwent the triad of cardiac testing.
- Cardiac MRI was obtained based on clinical indication

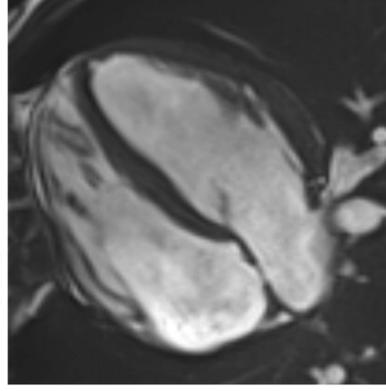
Results

Mean age, years	20
BMI, (kg/m ²)	24.7
Female, n (%)	138 (46)
Asymptomatic, n (%)	77 (25)
Mild symptoms, n (%)	161 (54)
Moderate symptoms, n (%)	62 (21)
Screening cardiac triad, n (%)	240 (80)

- Troponin (hs, I, T)
 - 4 detectable but within 99th percentile
 - 2 abnormal (>99th percentile)
 - 1 mild, 1 moderate symptom burden
 - One normalized when drawn after 48 hours of no exercise
- Electrocardiogram
 - 6 abnormal
 - One athlete had inferior TMI with LVEF 45% on TTE
 - 5 had ECGs prior to COVID with same abnormality or present work up revealed alternate etiology

Cardiac MRI, n (%)	33 (11)
Time from diagnosis to MRI, days, median (range)	53 (15-126)
MRI Indication:	
Chest pain/dyspnea, persistent	14 (42)
LVEF <50% on echocardiogram	6 (18)
Detectable troponin	4 (12)
Wall motion abnormalities on echocardiogram	3 (9)
Elevated Troponin	1 (3)
Abnormal right ventricle on echocardiogram	1 (3)
Small pericardial effusion	1 (3)
Arrhythmia	1 (3)
Syncope	1 (3)
Abnormal ECG	1 (3)

- MRI Mean LVEF 53%
 - No inflammatory cardiac disease noted
- Short Term Outcomes
- No cardiac arrests/deaths, hospitalizations for cardiac decompensation over median follow up of 223 days (range 80-400 days)



Limitations

- Lack of controls
- Acute inflammation (edema) on MRI may have been missed given delay in obtaining MRI relative to COVID-19 diagnosis
- No long-term outcomes
- MRI and further testing ordered based on assimilation of clinical data (history, examination, symptoms and preliminary cardiac test results) and was not algorithmic.

Conclusion

- Most competitive athletes had normal ECGs, troponins and echocardiograms after COVID-19.
- Cardiac MRIs were only ordered as clinically indicated and in this subset of athletes with higher pretest probability for perimyocarditis, there was no evidence of inflammatory heart disease.
- There were no short-term adverse events, regardless of if athlete underwent cardiac risk stratification
- Findings suggests that we are unlikely missing clinically significant cardiac pathology in athletes with no or mild symptoms or those with moderate symptoms and normal cardiac triad testing.

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Graduating Research Scholar



Yasar Torres-Yaghi, MD

Medstar Georgetown University Hospital

As an assistant professor in neurology at Medstar Georgetown University Hospital, with both research and clinical experience Dr. Torres-Yaghi has developed an expertise in the field of neurodegenerative disorders. Dr. Torres-Yaghi is the Director of the Parkinsonism and Dementia Clinic spearheading an initiative to care for a growing population of aging patients with neurodegenerative conditions characterized by overlapping features of cognitive impairment and Parkinsonian features including Lewy Body Dementia, Progressive Supranuclear Palsy, Multiple-System Atrophy, Frontal Temporal Lobe Dementia, and Chronic Traumatic Encephalopathy. He continues to remain active in numerous clinical trials. In the recent past he has been either a sub-investigator or clinical research member in the clinical trials.

He has a broad background in clinical research and neurology, with specific training and expertise in Parkinsonism and Dementia and has been an integral member in numerous clinical trials. His research focus is in neuro-degeneration and movement disorders such as Lewy Body Dementia, Parkinson's Disease, Alzheimer's Disease and Huntington Disease. As Primary Investigator or Co-Investigator on university trials, he has helped lay the groundwork in developing effective medications for patients with both motor and cognitive impairment with chronic neurological conditions. In the process he gained experience in recruiting, evaluating and tracking participants in very complex clinical research trials in our clinical research unit as documented in the following publications. In addition, he successfully participated as an integral clinical research member of the Georgetown Translational Neuro-Therapeutics Program, a research venture that fuses basic pre-clinical neuroscience and clinical research. In addition to caring for patients in his clinic, he takes pride in being an educator, teaching medical students, residents, and fellows.

He was given multiple teaching awards ranging from the String of Pearls Award for Excellence in Resident Education as well as the Hugh Hussey Award for excellence in Medical Student Teaching from Medstar Georgetown University Hospital. He believes that one becomes a better researcher from seeing patients in clinic and inversely one becomes a better physician through the methodology of research. Providing the best care to patients by advancing this principle is significantly important to him.

He is also an integral participant in MedStar Health Research Institute's research initiatives, having been awarded accolades regarding his preclinical and clinical research in the effect of a chemotherapy in neurodegenerative diseases such as atypical parkinsonian syndromes, Lewy Body Disease and Alzheimer's Disease. He has been part of numerous peer-reviewed publications, written a chapter in a neurology text book, published a multitude of neurological manuscripts, collaborated with researchers in clinical trials and given numerous poster presentations at international conferences.

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Nilotinib significantly alters miRNAs that control genes of the inflammatory, bioenergetics and transport pathways in the CSF of Parkinson's patients

Yasar Torres-Vaghi, MD^{1,2}, Alan Fowler, MS¹, Jaal Ahn, PhD³, Fernando L. Pagan, MD^{1,2}, Micheline L. Hebron, MS¹, Charbel Moussa, MBBS, PhD¹,
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Introduction

We showed that nilotinib increases dopamine levels and reduces oligomeric alpha-synuclein and hyper-phosphorylated tau in the CSF of PD patients (NCT02954978). miRNAs are non-coding RNA involved in post-transcriptional regulation of gene expression. miRNAs are known to suppress gene expression of their target proteins. miRNAs have recently emerged as attractive candidates as biomarkers in neurodegenerative diseases due to their stability in biological fluids such as blood plasma and CSF, the ideal biological fluid because of its proximity to the brain. Importantly, miRNA may serve as epigenomic biomarkers of an individual's response to pharmacological interventions.

Background

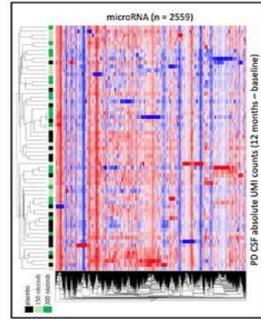
Nilotinib is a tyrosine kinase inhibitor that potently and preferentially inhibits (IC₅₀ 1nM) Discoidin domain receptors (DDR3) and is FDA-approved for the treatment of chronic myelogenous leukemia (CML) as an inhibitor of c-Ablson (IC₅₀ >20nM).

Materials and Methods

We conducted a Phase 2 study that enrolled 75 Parkinson's patients, who were randomized into a single dose of 100mg, 200mg, 300mg and 400mg nilotinib versus placebo (n=15 per group). These participants were re-randomized into multiple dose of nilotinib, 150mg and 300mg, versus placebo for 12 months (n=25 per group). Following 3 months wash-out, participants were randomized into an open label treatment of nilotinib, 150mg and 300mg for 12 months (n=30-33 per group). Lumbar punctures were performed after a single dose (baseline) and multiple dose at 12 months and the CSF was analyzed using next generation whole genome miRNA sequencing. Changes of miRNAs were correlated with exploratory clinical outcomes at 12 and 27 months.

Next, Generation microRNA Whole Genome Sequencing. CSF was collected from all patients at baseline and 12 months from trial participants enrolled in NCT02954978.

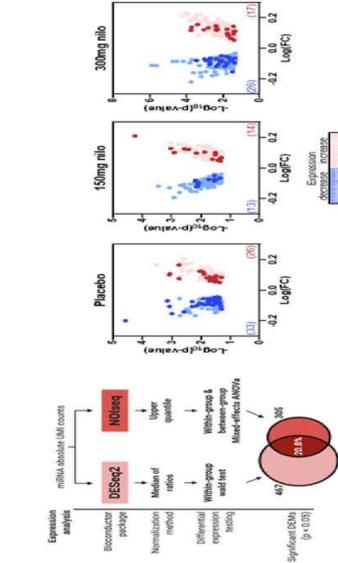
Longitudinal miRNA sequencing detects 2559 miRNA in CSF in PD



Results

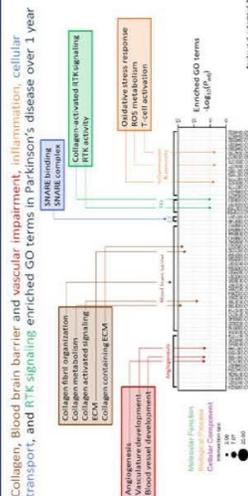
A total of approximately 2500 miRNAs were detected in the CSF. There was no difference in miRNAs after a single dose. The multiple dose study showed that nilotinib was measured in the CSF in a dose-dependent manner up to (C_{max}) 1.8 nM and 3.4 nM in nilotinib, 150mg and 300mg, respectively. Approximately 59 miRNAs significantly changed directionality between placebo and nilotinib, but after adjustment for multiple comparisons significant changes were observed in cellular and molecular pathways that regulate tyrosine kinase signaling, inflammation, angiogenesis, bioenergetics, (de)-ubiquitination, ribosomal and lysosomal pathways. Changes of miRNAs in nilotinib, 300mg, were significantly correlated with clinical scores between baseline and 12 months and baseline and 27 months, using the sum of Unified Parkinson's Disease Rating Scale, Parts II + III (UPDRS II+III) and quality of life using Parkinson's Disease Questionnaire (PDQ)-39.

Differential expression testing identifies 125 miRNAs significantly expressed in PD and nilotinib

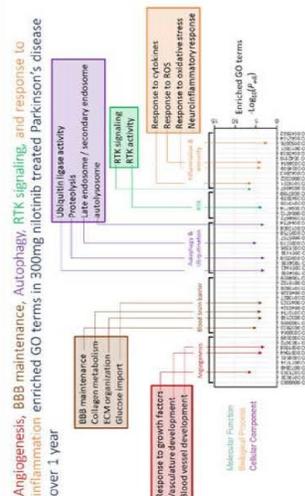


Over 1 year, in medically optimized moderately severe PD patients, longitudinal miRNAs expression are associated with: Blood brain barrier integrity/breakdown and collagenes, impairment of autophagy and Vascular impairments, increased angiogenesis and growth factors. DDR1 inhibition via 300mg nilotinib alters miRNAs associated with: autophagy and (de)-ubiquitination, Blood brain barrier maintenance and response to oxidative stress and neuroinflammation.

miRNA sequencing and pathway analysis show vascular and autophagy impairment in PD progression



miRNA sequencing and pathway analysis show reversal of vascular impairment and autophagy flux in nilotinib, 300mg, treated patients



Conclusion

Nilotinib achieves a pharmacologically adequate CSF concentration that would inhibit DDRs and affects multiple tyrosine kinase pathways that are involved in the regulation of inflammation, blood brain barrier (angiogenesis) and protein clearance via ubiquitination and autophagy. These data are in agreement with pre-clinical evidence and suggest that miRNA sequencing in human CSF provides an alternative approach to determine biomarkers based on regulation of molecular pathways that are relevant to neuropathology. Furthermore, this study suggests that data from smaller Phase 2 studies can be used to predict biomarker and clinical outcomes in larger Phase 3 trials.

1st Year Teaching Scholar

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Elizabeth Cilenti, MD, MPH

Medstar Georgetown University Hospital

Dr. Elizabeth Cilenti is an attending primary care physician at Medstar Georgetown University Hospital (MGUH). In addition, she is an assistant professor of Internal Medicine and assistant professor of Pediatrics at Georgetown University School of Medicine. Her previous experience includes providing primary care services at Unity Health Care in Washington, DC, where she served as an assistant site medical director and the director of Pediatrics for the organization and working at Partners Urgent Care in Massachusetts.

At MGUH, Dr. Cilenti is core faculty in the Combined Internal Medicine and Pediatrics residency program. She co-directs the Health Policy and Public Health elective at Georgetown University School of Medicine.

Dr. Cilenti is a fellow of the American Academy of Pediatrics (AAP) and a member of the American College of Physicians.

Dr. Cilenti has presented nationally on care coordination and community partnerships in asthma, and has served as the co-editor of the AAP Section on Early Career Physicians “SOAP Notes” blog.

She received her medical degree at Indiana University and completed a combined Internal Medicine and Pediatrics residency at Indiana University. She completed her Master of Public Health at Harvard T.H. Chan School of Public Health in the Health and Social Behavior field of study with a concentration in Maternal and Child Health.

Dr. Cilenti’s research interests include:

- Role of gender in medical education
- Physician Well-Being

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The agency paradox in residency letters of recommendation – are we imposing a penalty on female applicants?

Elizabeth Cilenti, MD MPH

MedStar Georgetown University Hospital, Washington DC, 20007

Abstract

Residency letters of recommendation can introduce gender bias into the residency application process. There is a gap in the literature on the effect on the reader of using agentic language for all applicants regardless of gender. This in progress study will evaluate the impact of agentic and communal language use in residency letters of recommendation and whether female applicants are penalized when described using agentic language.

Introduction

Residency application letters of recommendation (LOR) are often noted to vary by gender – letters for men are more likely to be longer, mention accomplishments and use different language. There is a movement in faculty development to use “unbiased” language in LORs. However, this “unbiased” language suggests traditionally male attributes. The effect of this language on the reader has not been explored.

Conceptual Framework

Social Role Theory describes that the roles inhabited by men and women are not just descriptive, but prescriptive. Men are commonly described as agentic, or possessing agency, whereas women are described as possessing communal attributes such as kindness, helpfulness and concern for the welfare of others. When women are described or embody agentic characteristics, they are sometimes perceived negatively by others.

Research Question:

Do program directors and program faculty who review letters of recommendations (LOR) rate female applicants less favorably than male applicants when a LOR includes only agentic language vs communal language?

Methods

I will develop two mock letters of recommendation – one written in agentic language, and the other in communal language, with the input of subject matter experts. Participants will be randomized to read each letter, where only the genders of the applicants is varied. Each participant will then rate the applicant based on the letter. Ratings will include a global assessment and in the domains of interpersonal skills/communication, medical knowledge, clinical aptitude/patient care, technical/procedural skills, leadership and success in research. I will also collect demographic data and co-variables including age, gender identity, role (PD, APD, or faculty), specialty, academic rank, years of experience in interviewing applicants and reviewing applications/letters, and approximate number of applicants interviewed per academic year. I will then analyze the ratings of male and female applicants and assess whether females described in agentic terms are rated differently than males or females described in communal language.

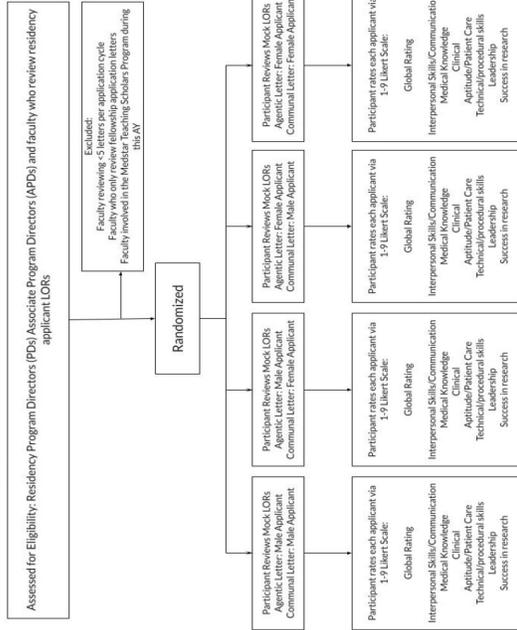


Figure 1: Participant flow diagram describing exclusion criteria, participant randomization and rating scales to be used

Conclusion

This works in progress report presents methods and anticipated limitations of the study. The study has potential to inform future faculty development materials on writing and reviewing residency letters of recommendation.

Limitations/Next Steps

This will be a single center study enrolling participants from all specialties. There may be specialty specific perceptions that affect ratings of applicants. For the purpose of this study gender is dichotomized as a binary variable but transgender and gender non-binary applicants may face significant discrimination in the application process.

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Kathryn Hart, MD, FAAFP

MedStar Health at Spring Valley

Kathryn Hart, MD, FAAFP is an attending physician at MedStar Health at Spring Valley and an Associate Professor of Family Medicine at Georgetown University School of Medicine where she directs the Primary Care Leadership Track. Her previous experience includes serving as the Director of Medical Student Education and Clerkship Director in the Department of Family and Community Medicine at the University of Maryland School of Medicine.

Dr. Hart is a fellow of the American Academy of Family Physicians. She has received several teaching honors, including being selected as an Associate Member of the Georgetown University Medical Center's Teaching Academy, and receiving the University of Maryland School of Medicine's Department of Family and Community Medicine

Teacher's Apple Award for Dedication to Resident and Student Education.

Dr. Hart is active in several professional societies. She is a member of the Board of Directors of the Maryland Academy of Family Physicians where she chairs the Pipeline Subcommittee of the Racism and Health Equity Task Force. She is a co-chair of the Special Project Team on Longitudinal Early Phase Clinical Experiences for the Society for Teachers of Family Medicine. Dr. Hart was also selected as a LEADS Fellow by the Association for Departments of Family Medicine. Dr. Hart is certified in Family Medicine by the American Board of Family Medicine.

Dr. Hart frequently presents at local, regional, and national professional society meetings. Her past lecture topics include promoting specialty respect, cultural competency, longitudinal primary care tracks, and recruitment into primary care specialties. Her work has been published in the American Family Physician, Journal of the American Board of Family Medicine, American Medical Association Virtual Mentor, and Journal of the American Geriatrics Society.

Dr. Hart earned her medical degree from the University of Maryland School of Medicine, where she received the Arnold P. Gold Leonard Tow Humanism in Medicine Award and was inducted into the Alpha Omega Honor Society. She completed her residency training in family medicine at Thomas Jefferson University Hospital in Philadelphia.

Dr. Hart's research interests include:

- The impact of specialty disrespect on student professional identity formation and career choice
- Medical student's attitudes towards primary care and underserved patient populations, social empathy, and cultural competency
- Enhancing medical student recruitment into primary care specialties

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Specialty Disrespect: Impact of a Workshop and Pledge on Awareness, Empowerment, and Commitment to Promote a Culture of Respect

Kathryn Hart, MD, FAAFP
MedStar Georgetown University Hospital, Department of Family Medicine

Abstract

Specialty disrespect is well documented in the literature but strategies to address it are lacking. During this workshop, we aim to 1) increase awareness of the negative impact of specialty disrespect, 2) empower participants to address it, 3) invite participants to commit to being respectful by taking the Specialty Respect Pledge, and 4) brainstorm additional ways to improve the culture at GUSOM/MedStar around this issue.

Introduction

Specialty disrespect is defined as "one element of the hidden curriculum, encompassing unwarranted, negative, and denigrating comments made... about different specialties."¹ It affects as many as 80% of medical students and can impact those interested in any specialty.² Specialty disrespect is often based on stereotypical, false, or outdated information, and has a negative impact on students' professional identity formation, often altering their career trajectory to choose another specialty.³ Negative comments can dissuade students away from both targeted (disrespected) specialties and source (disrespecting) specialties.⁴ Furthermore, specialty disrespect is often perpetuated in the form of microaggressions, and students may perceive that they are being dissuaded from a certain specialty based on sex, race, age, or other personal factors. It is a form of student mistreatment (LCME Standard 3.6) that negatively impacts the learning environment (LCME Standard 3.5). Being respectful of other specialties is measured on the Faculty Professional Behaviors and Attitudes section of the AAMC's Graduation Questionnaire and Year 2 Survey. In 2019, the percentage of GUSOM M2 and M4 students who agreed that GUSOM faculty demonstrated specialty disrespect was well below the national average.

Methods

The workshop will be delivered to GUSOM Professional Identity Formation (PIF) faculty coaches. Using a "train-the-trainer" model, PIF coaches will then deliver the workshop to their assigned groups of approximately 10 students. Prior to the workshop, both groups will be invited to take a pre-survey which includes demographic information and assesses participants' views on the degree/frequency of the problem, the top disrespecting and disrespected specialties, confidence in addressing disrespect, and personal vignettes. Immediately following the workshop, both groups will be invited to sign the specialty respect pledge and complete the post-survey, which reassesses the degree of the problem, confidence in addressing disrespect, and ideas for solutions. 1 year after the workshop, both groups will be invited to take a follow-up survey assessing

Figures

frequency of disrespect and overall effect of specialty disrespect efforts on campus culture. A pilot of the study was completed at Family Medicine Grand Rounds in October 2020. Pre- and immediate post-survey results are presented below. See Fig 1 for a schematic of the project design.

Results

Pre-Workshop Survey Results

36 Grand Rounds attendees responded to the pre-survey, the majority of which were students (45.7%), followed by residents (25.7%), then faculty (22.9%). The majority of student respondents (75%) were M3s, 68.8% of respondents reported being "sometimes" or "often" personally targeted, and 81.2% "sometimes" or "often" observed disrespect without being personally targeted. 64.5% reported that they "never" or "rarely" made disrespectful comments about other specialties (Fig 2).

For those who experienced specialty disrespect, the most common source (disrespecting) specialties were Family Medicine (23%), followed equally by General Surgery, Orthopedic Surgery, and "Other Specialties" (all 15.4%) (Fig 3a). When asked to rank the top 3 targeted (disrespected) specialties, 96% ranked Family Medicine in the top 3, followed by Pediatrics (32.3%), then Emergency Medicine, Internal Medicine, and General Surgery (tied at 19.4%) (Fig 3b). The role of the disrespecting person was most often faculty (36.8%) followed by residents/fellows (28%), then students (21%).

Disrespectful comments usually questioned the intelligence of people in the specialty (45.2%), followed by the specialty's legitimacy (22.6%) and quality of life (13%). The impact was most commonly emotional (53.3%) followed equally by a change in interest in respect for the targeted specialty or having no impact at all (both 16.7%).

Post-Workshop Survey Results

11 attendees completed the post-workshop survey. Most respondents reported that the workshop and pledge were "very" or "extremely" impactful on their motivation to avoid propagating specialty disrespect (91% and 81.9%, respectively).

Pre vs. Post Survey Comparisons

Using Fisher's exact test to detect changes in 1) familiarity with the concept of specialty disrespect, 2) whether it impacts student career choice, and 3) confidence in addressing specialty disrespect when it occurs, positive trends were noted, but the changes were not significantly significant (p -values = 0.46, 0.44, 0.28 respectively)

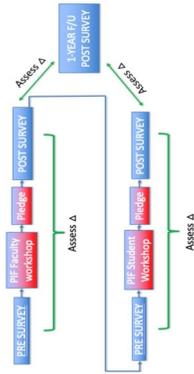


Figure 1
Schematic of Project Design

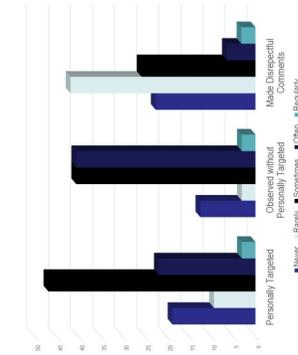


Figure 2
Frequency of Experiencing or Propagating Specialty Disrespect

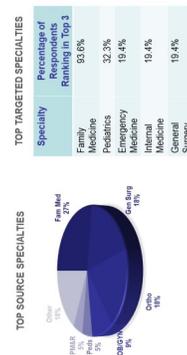


Figure 3 (a) and (b)
Top Source (Disrespecting) and Targeted (Disrespected) Specialties

Limitations/Next Steps

Limitations include a small number of participants, with a smaller number completing the post-survey compared to the pre-survey. The results were likely skewed given that the data was collected at Family Medicine Grand Rounds, where most attendees were Family Medicine faculty, staff, and residents and students on their Family Medicine clerkship rotation. We expect more robust results after including survey data from the workshop delivered to larger and more diverse audiences at the Maryland Academy of Family Medicine Conference in February 2021 and the 2021 CENTILE Colloquium in May 2021.

Conclusion

The study results were consistent with the literature in that Specialty Disrespect has a negative impact, both emotionally and on interest in respect for the targeted specialties. While the majority of respondents indicated they had witnessed or been the target of specialty disrespect, a relative minority admitted to personally making disrespectful comments, indicating that physicians and trainees are likely making disrespectful comments without realizing it. We hope that over time, and with exposure to a larger audience, the workshop and pledge will improve awareness of this issue and a broader commitment from the GUSOM/MedStar community to respect and appreciate the important role that all specialties play in caring for patients.

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Acknowledgements

I would like to acknowledge my co-collaborators on this project, Jeffrey Weinfeld, MD and Xerxes Keyote, MBSA, along with Valery Korostyarskiy, PhD for statistical support and May-Lore St. Laurent, MPH for her assistance with survey development, administration and data analysis.

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Nicholas Hazen, MD

Medstar Georgetown University Hospital

Dr. Nicholas Hazen is an attending OBGYN physician at Medstar Georgetown University Hospital, as well as an assistant professor of clinical medicine and the Clerkship Director for the Minimally Invasive Gyn Surgery (MIGS) Fourth Year Elective course at Georgetown University School of Medicine. He serves as Director of Research and Education for the MedStar MIGS Fellowship, Director of Education and Simulation for National Center for Advanced Pelvic Surgery, and Director of the Georgetown University Department of OBGYN Medical Informatics.

Dr. Hazen is a fellow of both the American College of Obstetricians and Gynecologists and the AAGL (formerly the American Association of Gynecologic Laparoscopists), and is certified by the American Board of Obstetricians and Gynecologists. He completed his Minimally invasive Gyn Fellowship at Medstar Washington Hospital Center, where he served as the inaugural fellow and helped design and build the program. He completed his residency at MedStar Georgetown University/Washington Hospital Center, where he was elected as an administrative chief resident by his peers. He received his medical degree from George Washington University School of Medicine and Health Sciences in Washington, DC.

During his training, Dr. Hazen was selected for multiple honors, including the Georgetown University Hospital Gynecology and Obstetrics Award, the AAGL Award for Recognition of Excellence in Minimally Invasive Gynecology, and was also nominated for the Georgetown University String of Pearls Teaching Award.

Dr. Hazen is actively involved in research, currently serving as primary investigator on three studies and as contributing author for seven. He was a contributing author for a recent ACOG clinical publication on cystoscopy and is co-author of a forthcoming text book chapter on the history of minimally invasive surgery.

Dr. Hazen's first career was in telecommunications. After receiving his computer science degree from New York University, he worked for a small tech startup focused on international calling using IP protocols and high frequency/high throughput wireless communication. He culminated his tenure there as Vice President of Operations.

Research Interests:

- Medical education and simulation, with a focus on surgical training
- Treatment of fibroids and abnormal uterine bleeding
- Diagnosis and treatment of endometriosis
- Use of IV Iron for treatment of Iron Deficiency Anemia in pregnancy and perioperatively

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Identifying and Addressing Perceived Mistreatment of Medical Students During OBGYN Clinical Rotations

Nicholas Hazen, MD; G. Leffler, S. Dunn
MedStar Georgetown University Hospital, University of Virginia Dept. of Physiology, Georgetown University Dept. of Physiology

Abstract

This two-part project aims to assess and address medical student mistreatment by residents within the OBGYN Clerkship. The initial step of the study is the collection, compilation, and qualitative analysis of survey responses from medical students who have completed OB/GYN clerkships and reported some form of mistreatment. These data will be thematically characterized as a basis for the second step of the project, which will include the development of targeted interventions to address and reduce the overall prevalence of medical student mistreatment resulting from interactions with OB/GYN residents.

Introduction

For the past 30 years, the problem of medical student mistreatment during clinical experiences has been well-documented and is especially prevalent in surgical subspecialty rotations, including OB/GYN. To date, the majority of efforts to address medical student mistreatment while on clinical rotations has focused on interventions targeted at either medical students or faculty, despite evidence suggesting that residents are major contributors to the mistreatment. Recent data compiled by the Georgetown University School of Medicine and MedStar graduate medical education have shown an alarmingly high proportion of mistreatment reports by medical students stemming from interactions with OB/GYN residents. Until now, there has been very limited published data looking specifically at medical student mistreatment during the OB/GYN rotation.

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Methods

After approval from the Georgetown University IRB, STUDY00003034, we were able to attain a de-identified spreadsheet containing the medical student mistreatment responses to their end of clerkship evaluations. Using a thematic characterization schema developed and used by a previous published studies that evaluated the general surgery clerkship mistreatment themes the plain text student responses will be categorized. The study team categorizing the responses is made up of myself and two undergraduate physiology students. The first fifty student responses will be analyzed, and notes will be kept as the reviewers analyze the themes of the responses. Using these notes, new custom categories can be created if needed. Once category consensus is agreed upon, the next 50 results will be analyzed and categorized to see if thematic saturation has been reached. Once saturation is achieved, the remainder of the responses will be reviewed and categorized. Concurrence of categorization amongst the three reviewers will be statistically evaluated to provide additional validity, and the proportional responses of themes will be reviewed. The major themes elucidated, the next step will be to plan an intervention aimed at the residents that help reduce the medical student perception of mistreatment by residents moving forward. Incidence of mistreatment reports will be compared before and after the intervention to evaluate effectiveness.

Categorization(Fried, at al):

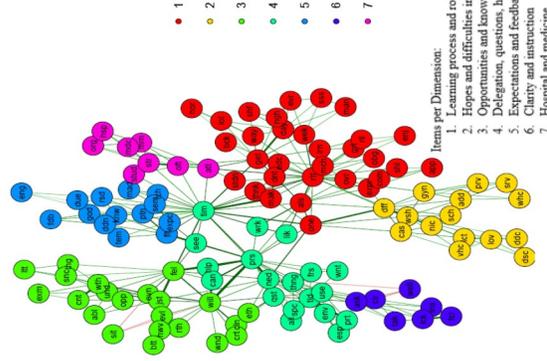
Physical:
-slapped
-struck
-pushed

Verbal:
-yelled or shouted at
-called a derogatory name
-Cursed
-ridiculed

Sexual harassment:
-inappropriate physical or verbal advances
-intentional neglect
-sexual jokes
-mistreatment based on sexual orientation

Ethnic:
-intentional neglect
-ethnic jokes
comments and expectations regarding stereotypical behavior

-Power mistreatment:
-made to feel intimidated
-dehumanized
-had a threat made about a recommendation



Next Steps

- Complete thematic analysis of student mistreatment comments
- Statistical review of that analysis for concordance between team members, and thematic prevalence
- Move on to part two: Using these themes to inform a resident intervention

Acknowledgements

Thank you to Sophia Nurm of Georgetown University, and G. Leffler of University of Virginia

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Laura S Johnson, MD

MedStar Washington Hospital Center

Laura S Johnson, MD, is board certified in both general surgery, surgical critical care and neurocritical care, and is a member of the surgical team at the Burn Center at MedStar Washington Hospital Center (MWHC), and Children's National Medical Center (CNMC). She is an attending surgeon in the sections of Burns and Trauma, and Associate Professor of Surgery at Georgetown University School of Medicine.

Aside from being a Fellow of the American College of Surgeons (FACS), and the College of Chest Physicians (FCCP) Dr. Johnson has received several awards for teaching, including the Cornwall Teaching Award of the Year in both 2016 and 2019 from the General Surgery Residents, and the Off-Service Faculty of the Year Award in 2017 and 2019 from the Georgetown Emergency Medicine Residency. In

2020, she received the Dr. Sally Abston Association of Women Surgeons Distinguished Member Award, as nominated by her residents, given to a member who "in addition to nationally recognized clinical expertise and providing outstanding mentorship, is a role model of 'what I want my surgeon to be like.'"

Dr. Johnson is passionate about teaching and is a regular faculty member or course director for Advanced Trauma Life Support, Advanced Burn Life Support, Advanced Surgical Skills for Exposure in Trauma, and other burn and trauma education opportunities. Her trainees are her proudest achievements, and she mentors medical students and residents across a range of disciplines. She serves as the course director for the many health professional electives sponsored by the Burn Center at MWHC, and recently has finished leading the first year of a national e-learning Multidisciplinary Seminar Series for the Burn Community. She has been on the Program Committee for the annual meeting of the American Association of Chest Physicians, and starts her term this year on the Program Committee for the American Burn Association

Dr. Johnson also participates in the research activities of the Firefighters' Burn and Surgical Research Laboratory, whose goal is to improve the care of burn patients worldwide. When she is not in the hospital, Dr. Johnson is an avid saber fencer, competing around the country, and is part of the National Tournament Committee for the United States Fencing Association.

Dr. Johnson received her undergraduate and medical degrees from the University of Southern California. She completed her residency training at MedStar Washington Hospital Center and then did her fellowship training at Grady Memorial Hospital, part of the Emory University Department of Surgery, before returning to the DC area.

Dr. Johnson's research interests include:

- Point of Care Ultrasound in critical illness
- Acute management of critically ill thermally injured patients
- Ethics & the intersection with medical training

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Moral Injury – An Exploration of Origins in Medical Training

Laura S Johnson, MD FACS FCCP
Associate Professor of Surgery, Georgetown School of Medicine
The Burn Center at MedStar Washington Hospital Center

Introduction

First described by Jameton in the nursing literature in the 1980s, moral injury occurs when a person is in a situation where they "know the right thing to do, but institutional constraints make it nearly impossible to pursue the right course of action." More recently broadened to include both external and internal constraints, interest in this topic in medicine has intensified substantially in the last decade. "Moral injury" has been especially relevant in discussions of physician distress in 2020 as SARS-CoV2 ravaged the world and forced health care professionals to make difficult choices about both patient and self care.

In the 1990s, the idea that repetitive exposure to potentially morally injurious events may ultimately lead to irreparable moral injury came out of studies trying to understand the root of PTSD in military veterans. While one morally distressing event may not in and of itself result in harm, additive exposure over time may become an irreversible injury. Alternatively, if one event is significantly discordant enough with an individual's personal expectations of rules or a code of conduct, this can lead directly to moral injury. Moral distress in healthcare has been described as early as medical school, and at multiple other time points over a medical career. This leaves one to posit that repetitive exposures may be occurring throughout training and professional career and may ultimately result in an irreversible injury on the path to further harm.

Measurement of moral injury in healthcare providers has been simplified by Mantri and colleagues with the validation of their Moral Injury Symptom Scale-HP(2). The correlation to the Maslach Burnout Inventory, depression and anxiety scales demonstrated that it is reliable in identifying moral injury in healthcare providers, and that a particular score indicated significant functional impairment warranting further assessment and treatment. Utilization in the setting of an acute event prompting moral injury (SARS-CoV2, China 2020) further validated the use of this tool despite widely disparate cultural norms. Cultivating the development of moral resilience first requires an understanding of it and when moral distress develops over the course of training. If moral distress is not a component of stress during residency, attention can focus elsewhere. Limited previous work in other fields of medicine suggests that trainee moral distress does occur (3,4), and contributes to resident thoughts of quitting medicine, burnout, and other job dissatisfaction.(3-6) Thus if moral distress development can be identified during residency, providing tools and facilitating discussion to prevent the progression towards moral injury and potential additive negative effects would be a vital part of a complete residency education program.

Methods

Residents from five surgical residency programs in and around the District of Columbia will be asked to complete a survey with questions on demographics and moral injury. Purposeful sampling of the residents in this region will be done to optimize the response rate. Site specific identifiers will allow for separation of data by program in order to provide program directors with a high-level view of any program specific trends.

Survey Components

For a total expected 70 survey respondents the information to be reviewed will include, but not be limited to:

- Age/Gender/Ethnicity/Sexual Identity
- Residency Year
- Residency Site
- Family status
- Presence of an external (to the training program) support system
 - Distance to that support
- Religiosity Questionnaire (16) (Figure 1)
- Moral Injury Questionnaire (12) (Figure 2)

Figure 1 – Duke University Religion Index (7)

- How often do you attend church or other religious meetings?

1 – Never	2 – Once a month	3 – A few times a year	4 – A few times a month	5 – Once a week	6 – More than once a week
-----------	------------------	------------------------	-------------------------	-----------------	---------------------------
 - How often do you spend time in religious activities, such as prayer, meditation or Bible study?

1 – Rarely or never	2 – A few times a month	3 – Once a week	4 – Two or three times a week	5 – Daily	6 – More than once a day
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- The following section contains 3 statements about religious belief or experiences. Please mark the extent to which each statement is true or not true for you.
- In my life, I experience the presence of the Divine (i.e., God).

1 – Definitely not true	2 – Tends not to be true	3 – Unsure	4 – Tends to be true	5 – Definitely true
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 - My religious beliefs are what really lie behind my whole approach to life.

1 – Definitely not true	2 – Tends not to be true	3 – Unsure	4 – Tends to be true	5 – Definitely true
-------------------------	--------------------------	------------	----------------------	---------------------
 - I try hard to carry my religion over into all other dealings in life.

1 – Definitely not true	2 – Tends not to be true	3 – Unsure	4 – Tends to be true	5 – Definitely true
-------------------------	--------------------------	------------	----------------------	---------------------

Figure 2 –

Moral Injury Symptom Scale: Healthcare Professionals Version (MISS-HF) (2)

1. I feel betrayed by other health professionals, whom I once trusted.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
2. I feel guilt over failing to save someone from being seriously injured or dying.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
3. I feel ashamed about what I've done or not done when providing care to my patients.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
4. I am troubled by having acted in ways that violated my own morals or values.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
5. Most people with whom I work as a health professional are trustworthy.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
6. I have a good sense of what makes my life meaningful as a health professional.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
7. I have forgiven myself for what's happened to me or to others whom I have cared for.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
8. All in all, I am inclined to feel that I'm a failure in my work as a health professional.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
9. I sometimes feel God is punishing me for what I've done or not done while caring for patients.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
10. Compared to before I went through these experiences, my religious/spiritual faith has strengthened.

Strongly disagree	1	2	3	4	5	6	7	8	9	10	Strongly agree
-------------------	---	---	---	---	---	---	---	---	---	----	----------------
11. Do the feelings you indicated above cause you significant distress or impair your ability to function in relationships, at work, or other areas of life important to you? In other words, if you indicated any problems above, how difficult have these problems made it for you to do your work, take care of things at work, or get along with other people?

Not at all	1	2	3	4	5	6	7	8	9	10	Extremely
				Mild		Moderate		Very Much			

Anticipated Outcomes

It is anticipated that moral injury will manifest during defined periods of surgical training, times that correlate with significant increases in responsibility. If this is correct, training to optimize moral resilience can be planned before and during these periods to optimize resident outcomes. If this is incorrect, data may point to other opportunities to address moral distress during surgical training.

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Acknowledgements

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Mark Mattar, MD

MedStar Georgetown University Hospital

Mark Mattar, MD is the Quality Improvement Officer for the Division of Gastroenterology.

As the director of the IBD Center he has expertise in diagnosing and treating inflammatory bowel diseases (IBD), Crohn's disease, colitis, and celiac disease. Dr. Mattar has a particular interest in IBD therapeutics and IBD and colorectal cancer prevention. He is active in clinical research and medical education for trainees, the community, and patients.

Dr. Mattar sees patients in his gastroenterology practice at MedStar Georgetown University Hospital. He embraces a team approach to patient care within the IBD Center at MedStar Georgetown as part of a multidisciplinary treatment team that includes dietitians and other key providers. He is

also active in clinical trials for IBD and performs fecal microbiota transplantation for recurrent and refractory *C. difficile* infection.

Dr. Mattar teaches at MedStar Georgetown University Hospital as Associate Professor of Medicine, and is the director of the Fellowship Training Program in Gastroenterology. He is also an active member of the mission committee of the Crohn's and Colitis Foundation, D.C. Metro chapter; the ACG Training Committee and the Patient Education National Scientific Advisory Committee for the Crohn's and Colitis Foundation. In 2014, Dr. Mattar was recognized by the American Gastroenterological Association's Bridges to Excellence Program for his commitment to providing comprehensive quality care for patients with IBD.

Dr. Mattar enjoys family time with his wife and son, including fishing in local ponds and creeks. He especially enjoys exploring the Washington museums and playgrounds with his young son. He also enjoys checking out the local cafes and creating his own latte art.

Patients and practitioners can connect with Dr. Mattar on Twitter (@gastrodocmattar) and follow his tweets on new developments in gastroenterology.

The mission of the training program he directs states, "To create an environment where compassionate medical trainees can learn to provide exceptional quality care to the patients we serve." He prides himself in treated his patients as he would his own family.

Dr. Mattar's research interests include:

- Advanced treatment for inflammatory bowel disease (IBD)
- Innovations in medical education
- Quality improvement in IBD care
- Fecal microbiota transplantation (FMT) in *C. difficile*

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A tailored coaching strategy utilizing online modules for meaningful learning

Mark C Matter, MD; Krystina Johnson, MD
MedStar Georgetown University Hospital

Abstract

Adult learners are increasingly faced with challenges in continuing to maintain and apply medical knowledge in the evolving and rapidly growing fields of medicine. Self-directed learning with the guide of a coach can help learners develop the skills needed to incorporate techniques to navigate and thrive.

We have used the below stated method to answer this research question: **Do coaching tools utilizing ACG Universe online modules improve GI Training Exam scores, controlling for the effects of traditional learning and curriculum tactics in GI fellows?** We set out to compare performance changes between year of test-taking and with historical data, after coaching sessions by the program director.

With this study, we plan on refocusing in-service exams to be used as a tool to help learners develop study plans. We will also equip academic coaches with the right tools to appropriately guide medical trainees to utilize online modules and test banks to improve test scores. As a result, empowering physicians, as lifetime learners, to apply dynamic testing, interleaving, and spaced repetition will help them tackle gaps in their medical knowledge.

Introduction

There has recently been a forced increase in the utilization of distance learning with the utilization of online resources. Self-directed learning with the guide of a coach can help learners develop the skills needed to incorporate techniques to navigate and thrive. Physicians, as lifetime learners, will apply dynamic testing, interleaving, and spaced repetition as they tackle gaps in their medical knowledge.

Methods

We have utilized American College of Gastroenterology (ACG) Universe online expert lecture modules to help tailor study plans and show improvement in GI Training Exam (GTE) Scores. By applying an objective deductive approach, we have constructed a database (Sample below in Figure 1) of historical GTE percentile scores per subject matter. With this data, we will quantitatively compare performance changes between year of test-taking and with historical data. We applied two coaching sessions by the program director focusing on the two topic areas where the fellows performed the worst on. We will also utilize a Google Form survey for evaluation of the fellows' reaction.

Results

11 GI fellows have completed the program. We are currently awaiting the exam and survey results, which will include a qualitative component.

Figures

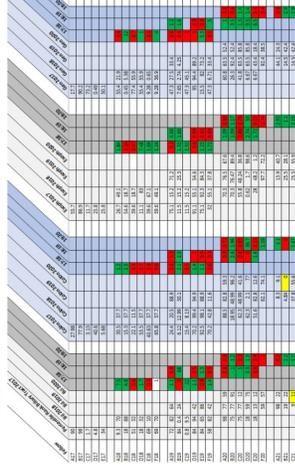
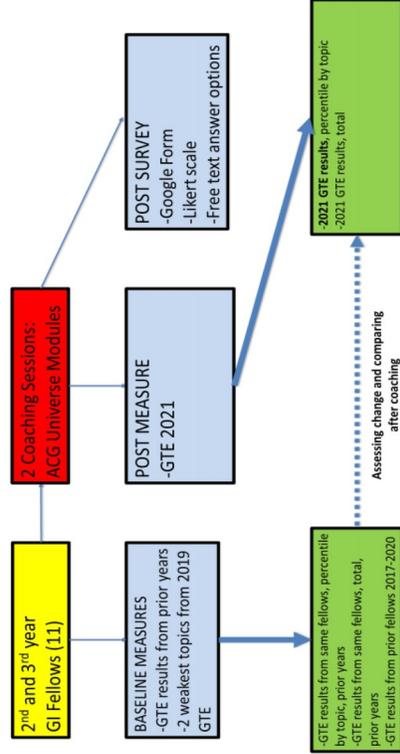


Figure 1: GTE Scores and Trends. This is a snapshot of the deidentified fellows' percentile scores by topic on the GITE by year. Red signifies a decrement from the past year while green signifies improvement. The right columns are results from the whole exam with all topics together.



Limitations/Next Steps

- Possible Confounds, Limitations
- Small sample size
 - Confounding variables, mixed interventions
 - Traditional learning methods with didactics and access to any ACG Universe modules and test bank for all fellows
 - Expected improvement in GTE scores per year
 - We will evaluate % expected improvement from historical data
 - Small number of questions per topic on GTE making it difficult to fully assess fellows' knowledge

Next Steps

- Expand to other departments, sites
- Coaching the coach

Conclusion

- ✓ Goal of coaching as applied in MedEd: learner meets regularly over time with a faculty coach to create goals
- ✓ Identify strategies to manage existing and potential challenges
- ✓ Improve academic performance
- ✓ Further professional identity development toward reaching the learner's highest potential
- ✓ Exam results can guide learners to focus on their deficiencies
- ✓ Empowering physicians, as lifetime learners, to apply dynamic testing, interleaving, and spaced repetition, can help them tackle gaps in their medical knowledge
- ✓ Consider equipping academic coaches with the right tools to appropriately guide medical trainees to utilize online modules and test banks

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Acknowledgements

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-Christopher Matter for data entry

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Gregory Nizialek MD

MedStar Franklin Square Medical Center, Harbor Hospital, & Union Memorial Hospital

Gregory Nizialek MD is an attending academic hospitalist and associate program director of the MedStar Health Internal Medicine Residency Program in Baltimore MD. His primary clinical work is with the resident teams at MedStar Franklin Square Medical Center, Harbor Hospital, and Union Memorial Hospital. He has previously served as faculty and associate program director of the internal medicine residency program at the Metrohealth Medical Center in Cleveland OH.

He attained his medical degree from Case Western Reserve University School of Medicine in Cleveland OH. After graduation and completion of his internship at Metrohealth Medical Center he started radiology residency at University Hospital Case Medical Center. He was ultimately drawn back to internal medicine due to his desire to provide direct patient care and to remain involved in medical education. He subsequently completed his residency in internal medicine at University Hospitals Case Medical Center.

Consultative and perioperative medicine is an academic interest of Dr. Nizialek and he has served as site director for the Citywide Perioperative Educational Conference held yearly in Cleveland Ohio. He has spoken on this topic at conferences at University Hospitals Cleveland Medical Center, the Cleveland Clinic Foundation, and South Pointe Hospital.

Dr. Nizialek's research interests include:

- The Education of International Medical Graduates
- Evidence Based Perioperative Care

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Abstract

International Medical Graduates make up a large percentage of Internal Medicine residents and have unique challenges they face upon the start of a training program. Prior research has suggested that mentorship is critical in the acculturation of new international residents. The development of a near-peer mentorship curriculum is expected to improve resident satisfaction with the early residency period and improve the ability of interns to identify senior residents as mentors who they feel comfortable reaching out to for professional and personal advice.

Introduction

In 2021 13,238 International Medical Graduates¹ participated in the 2021 match and almost 60% of those that matched did so in internal medicine. The prior training and culture background of these residents is extremely heterogeneous, but these trainees experience different challenges than those who undergo their medical training in the United States.

Variations in exposure to different patient populations and health care systems, culture differences, and logistical and financial hurdles all conspire to promote a period of loss and disorientation² for new International Medical Graduates. These barriers can affect early residency satisfaction and slow development of independent skills during the crucial early months of residency.

Peer and Near-Peer Mentorship³ has been identified in the prior literature as a crucial area missing for internationally trained residents during these formative months. Trainees with prior relationships with more senior residents have used these connections as unofficial mentors, but this system is ad hoc and leads to inequitable and inadequate mentorship for diverse programs. We propose the development of a Near-Peer Mentorship curriculum with emphasis on acculturation to standardize and augment this relationship building at the start of residency.

Methods

A targeted needs assessment is being performed evaluating the satisfaction of the current residents in their existing near peer mentorship environment. This involves a web based survey of current interns asking for information regarding current availability of senior residents who they identify as mentors, if senior residents as mentors have helped them identify and achieve goals for self improvement in either professional or personal areas, and overall ease of transition to residency. Narrative feedback on preferences for mentorship pairing and goals of a mentorship program are also elucidated.

Results

Interim results suggest interns in a residency program with a large percentage of International Medical Graduates are neutral or disagree (53%) when asked if they could identify a senior resident who they regarded as a mentor and were able to seek professional or personal advice from.

A majority of residents report a senior resident has helped them identify goals for self improvement (64%). Narrative feedback suggests this is done during feedback from supervising residents during rotations.

A large percentage of the intern class reports they agree or strongly agree with the statement that the first few months of my internship were disorientating (76%).

Next Steps

The development of a peer mentorship program involves several upcoming steps. When it is completed, the targeted needs assessment will be used to help refine the goals and objectives and provide a timeline for improvement.

Using feedback from the needs assessment and a review of the prior work in the literature we are developing the education strategies of this curriculum which will involve several major themes

- The pairing of new interns and senior residents into mentorship groups
- The use of several mentor-mentee training sessions to inform all parties of the role of peer mentoring and how to help the interns set goals in their personal and professional environment. This will focus on acculturation education
- The establishment of a check-in system to ensure that mentors and mentees have predetermined meetings to set a minimum number interactions between the parties.

Evaluation will be elucidated through web based forms regarding their early intern experience, their perceived ability to ask their mentor for personal and professional advice, and if they felt this mentorship program reduced their sense of disorientation during early residency.



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Conclusion

International Medical Graduates and medical residents in general make use of ad hoc mentoring relationships when able but seek more uniform and structured experiences.

A structured peer-mentorship curriculum focusing on acculturation goals expects to improve both self reported resident satisfaction with their early internship period and improve the rate at which interns report a mentor helped them achieve personal or professional goals.

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Acknowledgements

I would like to acknowledge the faculty of the Teaching Scholars program for their wisdom and patience.

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Anita Tammara, MD, MBA, MPH

MedStar Franklin Square Medical Center

Anita Tammara, MD, is an internal medicine specialist who serves as the Medical Director of MedStar Franklin Square Medical Center's Primary Care Center. In tandem, she is an assistant professor of clinical medicine in the Division of General Internal Medicine at Georgetown University Medical Center. Dr. Tammara earned her medical degree at the American University of Antigua and then completed her post-graduate residency training at the University of Maryland Medical Center. Additionally, she earned a Master's degree in Public Health from the University of Massachusetts and a Master's of Business Administration, with concentration on healthcare management, from the American InterContinental University.

Dr. Tammara is a member and a fellow of the American College of Physicians, the American Association of Physicians of Indian Origin, the Alliance for Academic Internal Medicine, and the Society of Hospital Medicine. At MFSMC, she provides both clinical and academic instruction on inpatient and outpatient internal resident teams. In the outpatient setting, she also has part of her practice in addiction medicine. She also participates in the teaching program for the Georgetown students' longitudinal program that rotate at the hospital during their 3rd year of medical school training.

Dr. Tammara is active member in several committees at the hospital and for residency program, including, capacity management, peer review, physician concierge services, CCC, resident wellness, franklin wellness team, racial injustice- wellbeing and responsiveness, and resident career development. She participates case presentation with residents, didactics with Georgetown students, and various QI initiatives being conducted in the resident primary care clinic. She continues to participate in scholarly activities with the residents on various clinical vignettes both for annual meeting presentations and for publication. Dr. Tammara interests are in expanding on medical education to be a part of new innovations and further progress academically in her career path.

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Faculty as Facilitators in Assisting a Struggling Learner in Creating an Effective Learning Plan

Work in Progress

Tammara, Anita MD, FACP, MPH, MBA,
MedStar Franklin Square Medical Center

MedStar Health Internal Medicine Residency Program

Abstract

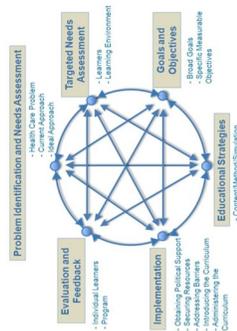
An individual learning plan (ILP) is a critically important tool, specifically vital in residency training programs and considers individual strengths, professional goals, and specialty requirements needed to progress in both for graduation and career pursuits. While the learner should be able to create an initial ILP, the ILP content should be guided by a facilitator (faculty member, advisor, associate program director, or program director). In literature, there has been numerous emphasis and interventions targeting the learner. However, the literature has shown faculty needing further training in learning goals and development, especially in internal medicine residency training programs. Data of past ILPs were reviewed and concluded that no ILP were similar in terms of structure or incorporating all the learning goals to achieve desired outcome. Based on this initial review, we postulated a question, does increasing faculty advisor knowledge around self-directing learning concepts improve in creating better ILPs. We hypothesize that having a dedicated faculty development workshop on skills, learning goals, tools, and reflection will allow our faculty to have a more structured approach in facilitating our learners in creating effective learning plans. Further review will be undertaken once faculty undergoes this workshop and reviewing post-ILPs in the new academic year.

Introduction

In residency training programs there are specific milestones that are required for the learner to be deemed competent to graduate in internal medicine training programs per ACME requirements, and system-based practice. As an internal medicine residency training program, these competencies are reviewed quarterly to ensure that the learner is on track to achieve the milestones and further aim to achieve the milestone (5) needed. There is a quite a bit of literature on pediatric residency programs and business literature on mentorship to help residents create learning goals, and systems for tracking and monitoring (6). There is many different type of peer mentoring and facilitated peer group mentoring in the pediatric literature that focuses its attention to "reflect, advise, plan (RAP) sessions conducted at St. Christopher's Hospital for Children to help pediatric residents improve on ILPs." Limitations and practical suggestions for creating learning goals. It has been shown that both learners and faculty do not know the key concepts in developing learning goals. Many programs have not shown a true need for intervention on faculty development on practice and developing learning goals. A need for intervention on faculty development on practice and developing learning goals. Achievement. That research found that many faculty need training in both developing their own learning goal (5) and supporting meaningful use helping learners. This is the gap in literature which my focus will be on. The main target is a faculty development workshop focusing on increasing knowledge around learning goals and using these strategies obtained to assist their learners in creating effective ILPs.

Methods

Figure 1. Kern's Six-Step Approach to Curriculum



Background and Strategy

Table with 4 columns: Learners (Residents), Faculty Advisors, Medical Educators (Residents), and GME. Rows include Current Problem, Ideal-what medical educators contribute towards solving the problem?, and a detailed description of the strategy.

Table titled 'Past ILPs reviewed (2019-Present)' with columns: Review, ILP Important, Specific, Measurable, Accountable, Realistic, Timeline, and Faculty. It lists 13 ILPs with their respective characteristics.

Summary:

- > Improving ILPs to reach their intended goal.
> How to create effective ILP?
> How can faculty play a role to improve the learner's ILP?
> Most residents at MHIM have never in their previous education have created a learning plan.
> Faculty at MHIM have no unified systematic approach or goals that are used in helping their learners with learning plans.

Strategy and Plan

Goal: Faculty Advisors will understand and develop meaningful use of learning goals as a structured approach in assisting learners create learning plans.

Research question: Does increasing advisor knowledge around self-directing learning concepts improve in creating better ILPs.

Hypothesis: We hypothesize that having a dedicated faculty development workshop on skills, learning goals, tools, and reflection will allow our faculty to have a more structured approach in facilitating our learners in creating effective learning plans.

Objectives:

- 1. Workshop participants will be able to describe the ISMART mnemonic by the end of the session.
2. Workshop participants will be challenged with an exercise pre- and post- workshop to create their own learning plan.
3. Workshop participants will be engaged in an open discussion with examples provided in understanding learning goals and reflection.
4. By the end of the workshop, faculty will have the confidence, practical methods, and a structured approach needed in assisting their learners in creating ILPs.

Educational Strategies

- Faculty development program as a workshop
- Some part being Lecture based information delivery
• Case-based examples- teaching and learning activity
• Small Group Discussion and Sharing experience

Limitations/Next Steps

- Evaluations?
• And how to further proceed further with analysis of the ILPs post workshop

Conclusion...work in progress

To share if I have proven my hypothesis. Having education on learning goals and a structured approach, each faculty member assists their struggling learner and as a result we see an improvement in an effective ILPs leading to the outcome of improving their deficiency(ies) deemed by the CCC needing to graduate.

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- Department of Medicine, Chair of Medicine, and Residency Program

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MedStar Washington Hospital Center*

Rachelle Toman, MD, PhD, is an attending Family Medicine physician at MedStar Health, affiliated with both MedStar Georgetown University Hospital (MGUH) and MedStar Washington Hospital Center (MWHC). In addition, she is an associate professor of Family Medicine at Georgetown University School of Medicine. Her previous experience includes service as the Chief Medical Officer equivalent at a multi-site Federally Qualified Health Center in Washington, DC.

Dr. Toman is the program director for the MedStar Health/Georgetown-Washington Hospital Center Family Medicine residency program and the medical director for the MedStar

Medical Group Family Medicine at Fort Lincoln practice. In these roles, she provides clinical and academic instruction for more than 18 residents and 200 medical students annually.

Dr. Toman is a diplomate of the American Board of Family Medicine (ABFM) and a fellow of the Advisory Board (FABC). She is active in several professional societies, including the Society for Teachers of Family Medicine, the Family Medicine Milestones 2.0 Quality Assurance project, and the Association of Family Medicine Residency Directors. She also sits on the Quality Management Boards of local FQHCs and Medicaid MCOs and is involved in the District of Columbia's Health System Redesign Subcommittee.

Dr. Toman is a peer reviewer for the Journal of the American Board of Family Medicine, the Family Physicians Inquiry Network, and the American Medical Informatics Association. She has written chapters on fever of unknown origin and health systems management with an emphasis on LGBTQ+ care and underserved communities.

Her doctorate is from Georgetown University and her medical degree is from the Virginia Commonwealth University School of Medicine. She continued her training with an internship and residency in Family Medicine at the Georgetown University/Providence Hospital Family Medicine Residency Program.

Dr. Toman's research interests include:

- Community Medicine
- Health Systems Management
- Innovations in Graduate Medical Education
- Quality Management
- Population Health

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Holistic recruitment implementation: are program directors ready for change?

Rachelle Toman, MD, PhD
MedStar Health/Georgetown-Washington Hospital Center Family Medicine Residency Program

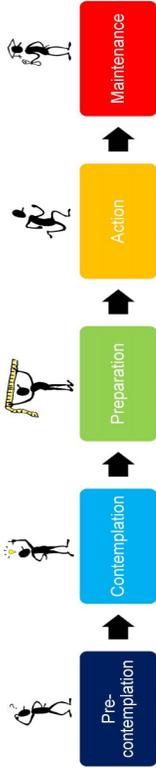


A work in progress...

Introduction

Increasing the diversity of the physician workforce is a key component in eliminating health inequities¹. The American Association of Medical Colleges espouses holistic review as strategy to increase diversity². While the recruitment of underrepresented minority medical students has been studied³, limited research has been done to examine effective strategies in graduate medical education⁴. Of the few studies that do exist, all include the program director as a change champion. This study proposes to examine program directors' readiness for change and perceived self-efficacy in implementing holistic recruitment practices.

Conceptual Framework



Transtheoretical Model of Behavior Change

Appropriate because holistic recruitment is:

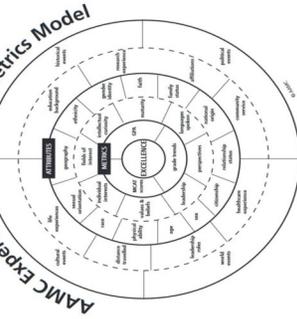
- ▶ A behavior of increasing importance
- ▶ Acted out on various levels
- ▶ Susceptible to change

Challenges

This qualitative research project utilizes a mix of validated and adapted scales with limitations in construct validity and reliability. It relies on a convenience sample which limits generalizability. Its self-reported methodology is subject to social desirability bias.

Next Steps

- ▶ IRB approval pending
- ▶ Continue to explore methods to reduce the limitations noted above.
- ▶ If feasible, implement phase 2 focus groups to identify actionable assets and barriers.

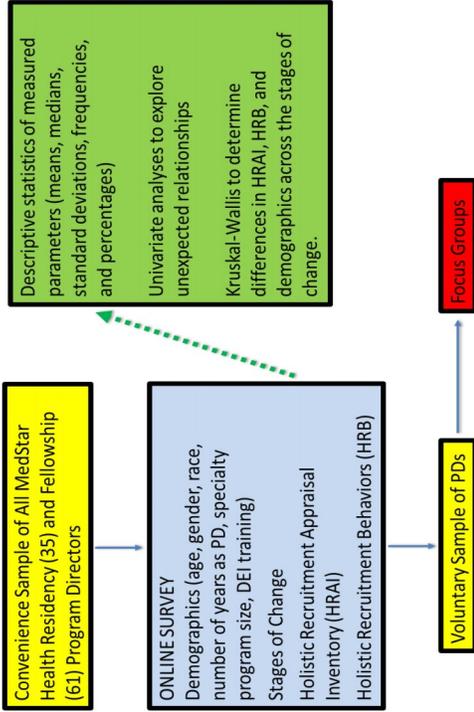


Adapted from *Measuring Medical Student Readiness for Holistic Review*, Association of American Medical Colleges, 2013.

Research Question

How does program director perceived self-efficacy and stage of change impact program implementation of holistic recruitment?

Exploratory Research Design



Representative References

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1st Year Research Scholar



Alexis Dieter, MD

MedStar Washington Hospital Center

Alexis Anne Dieter, MD, is a board-certified urogynecologist, Director of Research for the Division of Urogynecology and Reconstructive Pelvic Surgery at MedStar Washington Hospital Center, and an Associate Professor in the Departments of OBGYN and Urology at Georgetown University School of Medicine. Previously, Dr. Dieter served as Director of Research and Assistant Professor for the Division of Urogynecology and Reconstructive Pelvic Surgery at The University of North Carolina at Chapel Hill.

Her clinical interests include treating and improving the quality of life for patients with prolapse (vaginal bulge), bladder issues, working with women post-childbirth, and working with her patients to find the most efficient treatment to help reduce recovery time while providing excellent re-

sults in-line with their treatment goals. She is passionate about closing the gaps in health disparities and expanding access to care to ensure that everyone receives the care they need and achieves excellent outcomes.

Dedicated to advancing continuing education and expanding translational research in the field of urogynecology, Dr. Dieter has published over 35 articles in peer-reviewed journals and has given dozens of national and international presentations. She is also a peer-reviewer for many publications including *Female Pelvic Medicine & Reconstructive Surgery*, *The International Urogynecology Journal*, *The American Journal of Obstetrics & Gynecology*, *The Journal of Urology* and *The American Journal of Surgery*.

Dr. Dieter received her undergraduate degree from MIT and her medical degree from Columbia University College of Physicians and Surgeons. She then completed an internship in Obstetrics & Gynecology at New York University, before joining Duke University Medical Center for residency training in Obstetrics & Gynecology and a 3-year subspecialty fellowship in Female Pelvic Medicine & Reconstructive Surgery. She is a member of the International Urogynecological Association (IUGA), the American Urogynecologic Society (AUGS), and a Fellow of the American Congress of Obstetricians and Gynecologists (ACOG).

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LIST: A prospective pilot study to assess for histologic changes on vulvar biopsies in postmenopausal women with Lichen sclerosus treated with Fractionated CO2 Laser

Alexis A Dieter, MD (1); Michael Cardis, MD (2); and Chery Iglesias, MD (1)

(1) Department of OBGYN, MedStar Washington Hospital Center and Georgetown University School of Medicine;

(2) Department of Dermatology and Dermatopathology, MedStar Washington Hospital Center and Georgetown University School of Medicine

Background

Lichen sclerosus (LS) is a chronic and debilitating skin condition that affects women of all ages and causes significant changes in the architecture and appearance of the vulvar tissues and carries up to 11% risk of squamous cell carcinoma.^{1,2} Symptoms of LS include vulvar pain and discomfort, leading to dyspareunia, sexual dysfunction and chronic pelvic pain. Women with LS often suffer silently, enduring symptoms of significant physical discomfort, feelings of isolation, and resultant loss of intimate relationships for many years before obtaining a correct diagnosis and appropriate therapy.^{3,4}

Fractionate CO2 Laser therapy (FxC02 laser) is a promising new treatment modality for LS, based on case series and results from one randomized trial. This randomized trial, conducted with our team here at MedStar, compared FxC02 to standard of care topical clobetasol propionate 0.05% ointment. This RCT found FxC02 laser was non-inferior clobetasol, and, in fact, more women in the FxC02 laser group had a clinically significant improvement on the Skindex-29 questionnaire (52% FxC02 laser vs 0% in clobetasol).

Currently FxC02 laser is only recommended in the research setting. We need to gain more objective data to determine the safety and efficacy of this potential treatment modality before offering it more widely.

One way to assess treatment response that warrants investigation is change in histology of the vulvar tissues.⁵ While there is no standard diagnostic criteria for diagnosing LS via vulvar biopsy, certain characteristics are consistently seen (loss of rete pegs, etc). Currently very little is known about how FxC02 laser therapy works and more specifically we do not know how FxC02 laser therapy affects the histology of the vulvar skin in women with LS.

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5. Pirelli M, et al. *Neuroanal Urolog.* 2019.

We aim to investigate how FxC02 laser treatment affects the vulvar tissues in postmenopausal women with vulvar lichen sclerosus by performing a prospective observational pilot study.

We will follow 10 postmenopausal women undergoing FxC02 laser therapy for treatment of LS to determine changes in the histology of vulvar biopsies pre- and post-treatment. Specific aims of the project include:

- Aim 1: To compare characteristics of vulvar biopsy specimens before and after treatment with Fractionated CO2-laser in postmenopausal women with LS.
- Aim 2: To assess subjective improvement in vulvovaginal symptoms, sexual function and lower urinary tract symptoms through use of validated questionnaires administered at baseline and at the conclusion of therapy.

Approach: We will compare each participant's vulvar biopsies obtained at baseline and at six weeks after the third FxC02 laser treatment to assess change in histologic appearance and characteristics traditionally noted in LS. We will utilize the Skindex-16 and the Vulvovaginal Symptoms Questionnaire to measure vulvovaginal symptoms, the Female Sexual Function Index to assess sexual function, and the Core Lower Urinary Tract Symptom Score questionnaire to measure lower urinary tract function at baseline and at completion of therapy to explore how FxC02 laser affects the quality of life of the participants. Change scores will be calculated to determine change per participant over the treatment period.

Study Population:

- Inclusion criteria: English-speaking postmenopausal women with suspected vulvar LS electing to undergo FxC02 laser therapy who are willing and able to undergo vulvar biopsy
- Exclusion criteria: Prior transvaginal mesh for prolapse, active genital infection, known vulvar malignancy or active treatment for other malignancy, prior pelvic radiation, topical corticosteroid use on the vulvovaginal tissues within the past 8 weeks.

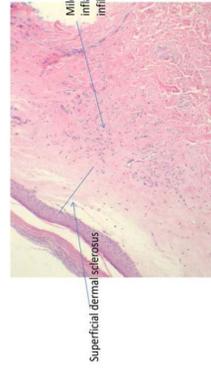
Interventions:

- FxC02 laser therapy will use the vulvovaginal SmartXide²-V2-LR laser system by DEKA fractional CO₂ laser. Local anesthetic will be applied prior to treatment and standard settings will be utilized to treat visually affected areas of the vulvar/perianal skin in a single pass, sparing the glans of the clitoris/clitoral hood by ≥ 5 mm. Participants will undergo a total of 3 treatments performed 4-6 weeks apart.
- Vulvar biopsies will be completed using a 5mm punch biopsy and sent for routine pathology. Vulvar biopsies will be performed at baseline and at 4-6 weeks after the third FxC02 laser treatment.

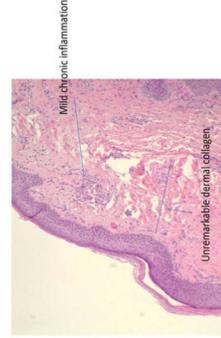
Histologic Analysis: One pathologist blinded to specimen type (pre- or post-treatment and individual patient) will perform a qualitative histologic assessment of all 20 vulvar biopsy specimens to assess and rate characteristics typically seen in patients with LS on vulvar histology including hyperkeratosis, rete peg concentration, hypergranulosis.

Timeline: IRB approval has been obtained and study enrollment started in April 2021 and we anticipate a 5 months of recruitment followed by 10 months of observational follow-up.

Funding: Charles and Mary Latham Foundation Award

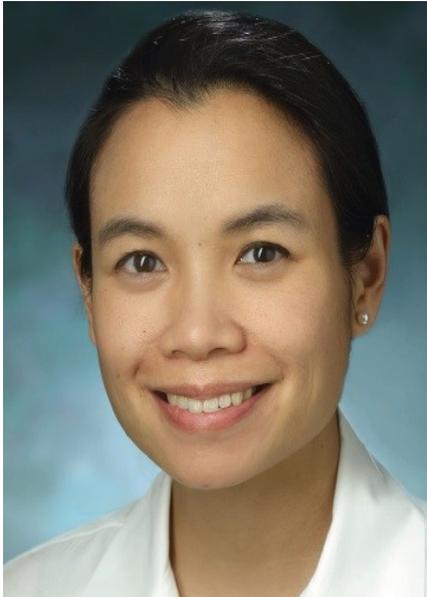


Vulvar biopsy with changes consistent with lichen sclerosus



Vulvar biopsy with normal findings

1st Year Research Scholar



Victoria Lai, MD, MS

MedStar Washington Hospital Center

Victoria Lai, MD, MS, FACS is an attending endocrine surgeon with the MedStar-Georgetown Department of Surgery, MedStar Washington Hospital Center Division of Endocrine Surgery. She cares for patients with benign and malignant conditions of the thyroid, parathyroid, and adrenal glands, performing operations at MedStar Washington Hospital Center and MedStar Georgetown University Hospital. She is an Assistant Professor of Surgery at Georgetown University Medical Center.

After receiving a BA in History at Yale, she received her medical degree from the Albert Einstein College of Medicine. She completed her general surgery residency at Albert

Einstein/Montefiore Medical Center and her endocrine surgery fellowship at the Medical College of Wisconsin. She later received an MS in Clinical and Translational Research from the Georgetown-Howard Universities Center for Clinical and Translational Science.

Dr. Lai is board-certified in Surgery and is a Fellow of the American College of Surgeons. She currently serves on committees of the American Association of Endocrine Surgeons and the American Thyroid Association. She is a member of the Association of Academic Surgeons and the Society of Asian Academic Surgeons. She is a peer reviewer for publications including *Surgery* and *The American Journal of Surgery*.

Dr. Lai's research interests in endocrine surgery patients include:

- Disparities and equity
- Clinical outcomes

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Quality of life of endocrine surgery patients

Victoria Lai, MD, MS^{1,3}; Delya Wesley, PhD, MPH²; Hui Zheng, MD²; Jana Lu, BS⁴; Sraveera Sathi, BS⁴; Flossine Brown²; Erin A. Feiger, MD^{1,3}; Nancy M. Carroll, MD^{1,3}; Jennifer E. Rosen, MD^{1,3}; Judy Wang, PhD⁴
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Introduction

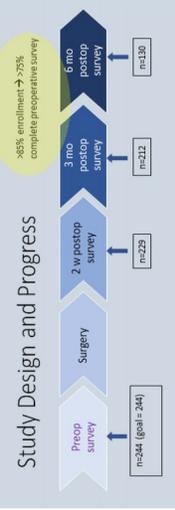
- Endocrine surgeries are common and have low morbidity and mortality rates, but patient-reported QOL has been understudied or poorly studied.
- Existing literature suggests that QOL may be worse after surgery for thyroid patients and QOL may be better after surgery for parathyroid and adrenal patients.
- Gaps in the literature exist:
 - Few prospective studies
 - Ethnic/racial minorities and non-English language speakers underrepresented or excluded from most studies
 - Little known of social factors that may contribute to QOL
- Goal: Conduct a prospective QOL study of a diverse population of adult endocrine surgery patients
- Results show a work-in-progress and we are on-track to complete the study

Methods

- Recruited adult patients from the endocrine surgery offices of 4 endocrine surgeons from the MedStar-WHC Endocrine Surgery Department.
- Patients completed preoperative questions regarding social determinants of health.
- Patients completed validated QOL questionnaires of general health (PROMIS-29) and voice (VHI-10) before surgery and after (2 weeks, 3 months, 6 months).
- Surveys done in-person, over the phone, by mail, or on-line through an emailed link.
- Study materials translated to Spanish and language interpreters provided as required.
- Completed results of the surveys across organ system groups (i.e. thyroid vs. parathyroid vs. adrenal) and within organ system groups by race.
- Conducted interviews with patient advisors to get study feedback

Results: Data as of 1-2021

Gender	Overall n (%)	Thyroid n (%)	Parathyroid n (%)
Female	193 (77.5)	111 (77.6)	62 (79.5)
Male	56 (22.5)	32 (22.4)	16 (20.5)
Race			
White	136 (52.3)	74 (51.7)	49 (62.8)
Black	86 (33.1)	53 (37.1)	20 (25.6)
Asian	11 (4.2)	6 (4.2)	4 (5.1)
Other	27 (10.4)	10 (7.0)	5 (6.4)
Ethnicity			
Non-Hispanic/Latinx	225 (90.4)	126 (88.1)	73 (93.6)
Hispanic/Latinx	24 (9.6)	17 (11.9)	5 (6.4)



PROMIS at 6 months:

- Parathyroid patients were more likely than thyroid or adrenal patients to have improved fatigue and adrenal patients were more likely to have worsened fatigue
- Trend for parathyroid patients to have improved pain interference scores and adrenal patients to have worsened pain interference
- Blacks who had thyroid surgery were more likely to have significantly worsened social roles compared to whites
- No other differences seen between surgical groups or across race

PROMIS: Thyroid @ 6 months		Blacks	p-value
Social roles improved	12.8%	15.4%	1
Social roles worsened	23.1%	50%	0.03

Voice Handicap Index-10

- No significant differences across surgical type – thyroid vs. parathyroid vs. adrenal at 3 or 6 months
- Thyroid surgery, no differences in minimal important worsening between whites and blacks at 3 or 6 months

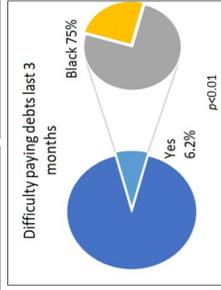
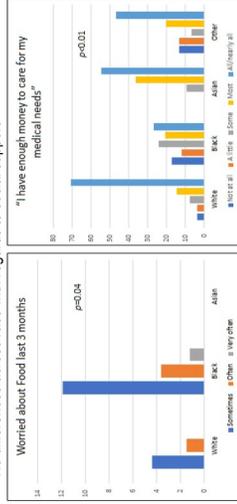
VHI-10 thyroid surgery	White	Black	p-value
Significant worsening @ 3 months	8.1%	15%	0.33
Significant worsening @ 6 months	7.7%	19.2%	0.25

Limitations/Next Steps

- Limitations:
 - Short follow up time
 - Patient numbers for specific disease processes
- Next Steps
 - Complete patient follow-up on track for August 2021
 - Evaluate impact of social determinants of health on QOL
 - Translate to application

Social determinants of health

- Blacks were disproportionately more likely to have socioeconomic challenges than patients of other races
- Greater reported difficulty paying for food, housing, utilities, debts, affording medical care
- More likely to report concerns about living conditions
- No differences across race with regards to social support



Conclusion

- First prospective study of patient-reported QOL of endocrine surgery patients with diverse ethnic/racial backgrounds
- No significant differences in voice outcomes across race, including among thyroid surgery patients
- Differences existed between surgical types regarding significant improvement or worsening in fatigue or pain
- No significant differences in reported QOL across different PROMIS metrics across race and stratified by surgical type except for social roles
- Black patients disproportionately had socioeconomic challenges compared to other races.

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1st Year Research Scholar



Leila Shobab, MD

MedStar Washington Hospital Center

Leila Shobab, MD, is an attending Endocrinology physician at MedStar Washington Hospital Center (MWHC) and MedStar Georgetown University Hospital. She is an assistant professor of Medicine at Georgetown University School of Medicine.

Leila Shobab is board-certified in Internal Medicine and Endocrinology/Diabetes and Metabolism. She is a Fellow of The Royal College of Physicians and Surgeons of Canada (FRCPC). She completed her Medical School and her Residency in Internal Medicine at the University of British Columbia, her Fellowship in Endocrinology and Metabolism at the University of Toronto, and her Research Fellowship in thyroid cancer at MedStar Washington Hospital Center. She is actively involved in clinical and basic science research that focuses on thyroid cancer and other thyroid diseases. Her goal as a Clinician Scientist is to develop a program in basic and translational research that determines the molecular interactions underlying sex-dimorphism in thyroid cancer pathophysiology, progression and response to therapy. She is currently collaborating on several research projects with colleagues at the National Institutes of Health (NIH) and Uniformed Services University Health Sciences Hospital (USUHS). Dr. Shobab is a member of many professional organizations, including the American Thyroid Association and the Endocrine Society.

Dr. Shobab's research interests include:

- Understanding the molecular basis for sex-dimorphism in differentiated thyroid cancer

[Link to Abstract](#)

[Link to Poster](#)

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Sex-specific expression of the histone lysine-specific demethylases in normal thyroid and thyroid cancers.



L. Shobab, H. Zheng, M. Mendonca-Torres, K. Jensen, L. Wartofsky, K. Burman and V. Vasko



Department of Medicine, Division of Endocrinology, MedStar Washington Hospital Center, Washington, DC
 Department of General Surgery, MedStar Washington Hospital Center, Washington, DC
 Department of Pediatrics, Uniformed Services University of the Health Sciences, Bethesda, MD

INTRODUCTION

- The incidence of thyroid cancer (TC) is 3-4 fold higher in females. TC is more aggressive in males. The molecular basis for these sex differences is unknown.
- The Cancer Genome Atlas (TCGA) shows 72 genes in TC to have sex-specific expression profiles.
- We identified 3 of these genes (KDM5C, KDM5D, KDM6A; encoding histone demethylases) computationally, as central to TC pathogenesis.
- Evidence from other cancers suggest a tumor regulatory function for these genes.

OBJECTIVES

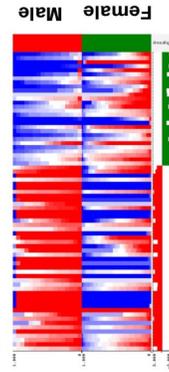
To confirm differential expression of sex-biased genes in normal thyroid and TC tissue experimentally

METHODS

Publicly available gene expression data sets were used to determine male- and female-specific genes. Ingenuity Pathway Analysis (IPA) was used to identify functionally relevant genes-networks. Thyroid cancer cell lines derived from female (BCPAP and SW1736) and male (FTC133, KTC1 and C643) patients, were used for assessment of sex-biased genes (KDM5C, KDM5D and KDM6A) by real-time PCR. KDMs mRNA was measured in tissue from 60 patients (45F/15M) who undergone thyroidectomy for TC or benign goiter.

RESULTS

Figure 1. Sex-biased genes in normal thyroid from male and female patients.



Forty four genes were upregulated in normal thyroid from male patients. Twenty eight genes were upregulated in normal thyroid from female.

Figure 2. Functional analysis of sex-biased gene in male and female thyroid.

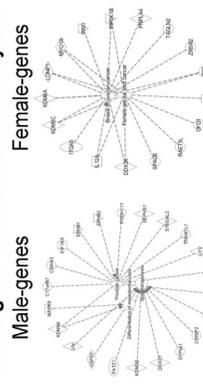
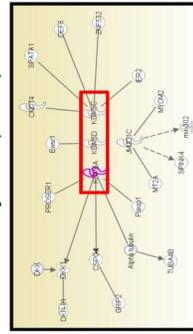


Figure 3. IPA analysis - Lysine-(K)-specific demethylases (KDMs).



IPA analysis identified KDMs as regulatory node among networks of sex-biased genes.

RESULTS

KDM functions:

- mediate the demethylation of tri- and dimethylated lysines in histone H3 (H3K4me3 and H3K4me2);
- regulate chromatin organization; stimulate transcription of AR-regulated genes;
- transcriptionally repress metastasis-associated genes.

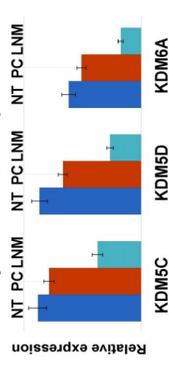
Figure 4. Expression of KDMs mRNA in normal human thyroid tissue samples



- KDM5C mRNA levels were increased in normal thyroid from 3 females (F1-F3) as compared to 1 male (M).
- KDM5D mRNA was detected in normal thyroid from male, but not female.
- KDM6A mRNA levels did not differ between male and females.

RESULTS

Figure 6. Expression of KDMs mRNA in human thyroid cancer samples.



KDMs expression decreases progressively from normal thyroid (NT) to primary cancer (PC), to lymph node metastasis (LNM) in a male patient with TC.

CONCLUSIONS

- TC gene expression is sex-biased.
- Histone demethylases (KDMs) may have sex-specific regulatory functions in TC.
- Larger clinical validation studies are needed to evaluate sex-specific KDMs gene expression profiles across reproductive ages and cancer histological subtypes.

Ongoing Work

- RNA has been extracted from 60 paired (Normal/Tumor) thyroid specimen
- We are currently assessing gene expression (by immunohistochemistry, IHC).
- We will then use NanoString technologies to evaluate sex-specific gene expression of the remaining 69 sex-bias genes in TC.

RESULTS

KDM functions:

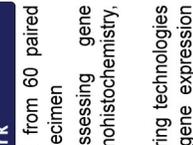
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Figure 4. Expression of KDMs mRNA in normal human thyroid tissue samples



- KDM5C mRNA levels were increased in normal thyroid from 3 females (F1-F3) as compared to 1 male (M).
- KDM5D mRNA was detected in normal thyroid from male, but not female.
- KDM6A mRNA levels did not differ between male and females.

Figure 5. Expression of KDMs mRNA in thyroid cancers cell lines.



KDM5D was only expressed in the male-derived KTC1 and C643 TC cell lines.

1st Year Research Scholar

Amanda Blair Spence, MD

MedStar Georgetown University Hospital

Amanda Blair Spence, MD, is an attending infectious diseases physician at MedStar Georgetown University Hospital (MGUH). In addition, she is an Assistant Professor of Medicine at Georgetown University School of Medicine. Her previous experience includes service as an attending hospitalist/internal medicine physician.

At MGUH, she serves on the Antibiotic Stewardship Committee and the Infection Prevention Committee. In addition, Dr. Spence serves as a teaching attending for the inpatient infectious disease consult service and outpatient clinic. In this role, she provides clinical and academic instruction for fellows as well as rotating medical residents and students. In addition, she served as course director for online courses on HIV pre-exposure prophylaxis (PrEP)/prevention and HIV diagnostics.

Dr. Spence is a member of the Infectious Diseases Society of America (IDSA). She is board certified in Internal Medicine and Infectious Diseases by the American Board of Internal Medicine (ABIM).

Dr. Spence's medical degree is from the University of Louisville. She continued her training with an internship and residency in internal medicine at the University of Louisville. Dr. Spence completed her infectious disease training at Medstar Georgetown University Hospital.

Dr. Spence's research interests include:

- HIV related comorbidities and cognitive disorders
- Women's health and women living with HIV
- HIV treatment related outcomes
- Health Disparities

[Link to Abstract](#)

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Pilot neuroimaging study of the blood brain barrier in women living with HIV



Amanda Blair Spence, MD, MSc, Kinney Van Hecke, MS, Sable Kassaye, MD, MSc, Raymond Scott Turner, MD, PhD, Stanley Fricke, PhD, John VanMeier, PhD, MedStar Georgetown University Hospital (MGSUH), Georgetown University Medical Center for Functional and Molecular Imaging, Georgetown Site, MGSUH/MS Combined Cohort Study



Introduction

HIV associated cognitive disorders persist even in those on effective antiretroviral treatment (ART). Women living with HIV (WLWH) are understudied, cognitively vulnerable, and may have different mechanisms of cognitive impairment¹. Work from our group demonstrated cognitive impairment in 29% of treated WLWH with a median age of 47. Differences in cognition over time were noted by ART type (integrase inhibitors and non-nucleoside reverse transcriptase inhibitors) and exposure.

- HIV disrupts the blood-brain barrier (BBB) early after infection. Ongoing dysfunction of the BBB can potentiate central nervous system (CNS) viral replication and facilitates the establishment of the viral latent reservoir. Further, the BBB affects ART delivery into the CNS.² Thus, it is important to characterize the BBB to understand the pathogenesis of HIV associated cognitive disorders as well as develop HIV treatment and cure strategies.
- Studying the BBB traditionally requires cerebrospinal fluid (CSF) and/or imaging with contrast agents or radioactive tracers. Safe, non-invasive imaging techniques are needed to study this population
- Water has a limited permeability across an intact BBB and MRI can be used to determine the exchange of water (k_{tr}) to assess the BBB.³ This technique has been studied in men but has not been utilized in women/persons living with HIV.
- We sought to establish feasibility, acceptability, and reproducibility these imaging techniques in a new population.

Results

Table 1: Participant neuropsychiatric testing results

Education	Global	Executive	Speed	Psychomotor	Attention	Learning	Memory	Fine Motor	Verbal	Clinical Rating Score
1 High school	Low Average	Average	Borderline	Average	Low Average	Low Average	Low Average	Borderline	Borderline	Above Average*
2 Some high school	Borderline	Average	Average	Average	Average	Low Average	Low Average	Average	Average	Average
3 High school	Borderline	Low Average	Mild-Moderate	Borderline	Low Average	Low Average	Low Average	Above Average	Moderate	Low Average
4 Some high school	Borderline	Above Average	Average	Average	Low Average	Low Average	Mild	Average	Average	Borderline
5 Some college	Mild-Moderate	Low Average	Average	Mild-Moderate	Mild-Moderate	Average	Average	Low Average	Average	Mild Impairment
6 Some college	Above Average	Average	Average	Average	Average	Average	Average	Average	Average	Mild-Moderate Impairment
										Moderate Impairment
										Moderate - Severe Impairment
										Severe Impairment

T-scores were converted into clinical ratings which ranged from 1 to 5 with 1=reflecting above average performance (T-score ≥55), 2=average performance (T-score 46 and <55), 3=low average (T-score 40 and <45), 4=borderline (used for only domain and global summary ratings not individual test scores), 5=definite mild impairment (T-score 35 and <40), 6=mild to moderate impairment (T-score 28 and <35), 7=moderate impairment (T-score 23 and <30), 8=moderate to severe impairment (T-score 20 and <25), and 9=severe impairment (T-score <20). For each domain rating, a rating was derived based on the test(s) in the domain. If a single test was completed, we used the rating for the domain. If two or more tests in the domain were completed, we averaged the ratings such that if all test ratings were 1-3 or 4-5, the domain rating was 1-3 and one of the tests was 3 or greater, the domain was scored as the worst test score minus 1 (higher is worse), e.g., a test score of 6 would result in a domain score of 5).

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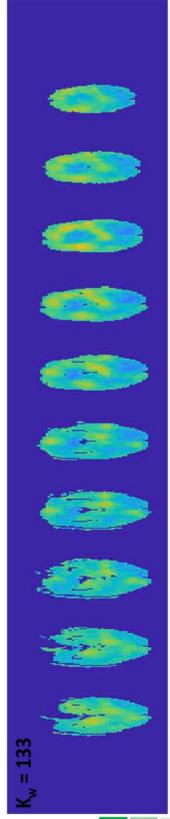
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Methods



Correlate preliminary findings with a validated neuropsychiatric testing battery

Figure 1: Magnetic Resonance kw map from one participant's initial scan



Next Steps

- Quantify the average kw across the BBB globally/regionally and determine test/re-test reproducibility.
- Correlate preliminary findings with cognitive outcomes to identify early trends.
- Findings will be used to support application(s) for larger, adequately powered studies of the effect of HIV, ART, and comorbidities on BBB and cross-sectionally and longitudinally in our previously characterized cohort of WLWH

Acknowledgements

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