Hackensack Meridian
School of Medicine

2021 COHORT

Hackensack Meridian School of Medicine's

4th ANNUAL HUMAN DIMENSION CAPSTONE SCHOLARSHIP DAY

May 15, 2024

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Christopher	**Diaz**	Early Palliative Care Intervention in High-Risk Surgical Patients
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Divya	**Dadi**	Implementation of a Structured Reading Program on Pediatric Services
Elisa	**Park**	The Assessment of Culturally Relevant Resources in Gestational Diabetes Mellitus Lifestyle Management
Elise	**Merritt**	Expanding Continuous Glucose Monitor Access
Elizabeth	**Christophel**	Public School Health Screenings: Closing the Gap on Access to Corrective Lenses
Ellen	**Anshelevich**	Creating an Effective Sun Safety Curriculum for NJ Schools
Emma	**Zoubek**	Pilot program highlights gap in residency training: interpreter services
Emmanuel	**Ihionkhan**	Reshaping Healthcare: Enhancing Discharge Planning for Chronic Heart Failure Patients at Jersey Shore University Medical Center
Eric	**Bernstein**	A Framework for Improved Patient Education in the ED
Erica	**Wan**	Supra Powers: Evaluating Healthcare Provider Awareness and Integration of Suprapubic Catheterization
Erika	**Fleming**	Knowledge is Empowerment: Community Outreach to Enhance Women's Cancer Screening Awareness
Estephen	**Boutros**	HMSOM Saving A Life Under Distress (S.A.L.U.D) Initiative: Basic Approach to Choking and Opioid Overdose
Ethan	**Burg**	The Effect of Medication Assisted Treatment Education on the Knowledge, Attitudes and Practices Regarding Opioid use Disorder Among Medical Students

Ezra	**Schneier**	Addressing Sudden Cardiac Arrest: An Analysis of the Efficacy and Implementation of Automated External Defibrillators in New Jersey Schools
Gabrielle	**Sharbin**	The Urgency of Stress Reduction Amongst Medical Students: Reiki Therapy as a Potential Modality
Geoffrey	**O'Malley**	Evaluating Mandatory Jockey Baseline Concussion Testing and in the Context of Native Language: A Systematic Review and Meta-Analysis
Gracie	**Jenkins**	Improving Kloxxado® Pilot Program: Expanding Access to Naloxone
Hajrah	**Hussain**	Language Interpreter Services: Pearls and Pitfalls
Hamzah	**Almadani**	Communications Gap
Hannah	**Weisman**	HMH Transportation Access Project
Harsimran	**Bhandal**	Medical Spanish Volunteer Health Interpreter Initiative at the SOM
Hema	**Dhanasekaran**	Navigating Empathetic Conversations with Patients: A Guide for Medical Students
Hila	**Baer**	Addressing Inaccessibility to Fertility Preservation in Pediatric Oncology Patients
Howard	**Smith**	Postnatal Management and Barriers to Care for Antenatal Hydronephrosis
Ilona	**Cazorla Morales**	Stop the Bleed Program Outreach to Middle Schools: Empowering Students to Save Lives
Indica	**Sur**	Analysis of AHRQ Patient Safety Indicator 12: Perioperative Pulmonary Embolism and Deep Vein Thrombosis Rate at JSUMC
Jamie	**Chen**	Evaluating ChatGPT as a Resource for Navigating Insurance and Healthcare
Jasmin	**Valenti**	Prevention of Fatal Infuries in Construction Workers
Jason	**Suh**	Navigating Healthcare and Access to Social Services
Jeffrey	**Xue**	Nasogastric Tubes in Psychiatric Patients
John	**Church**	Earning How To Build Trust with Communities: The First Step To Reducing Health Disparities
Joselin	**Vargas**	Bridging Gaps: Empowering uninsured patients through a student-drive charity care assistance program
Jovan	**Bertrand**	Prescriptions & Subscriptions: An Initiative to Improve Awareness of Affordable Prescription Drug Programs

Julia	**Wickman**	A Social Ecological Model for Understanding Barriers and Solutions to Quality Healthcare for LGBTQ Youth
Karolina	**Kaczmarczyk**	Reduction of Inflammatory Bowel Disease readmission rates among Medicaid insured patients presenting to Jersey Shore University Medical Center
Katherine	**Leopold**	The WITNESS Project: Extension to Heritable Breast and Ovarian Cancer
Kavya	**Aggarwal**	Enhancing Naloxone Education in the Emergency Room
Kelly	**Budge**	A Multi-Network Provider Perspective on Transgender Healthcare within Obstetrics and Gynecology
Kevin	**Posner**	Financial Constraints Prevent Access to Necessary Specialized Car Seats for Spica Cast Patients: A Call for Car Seat Lending Programs
Kevin	**Chung**	Improving Availability of Eye Care in a Tertiary Care Setting
Khoa	**Nguyen**	Stop the Bleed: Bringing Safety to Schools
Kiana	**Cruz**	Contraception Content on Social Media: Trends, Gaps, and Opportunities for Education
Kristian	**Larson**	Examining Primary Care Follow-Up Rates Post-Discharge
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Kyle	**Otto**	Mobile Healthcare Clinics in Northern New Jersey
Lara	**Nunn**	Professional Language Interpreter Services: Evaluating its Use and Impact on Quality of Care from the Patient Perspective
Lauren	**Wiener**	Donor Conceived Persons and Social Media
Liem	**Pham**	Student Burnout and Its Effects on Specialty Interest
Livia	**Seymour**	Empowerment Through Education: Proposing a Social Media Workshop to Combat Negative Body Image
Maansi	**Jayade**	Importance of Patient Education on Analgesics during Labor and Delivery in Third-Trimester Patients
Mackenzie	**McCann**	Assessing Awareness and Clinical Utility of Digital Mental Health Apps in Clinical Settings
Madeline	**Breda**	A Reproductive Health Resource Guide for Uninsured Patients in Bergen County
Mark	**Schoenike**	The Importance of Food Insecurity Screening in Pediatric Emergency Rooms: Addressing a Key Social Determinant of Health

Martin	**Malik**	Utilization of machine learning to inform efficient discharge planning processes: a systematic review
Matthew	**Phillippi**	Addressing Imaging Disparities Through Medical Education
Matthew	**Pecoraro**	Addressing the Gap in Mental Health Resource Awareness
Matthew	**Lee**	Application of Chat-Bot Artificial Intelligence in Education of Traumatic Brain Injury: A Comparative Readability Analysis of ChatGPT and MSKTC Fact Sheets
Max	**Edeson**	Probiotic Stewardship: Understanding the Current Landscape of Probiotic Use/Misuse
Maxwell	**Godek**	Increasing the Availability of Breast Reconstruction for Uninsured Individuals: a Proposal
Maya	**Sorini**	Screening for SNAP Eligibility in the HUMC Emergency Department: Feasibility and Pitfalls
Meghana	**Singh**	Educating Medical Students on Screening and Intervention Tools for Reproductive Coercion during Phase I
Michael	**Pelliccia**	Vaping Health Literacy in New Jersey
Milan	**Patel**	Utility vs. Equity: Assessing Kidney Distribution under the new UNOS Allocation Policy
Mirai	**Mikhail**	Closing the Gap in Surgery for Drug Resistant Epilepsy
Natalia	**Dafonte**	Women's Breast Health: Women's Health Fair
Nathaniel	**Snyder**	Pedaling Ahead: Transforming Hackensack with Bike Lanes
Nicholas	**Boivin**	Pharmacogenomics and Major Depressive Disorder: TIme to Take a Stance?
Nicholas	**Nadeau**	Nutley High School Exercise Program Pilot
Nicole	**Calegari**	Method to Improve Rates of Preventable Injury in Pediatric Populations with Limited-English Proficiency
Om	**Panda**	Mitigating the Adverse Effects of Loneliness on Youth Mental Health Outcomes
Patrick	**Adly-Gendi**	A Student Run Clinic Medical School Elective to Improve Adherence to Postoperative Follow Up
Paul	**Kinard**	Decreasing Emergency Department Usage for School Psychiatric Clearances
Philip	**Meyer**	Priority Discharge Service (PDS) to Reduce Length of Stay

Pooja	**Shah**	Evaluating The Cultural Sensitivity of Nutrition Educational material at the Molly Center for Diabetes Education.
Pranay	**Vissa**	Emergency Department - Primary Care Clinic Partnership Model
Priscilla	**Kim**	Importance of CPR Training
Quinn	**McCormick**	The Impact of a Decline in Childhood Education on the Practice of Pediatrics
Rachel	**Lozada**	Addressing Need for LGBTQ+ Identity-Concordant Care
Rebecca	**Wang**	Nurturing with Knowledge: Bridging the Gap in Infant Nutrition
Rey (Rehman)	**Ali**	Understanding Patients' Knowledge and Beliefs About Colonoscopies
Robert	**Gelfond**	Addressing Medication Cost SDOH Through New FDA Rule: A Policy Proposal for the Clifton Health Department
Robert	**Nugent**	StopThe Bleed Instructor Training at HMSOM
Robert	**Vanaria**	Fueling the Future: Empowering Pediatric Populations through Nutrition Education
Ruchir	**Chaturvedi**	Improving Risk Factor Assessment and Management in Patients with Peripheral Vascular Disease
Sabrina	**LaRosa**	Sex Trafficking Education at HMSOM
Sahana	**Sangappa**	Culturally Appropriate Nutrition Education for Diabetes in Latino Patients in Plainfield
Sahil	**Trivedi**	A System Based Solution for Streamlining Communication Between Schools and Educational Outreach Programs
Sameeha	**Shaikh**	Intimate Partner Violence Education in Medical School Curriculum
Sarah	**Leonard**	Increasing Adherence to AAP Child Passenger Safety Guidelines to Prevent Pediatric Trauma
Sarah	**Mohideen**	Video Directly Observed Therapy for Outpatient Methadone Clinics
Sean	**Richards**	The Effects of Student Mentoring in the Community: A Prospective Outlook
Shannon	**Meledathu**	Improving Diagnosis on Diverse Skin Tones: A Project to Expand a Skin of Color Medical Image Repository
Shawn	**Ohazuruike**	Patient Perspectives Surrounding Epidural Anesthesia in Labor: A Sentiment Analysis of X (formerly Twitter) Tweets Using Artificial Intelligence (ChatGPT)

Shinya	**Sakurai**	Stress Management Group Therapy for Development of Healthy Coping Skill
Shivani	**Patel**	Language Interpretation Services at HUMC: Usage and Barriers
Singiti	**Weerasuriya**	Addressing Knowledge Gaps in Opioid Conversion Education
Sohail	**Adonimohammed**	Use of a retinal imaging device to increase diabetic ocular pathology surveillance
Sophia	**Naumova**	Early, Accurate Med Reconciliations by Pharmacy Techs
Soumaya	**Bahlouli**	Type 2 Diabetes Diet Education Material for Arabic Patients within the Hackensack Meridian Health Network
Stavroula	**Spyropoulos**	Implementation of Structured Reading Program on Pediatric Services
Suraj	**Bala**	Improving Diabetic Retinopathy Screening With Retinal Cameras
Svati	**Zaveri**	Integration of Complete Streets Near Hackensack University Medical Center
Tamar	**Itzkowitz**	Inequity in Fertility Preservation for Pediatric Oncology Patients
Tariq	**Alnsour**	Medication-Assisted Treatment in the ED
Tatiana	**Oliveira**	Rainbow List: Identity-Concordant Care for LGBTQ+ Patients
Taylor	**Aguiar**	Medical Spanish Programming at HMSOM
Thomas	**Gunning**	Characterizing digital health literacy as an emerging social determinant of health in oncology patients
Timothy	**Scheinert**	Implementing a Motorcycle Safety Toolkit: A Resource for Riders and Providers
Udochukwu	**Okorafor**	Efficacy of Diabetes Education provided by Molly Center on Diabetes Management
Victoria	**Lynott**	Implementing Mindful Based Stressed Reduction for Symptomatic Relief in Patients with Irritable Bowel Syndrome
Vince Gerald	**Dagot**	Mental Health Fairs to Combat Mental Health Stigma in Faith Based Communities
Walid	**Anwar**	Pedaling Ahead: Transforming Hackensack with Bike Lanes
Weng	**Chan**	Implementing comprehensive screening questionnaires to close gaps in healthcare for pediatric immigrant patients
William	**Kohman**	Provider Barriers to Childhood Domestic Violence Screening

The Impact SES Has on Neurocognitive Outcomes in Pediatric Brain Tumor Survivors

Abby Mintz

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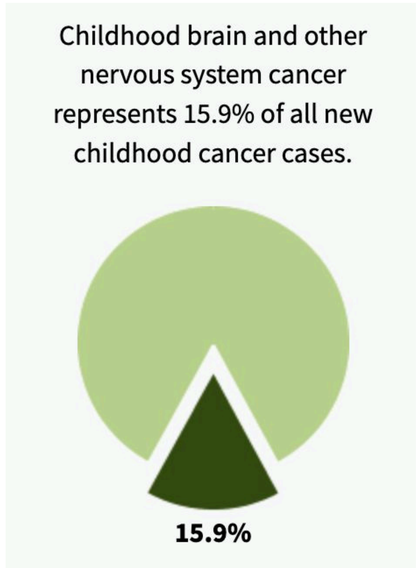
BACKGROUND

- Brain & other CNS tumors are the second most common type of cancer & the leading cause of cancer-related death in children under the age of 19 in the US
- 5 year survival rate of 83.9% for all primary pediatric brain tumors, and 75.6% for malignant brain tumors

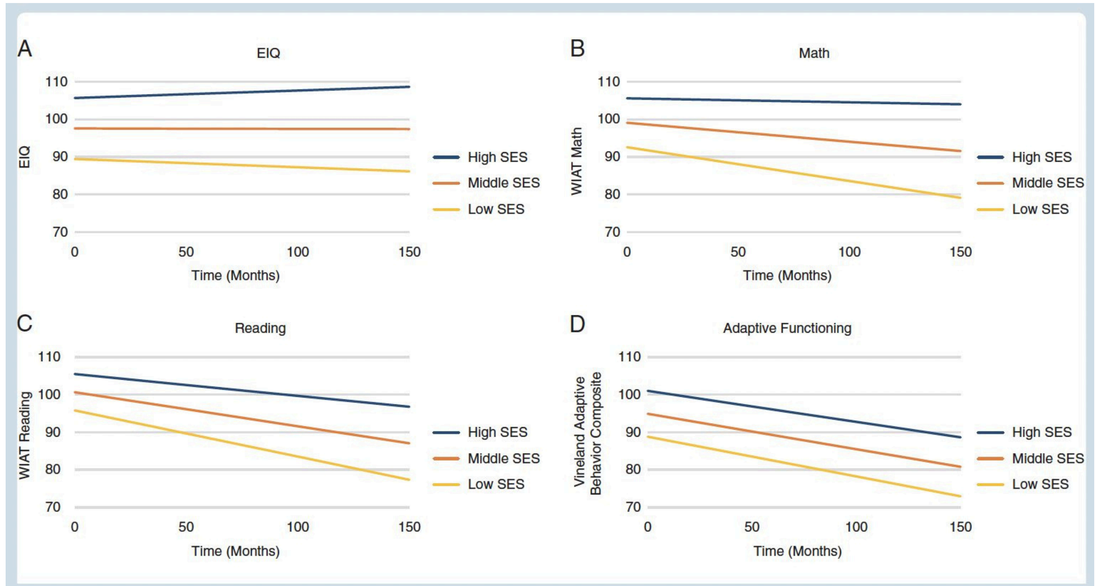


- Survivors have long-term neuropsychological sequelae, educational difficulties, psychological disorders, and chronic medical conditions
- Cognitive risk is not uniformly distributed

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Before treatment exposure, higher SES was associated with a higher IQ, academic achievement in reading and math, processing speed, and adaptive functioning
Wechsler scale a 17 point difference in IQ
Wechsler Individual Achievement Test (WIAT) Mathematics Reasoning a 13 point difference
These differences in IQ and math were both near one standard deviation

High and low SES groups also demonstrated a 10-pointreading difference prior to treatment.



SES played a role in predicting changes over time in IQ & academic achievement as high SES groups experienced less decline compared to low SES groups
Score discrepancies between high & low SES groups widened considerably, reaching 23 points in IQ, 20 points in reading, and 25 points in math
These differences approximated 1.5 standard deviations

DISCUSSION / CONCLUSION

- SES predictor of cognitive functioning both at treatment initiation and over time
- Interventions focused on mitigating cognitive late effects often lack consideration of sociocultural and economic factors
- Improving access to educational resources and support services, could significantly enhance neurocognitive outcomes and overall quality of life
- Helping to enrich the environment of these patients may lead to better cognitive outcomes
- Exploration of the circumstances prior to illness, throughout treatment, and in survivorship to identify modifiable factors associated with economic hardship

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JSUMC Emergency Department HARM REDUCTION Services

Abhin Shah, Dr. Jasneet Kaur MD

Mentor: Dr. Atul Pasricha

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BACKGROUND

Background:

-Harm reduction services reduce the spread of blood borne illnesses such as HIV and Hepatitis C.

-They help provide safe hygienic environments for people who use substances and destigmatize substance use.

-Research demonstrates that patients in a hospital based syringe exchange program were more likely to seek further utilization of health services.

-An explanation for these findings is the proximity of the hospital based SEP to these health services.

What is the knowledge/action gap?

-Patients in the Monmouth county area services often present to the ED in need of harm reduction services.

-However, the Visiting Nurses Association (VNA) is where there are extensive harm reduction services that can help these patients.

Objective:

-Bridge this gap by creating a form of communication between the JSUMC ED and the VNA of Central Jersey to help direct these patients to broader range of harm reduction services.

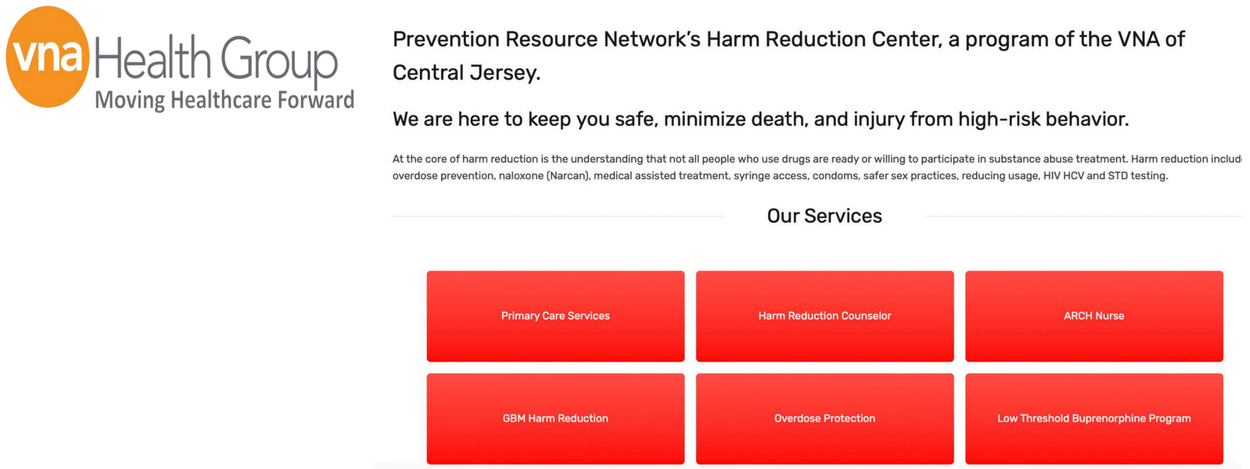
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

▪The Visiting Nurses Association of Central Jersey, which is in close proximity to JSUMC, has a variety of harm reduction services including a fresh syringe access program, opioid overdose education/prevention, and harm reduction counselors.
In order to help direct these patients to the VNA, the staff at the JSUMC ED were informed about the VNA, what services they offer, how they can be contacted, as well as which groups of patients are important to be referred to them.

▪Patients including those in the following groups will be referred to the VNA:

- In need of guidance/more information
- Patients involved in substance use/substance use disorders
- Patients at risk for STIs/engage in risky sexual practices
- High risk of spreading blood borne illnesses

▪Providing these patients with fliers notifying them of what the VNA is and education on the services they offer as a part of discharge paperwork seems to be a great stepping stone.



▪The expected impact is ultimately a decrease in the spread of bloodborne illnesses such as HIV/AIDs, an increase in the community's health literacy regarding harm reduction via naloxone training and overdose prevention, as well as access to health professionals with harm reduction expertise.

DISCUSSION / CONCLUSION

▪The short term goal of this project was to increase exposure to harm reduction services in the community in Monmouth County.

▪Next steps include incorporating harm reduction services at a broader level within a hospital setting.

▪This may include adopting harm reduction services within the Jersey Shore University Medical Center Emergency Department.

▪This can be achieved by integrating a vast range of harm reduction services in the ED (i.e. naloxone kits, syringe exchanges etc.) or having a separate harm reduction center on hospital grounds.

▪The goal would be to further increase proximity of harm reduction services to the hospital, as research supports that this would reach a broader population in need of harm reduction services.

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Understanding the Perspectives of Frequent Emergency Department Users through Mixed Methods Analysis

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BACKGROUND

The phenomenon of frequent emergency room (ER) visits has emerged as a complex and multifaceted challenge. “Frequent fliers,” as they are known colloquially, account for about 1.2 percent of ED (emergency department) patients, but 9.4 percent of ED visits. The disproportionate amount of these patients’ contribution to the ED patient load highlights a disparity that we have failed to address properly in the medical community.

This mixed-methods research study aims to delve into the patient's perspective regarding repeated ED visits, a critical yet underexplored facet of healthcare research. Growing literature underscores the pivotal role of proper follow-up care in mitigating frequent ED use and hospital readmissions. Our research focuses on:

- Synthesizing qualitative insights from patient experiences
- Quantitative demographic analysis to form a comprehensive understanding of the factors influencing recurrent ED utilization.

The intent is to identify common themes that hinder proper follow-up care and ultimately contribute to repeat ED visits. By identifying barriers to effective follow-up care and continuity in healthcare services, the study aims to contribute valuable insights into healthcare policy and practice. This data will be instrumental in tailoring interventions to specific populations most at risk of frequent ED use.

Using data from this research, we can quickly screen and recruit frequent ED users that would benefit from such measures, rather than attempting to implement a system wide intervention.

Intervention Design and Expected Impact

The Research protocol will consist of two components:

Qualitative Portion:

Last acute ED visit • *How did you experience your last visit to the ED?*

Period before ED visit • *How did you experience the period prior to your last ED visit?*

Prevention • *From your perspective, could there have been possibilities to prevent the acute visit to the ED? Recovery after discharge • How do you experience the (recovery) period after being discharged home?*

Preventing revisits • *What could have been done to (further) improve your recovery in this period after discharge? • What can be done to prevent new visits to the ED? • Who may can help you to prevent new visits to the ED?*

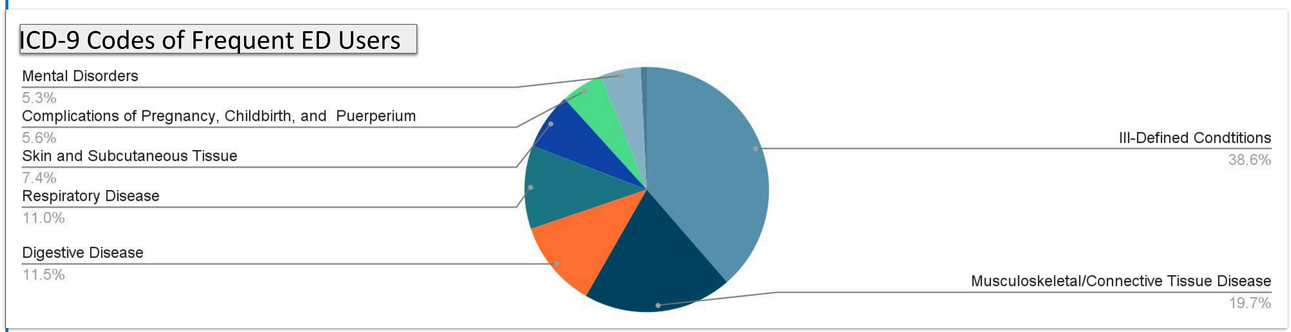
Quantitative Portion

While the interviews are conducted, we will also collect qualitative demographic data to look for trends to correlate with the reported qualitative portion. We will sort patients by:

• Age Groups • *Sex • Race • Medicare/Medicaid/Commercial insurance status*

• *Resident count • ICD-9 category (Digestive issue, MSK, Mental health disorder, complications of pregnancy)*

(survey by Kolk et. al)



Data form Saef et al

Expected Impact:

Using this strategy we will be able to recruit data on a large scale. The data can be leveraged as concrete evidence to the end of a systems wide intervention to help reduce unnecessary emergency room visits, and help patients who are struggling with insurance and proper follow up to gain the stability they need.

DISCUSSION / CONCLUSION

The mixed-methods research study aims to address the issue of frequent emergency room (ER) visits, which disproportionately burden healthcare systems. Through qualitative interviews with frequent ER users and quantitative demographic analysis, the study seeks to identify barriers to proper follow-up care and continuity in healthcare services. The qualitative interviews, guided by Kolk et al.'s framework, explore patients' experiences surrounding their last ED visit, prevention possibilities, recovery after discharge, and strategies for preventing revisits. Concurrently, demographic data including age, sex, race, insurance status, and primary medical conditions will be analyzed to uncover trends correlated with frequent ED use. Anticipated outcomes include the identification of common themes hindering follow-up care, informing tailored interventions for at-risk populations, and providing concrete evidence for systemic interventions aimed at reducing unnecessary ED visits. By combining qualitative insights with quantitative analysis, the study aims to contribute valuable insights into healthcare policy and practice, ultimately improving outcomes for frequent ER users.

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Transforming Children's Lunches for a Healthier Future

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Mentor: Mary Brighton, MS RDN

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BACKGROUND

- **Background:** Understanding the nutritional value of lunches provided at public schools in the USA along with understanding harmful chemicals, and finding a way to replace certain foods/ingredients
- Food toxins can cause:
- → neurodevelopmental disturbances, → immune system damage
- → hormone disruption
- → cancer, liver disease
- 93% of the school lunches provided in the USA contained carcinogenic ingredients

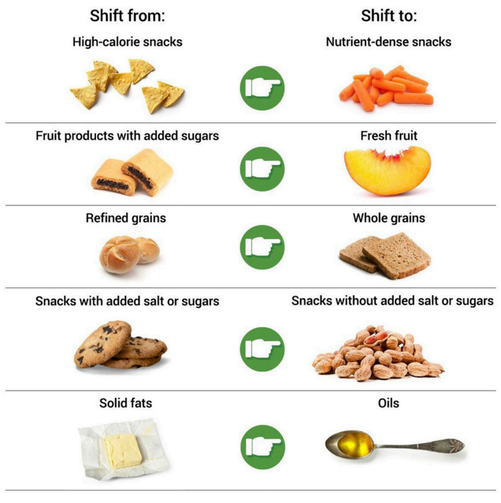
- **My Goal:** enhance nutritional quality & reduce potential health risks associated with toxins and additives.

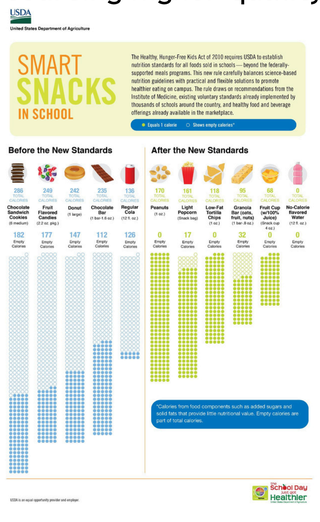
- This project seeks to identify areas for improvement and provide actionable recommendations.
- Foster awareness and education about healthy eating habits and advocating for menu modifications where necessary,
- Aims also include to empower both the organization and the community to prioritize long-term wellness and promote healthier dietary choices among children and families.

INTERVENTION DESIGN & EXPECTED IMPACT

Intervention Design: The Boys & Girls Club of Clifton was reached out to and requested to see their menus for what they provide to the children ages ranging from age 5 to 15.

- The menu was carefully examined to identify the ingredients used. This includes not only primary ingredients but also additives, preservatives, and flavorings. Subsequently, the nutrition value was examined. This involves looking at factors such as calories, macronutrients (carbohydrates, proteins, fats), vitamins, and minerals.
- Portion sizes is also important in determining the overall nutritional content of each meal. Source of ingredients was also researched and helped understand where the ingredients come from can provide insights into their quality and potential risks. This includes whether they are locally sourced, organic, or conventionally produced.
- Finally, researching common toxins that may be present in food, such as pesticides, heavy metals, or food additives. This involves examining the sourcing and processing methods of the ingredients, as well as any known contaminants associated with them.
- Based on the analysis, provide recommendations for improving the nutritional quality and safety of the meals. This could include suggestions for incorporating more whole foods, reducing added sugars, unhealthy fats and toxins, and sourcing higher-quality ingredients.





- **Expected Impact**: The project's thorough menu analysis for the Boys & Girls Club of Clifton aims to enhance children's health by improving nutritional quality and reducing potential risks from toxins and additives. Through education and community engagement, it fosters long-term wellness, empowering families to make informed dietary choices and promoting overall well-being among children.

DISCUSSION / CONCLUSION

- The analysis of menus presents a significant opportunity to positively impact the health and well-being of the community. By scrutinizing ingredients, nutritional content, and potential health risks associated with toxins and additives
- Discuss improvements that can be made to enhance the nutritional quality of meals served to children. Through this analysis, actionable recommendations have been generated.
- Fostering awareness about healthy eating habits and empowering families to make informed dietary decisions, thereby contributing to the long-term wellness of children. Moving forward, ongoing collaboration and monitoring will be essential to ensure the sustained impact of these efforts and to further promote a culture of wellness.
- Barriers: sourcing healthier ingredients, and associated increased costs

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Identifying Interventions to Improve Access to Mental Health Care in Minority Cancer Patients

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HD Facilitator: Dr. Lawrence Rosen, MD

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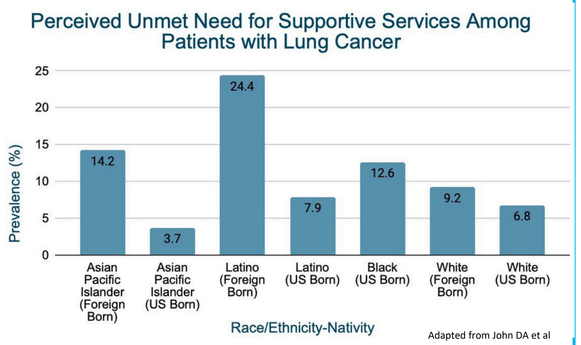
BACKGROUND

Background:

- Black and Hispanic patients with cancer report higher levels of anxiety and depression, yet utilize mental health resources less frequently [1].
- Psychosocial interventions can improve mood and ability to cope with cancer.
- Improved mental health may contribute to decreased mortality and morbidity.
- Minority patients would benefit from culturally specific support groups, but are often not aware how to find them. They also report lack of information from providers on mental health [2].
- Mental health resource awareness should be a priority for all cancer patients, especially minority patients.



Knowledge/action gap?:

- To understand barriers to mental health care in minority patients and identify ways to combat these barriers

Objective of the project/study:

- To create an intervention to connect minority cancer patients to accessible, culturally sensitive mental health care

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Data Collection from 3 sources:

1)Previous Research: Assisted on research project about communication about symptom management between Black patients with advanced lung cancer and their clinicians

- 14% of Black patients with advanced lung cancer reported feeling depressed and 17% reported feeling anxious after a routine oncology appointment.
- Only 15% of them utilized mental health resources

2)Literature Review:

- There is a need to improve mental health care for minority patients
- Brochures can be a good way of distributing resources to patients.

3)Stakeholder Interviews

- A social worker and an oncologist were interviewed
- Cancer patients are screened during the first visit and every 6 months afterwards using the PHQ-9 test and the Distress Thermometer.
- Only patients who screen positive on the Distress Thermometer or PHQ-9 are referred to a social worker who connects them to the many resources available at JTCC.
- Currently no universal resource is used to inform all patients about mental health care or other related supportive care services that can improve their well-being.

Patients who are distressed in between screening may not informed of mental health resources as part of their cancer care.

Intervention Development

- I decided to create a brochure that lists social work and mental health services available to patients at JTCC that can be given during the first visit to all cancer patients. This brochure would include culturally specific resources and how to access them.
- This will hopefully be one way to open dialogue and conversation about the importance of mental health in cancer care early so patients know how to access resources if they are ever in need. There are also other options that can and should be explored.

Next steps:

- I plan to get feedback on the brochures from providers and patients and explore other approaches to bring culturally mental health care awareness to minority patients. Eventually it should also be translated, especially to Spanish.

DISCUSSION / CONCLUSION

- There is a definite need for increased education about mental health care in minority cancer patients
- Pamphlets have shown success in providing patients with resources
- Brochures can be widely distributed, but may not be highly engaging for patients and may get lost in paperwork. Ensuring language inclusivity, particularly for Spanish, is important. Additionally, medical staff must explain the included resources well to patients.
- Other potential interventions such as waiting room information, video tutorials, online educational modules, in-clinic education can be explored for feasibility and patient preferences.

Access to culturally sensitive mental health resources early in cancer care may help minority patients have better access to and utilization of comfortable psychosocial care and improved mental health and overall cancer outcomes

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ACKNOWLEDGEMENTS

Thank you to Heather Labelle, LCSW and Dr. Andrew Ip, MD for their insight.

Weight Bias and Impact of Body Mass Index on Prolonged Ventilation Rates in Cardiothoracic Surgery Patients

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INTRODUCTION

The objective of this study was to determine the impact of BMI on rates of prolonged ventilation in patients who underwent cardiothoracic surgery. This was a retrospective cohort study. 733 cardiothoracic surgery patients requiring ventilation from March 23rd 2022 to April 24th 2023 were included. Rates of prolonged ventilation, defined as ventilation greater than 24 hours, was compared among patients based on their BMI.

Obesity, often defined by a BMI equal to or exceeding 30 kg/m^2, is becoming more prevalent in the United States. Data from the CDC from 2018 shows the prevalence of obesity increased from 30.5% in 2000 to 42.4% in 2018 (1). Obesity can complicate air management, as it decreases forced vital capacity and oxygenation, increasing risks of conditions like atelectasis, and are often associated with conditions like obesity hypoventilation syndrome or obstructive sleep apnea. These conditions can prolong the need for ventilation. If extubated, patients with obesity can face an increased risk of hypercapnia and respiratory distress (2). On the other hand, prolonged ventilation can further exacerbate critical conditions.

At the same time, individuals who are perceived to be obese often face weight bias, leading to discrimination (3). For example, one study found that among 250 physicians, 56% felt qualified to treat obesity, 46% felt they were successful in treating patients with obesity, and 40% reported a negative reaction toward patients with obesity (4). Another study found that among 620 primary physicians, they tended to view obesity as a behavioral problem, and 50% of physicians viewed patients with obesity as awkward, unattractive, ugly and noncompliant. The association of obesity with medical illnesses and bias towards obesity may lead to the belief that any patient with obesity is more prone to illness and in need of closer monitoring. This belief may help explain higher rates of ICU admission and mechanical ventilation among patients with obesity (5).

Interestingly, some studies have reported lower mortality among ICU patients with higher BMI (6, 7). In one study, though higher BMI was associated with longer duration of mechanical ventilation in ICU patients, it was associated with lower mortality (6). This is unexpected, given that studies have associated prolonged ventilation with prolonged hospital stay and increased mortality (8). This has led to theorization of the “obesity paradox,” in which obesity increases risk of certain diseases but paradoxically leads to increased survival (9).

METHODS AND RESULTS

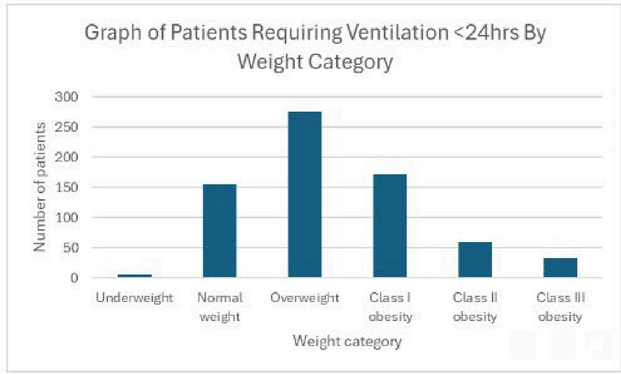
Methods:

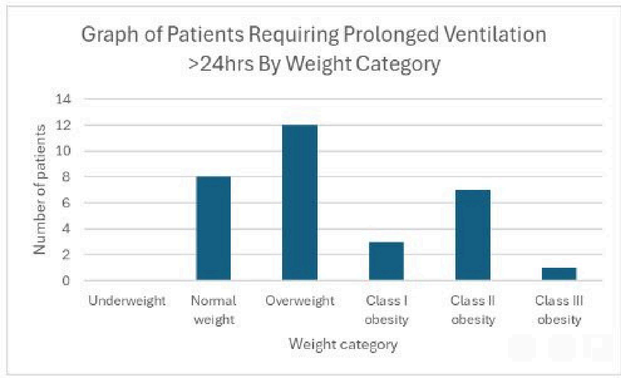
A retrospective chart review was conducted. Data for 733 patients who were ventilated from 4/1/2022 to 4/30/2023 at the Cardiac ICU at HUMC was obtained. The measures of age, gender, BMI on admission, length of ventilation, and smoking status were obtained for these patients. For this study, “prolonged ventilation” was defined as initial ventilation for a period greater than 24 hours. For definitions of classes obesity, WHO definitions were used. Odds ratios were calculated according to Altman, 1991 (5), and compared against normal weight patients, and p-values were calculated according to Sheskin, 2004 (6).

Table 1: Odds Ratios for Prolonged Ventilation By Weight Category

	Odds ratio (95% CI)	P-value
Underweight	1.6738 (0.0853-32.8307)	0.7345
Overweight	0.8478 (0.3393-2.1187)	0.7239
Class I obesity	0.3401 (0.0887-1.3048)	0.1159
Class II obesity	2.2750 (0.7904-6.5481)	0.1275
Class III obesity	0.5909 (0.0715-4.8864)	0.6255

Graphs 1 and 2: Graphs of Patients Requiring Ventilation by Weight Category





Results:

The study included 733 patients with ages ranging from 21 to 90 years. The mean BMI for all patients was 29.1 with a standard deviation of 5.76. A total of 31 patients (4.2%) required prolonged ventilation with mean BMI 30.0 and standard deviation 8.03.The breakdown for the BMI for patients is shown in graph 1.

Overweight patients had an odds ratio of 0.8478(95% CI = 0.3393-2.1187) with a p-value of 0.7239 for requiring prolonged ventilation, suggesting they tended to require less prolonged ventilation compared to normal weight patients. Similarly, Class I obese patients had an odds ratio of 0.3401 (95% CI = 0.0887-1.3048) with a p-value of 0.1159 for requiring prolonged ventilation. Class II obese patients had an odds ratio of 2.2750(95% CI = 0.7904-6.5481), with a p-value of 0.1275, suggesting they tended to require prolonged ventilation. However, weight did not significantly increase rates of prolonged ventilation in the overall post cardiac surgery population.

DISCUSSION / CONCLUSION

This study explores the relationship between a patient's weight and their need for prolonged mechanical ventilation after cardiac surgery. While the overall findings did not show a significant association between weight and ventilation requirements, the study did observe some trends within specific weight categories.

Class I obesity is defined as having a body mass index (BMI) of 30 to <35. Patients in this category seemed to require less prolonged mechanical ventilation compared to other weight groups. This observation aligns with the concept of the "obesity paradox," where obesity, to some extent, appears to have a protective effect in certain medical conditions.On the other hand, Class II obesity, with a BMI of 35 to <40, was associated with a tendency for increased requirements of prolonged ventilation. This suggests that beyond a certain point, the risks associated with obesity may outweigh any protective effects.

The study highlights the complexity of the relationship between obesity and outcomes in ICU patients. It suggests that there might not be a one-size-fits-all approach when it comes to ventilation strategies for obese patients. Instead, individual patient characteristics, including their weight category, might need to be considered when planning their post-operative care.

However, the study acknowledges that its findings are not conclusive due to the limited sample size. Therefore, it calls for further research with larger cohorts to better understand the relationship between obesity and ventilation requirements after cardiac surgery. This research could potentially lead to more personalized and effective ventilation strategies for obese patients in the ICU.

ACKNOWLEDGEMENTS/REFERENCES

Thank you to Lee Dimi and Charina Ballesteros for help with data collection, discussion and analysis.

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Assessing the perspectives of oncology healthcare professionals towards the role of environmental health in medicine

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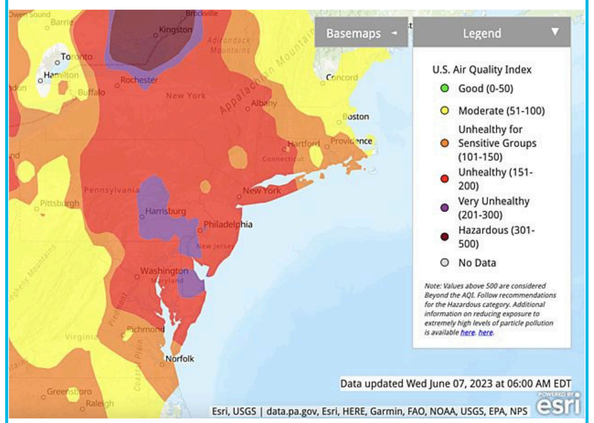
BACKGROUND

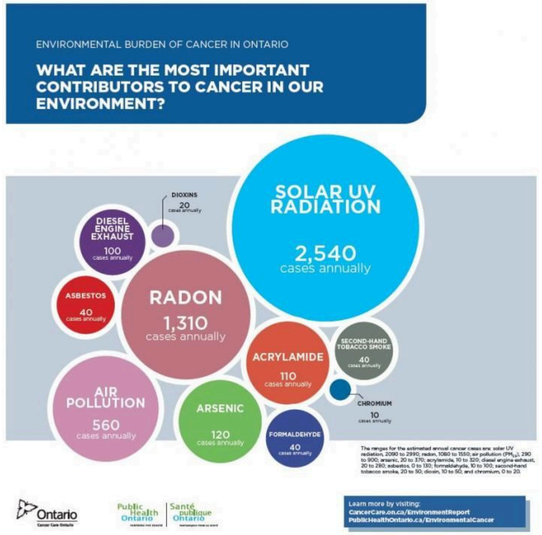
- During the Canadian wildfires, NJ hospitals saw an uptick in patients, primarily urban-based, lower-income, and minority groups, presenting for chronic disease exacerbations [1].
- Many studies have highlighted the paucity of environmental health in clinical practice [2].
- Oncology is a field in which environmental factors have significant correlation to health outcomes [3].
- This project's objective was to obtain the insight of oncology professionals on environmental health to gather data on improving healthcare delivery for patients.



Source: Zarrow D. (2023, June 7). NJ Air Quality Alert: When Will Smoke and Haze Worsen and Improve? NJ 101.5. https://nj1015.com/nj-air-quality-alert-when-will-smoke-and-haze-worsen-and-improve/

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Source: Levine AJ, Williams N, Magtulis P. (2023, June 24). Canada's wildfires: A historic wildfire season. Reuters. https://www.reuters.com/graphics/CANADA-WILDFIRE/HISTORIC/znvnzebmavl/



Source: What Are the Most Important Contributors to Cancer in Our Environment? (2024). EurekAlert! https://www.eurekalert.org/multimedia/674699

- 30-minute interviews consisting of 10 questions assessed the environmental health attitudes and recommendations of 10 oncology healthcare professionals.
- Responses found an acknowledgement of environmental health's importance, but minimal emphasis on environmental exposures, an overload of information on the environment, the challenge of environmental control, and limited patient education time.
- It was stated that early environmental education and training as well as research establishing clear causal links between environment and patient prognosis are sparse.
- Potential benefits of expanding environmental knowledge included improved risk assessment, patient education, and minimized health disparities.
- Recommendations included history-taking and electronic health record integration, interactive online media, school training, research grants, and industrial advocacy.
- Although a common thought was held that environmental health is best incorporated into primary care, providers responded that it is key in all areas of medicine.

DISCUSSION / CONCLUSION

- Brief online media and curriculum integration can engage interest in environmental health. Community outreach and patient education can empower individuals. Advocating for industrial regulation and interdisciplinary research will have a macroscale impact. By including environmental health in clinical practice, healthcare professionals can foster healthier, sustainable communities.

Source: International Institute for Sustainable Development. (2022). Health and Environment. IISD. https://www.iisd.org/health-environment

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Stop The Bleed (STB): Bridging Lifesaving Knowledge to Communities

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BACKGROUND

Background

- School safety is a critical public health concern, particularly in light of the rise in high school shootings over the past two decades. This directly addresses the environmental DOH as some neighborhoods may be at an increased risk for violent events.
- This can leave students feeling vulnerable and anxious in their own learning environment. Equipping them with lifesaving skills like those taught in STB can empower them to act in emergencies and potentially ease these feelings.

What is the knowledge/action gap?

- Uncontrolled bleeding is the leading cause of preventable death after injuries. Increasing awareness and education in STB has the potential to save many lives.
- STB equips individuals with basic techniques to control bleeding emergencies. Currently, many high school students lack this potentially life saving knowledge.

Objective of the project/study

- This capstone project aims to integrate STB course into high school curriculums, empowering students to respond effectively to bleeding emergencies.

STOP THE BLEED®

INTERVENTION DESIGN & EXPECTED IMPACT

Methods

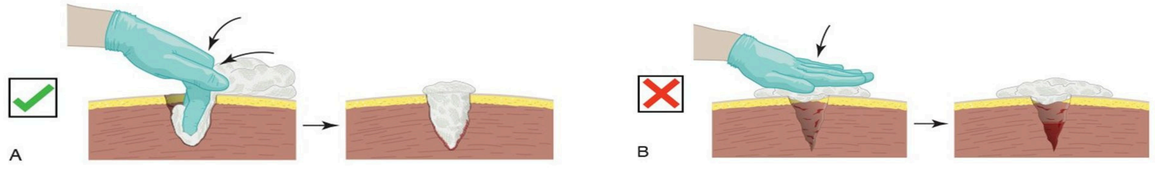
1)Become a certified STB instructor to deliver the program to high schools
2)Partner with three central NJ high schools to assess their interest in integrating STB into their curriculum.
3)Collaborate with school administrators and health educators to gauge their willingness to adopt the STB program.
4)Pilot the STB course with a group of high school students to assess its effectiveness and gather feedback.

Expected Impact

1)Outcome: Increase school and community preparedness for bleeding emergencies, as measured by knowledge test pre- and post-training. Empower students to act in emergencies, leading to a potential increase in student leadership and community engagement.
2)Sustainability: Work with schools to establish STB as a permanent curriculum component, ensuring continuous education for future students.

Significance of Project

- This capstone project has the potential to significantly improve preparedness for bleeding emergencies in central NJ schools and communities.
- By equipping students with lifesaving STB skills, the project empowers them to act decisively in critical situations.
- Integrating STB into the curriculum fosters a culture of safety and empowers future generations to be responsible bystanders.



DISCUSSION / CONCLUSION

Further Research

- This project can serve as a pilot for a larger-scale implementation of STB programs across more schools and regions.
- Future research could explore the long-term impact of STB training on student confidence, leadership skills, and overall school safety climate.

Conclusion

- This capstone project addresses a critical public health concern by promoting essential bleeding control knowledge in high schools.
- By empowering students and fostering a culture of preparedness, the project has the potential to save lives and build stronger, safer communities.
- The successful implementation of this project can serve as a model for broader adoption of STB programs across the nation.

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Modernizing Patient Education on Pregnancy Loss using Large Language Models

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INTRODUCTION

- **Pregnancy loss is a sensitive topic** and **clear, reliable** information is crucial.
- This study compares the **readability** and **accuracy** of ChatGPT's responses to ACOG's FAQ sheets on pregnancy loss.
- Our focal **social determinant of health** is to **improve access to care** through **health information dissemination via artificial intelligence.**

METHODS

- **66 questions** were assessed between ACOG & ChatGPT-3.5.
- Readability scores were computed for each response.
- The **response quality** was **graded by two independent maternal-fetal medicine specialists** using a 1-4 scale:
  - -1 → **Comprehensive**
  - -4 → **Incorrect**
  - -A weighted Cohen's Kappa evaluated inter-rater reliability.

RESULTS

Readability Metrics	ACOG	ChatGPT-3.5	P-Value
Flesch Kincaid Reading Ease	54.64 (16.45)	35.53	<
Flesch Kincaid Grade Level	9.76 (3.88)	(9.55)	0.001
Gunning Fog Score	13.33 (4.23)	12.20	<
Smog Index	9.57 (2.88)	(1.71)	0.001
Coleman Liau Index	12.36 (2.62)	16.22	<
Automated Readability Index	9.39 (4.85)	(2.31)	0.001
		11.75	<
		(1.52)	0.001
		15.98	<
		(1.62)	0.001
		11.85	<
		(1.85)	0.001

Table 1: Mean and Standard Deviation of Readability Metrics between ACOG and ChatGPT-3.5.

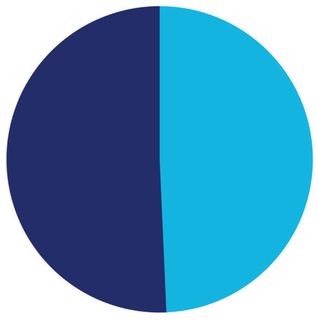

Figure 1: ACOG scored a mean of **1.53 (SD 0.60)** with a Cohen's Kappa of 0.493, implying moderate agreement between graders.

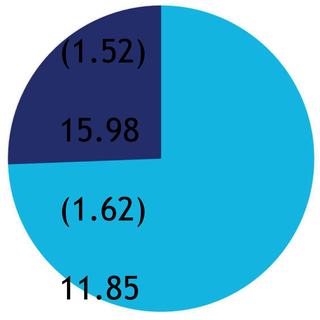

Figure 2: ChatGPT scored a mean of **0.85 (SD 0.90)** with a Cohen's Kappa of 0.744, implying substantial agreement between graders.

Across all indices, ACOG was consistently clearer and more comprehensive than ChatGPT with statistical significance.

CONCLUSIONS

- **ACOG FAQ responses are clearer and more readable** when compared to ChatGPT-generated responses.
- This suggests that **fewer years of formal education is required** to comprehend the content of ACOG vs. ChatGPT.
- ACOG FAQ responses **were more comprehensive** in pregnancy loss queries than ChatGPT.
- While ChatGPT is an accessible source for medical information, **further improvements can improve** clarity and accuracy on pregnancy loss to patients.
- **ChatGPT has the potential** to be a formidable **source of information** to **improve access to care** in health information dissemination.

ACKNOWLEDGEMENTS

I'd like to thank both Dr. Tracy and my HD Group (Group 16!) for their constant support and guidance!

Harmony in Healthcare: Orchestrating Holistic Patient Profiles in the Information Age

Anthony Fontanetta

Faculty: Dr. Tadé Ayeni, Dr. Charles Binkley

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BACKGROUND

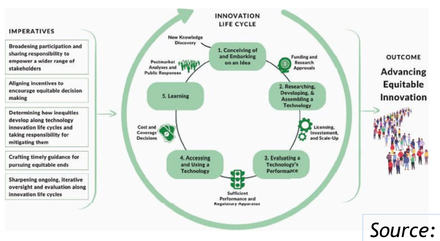
The rapid evolution of information, data, and AI technology creates new possibilities for improvements in healthcare and patient care

Ethical considerations for use of this data space in healthcare and beyond creates a unique dynamic where innovation must be balanced by responsibility

Implementation of an ethical framework including consideration for social determinants of health can be the foundation for an equitable implementation of this technology in healthcare

Where We Are Now:

- Clinical decision support
  - Data support in diagnostic and treatment decisions
  - Improves precision and speed in healthcare delivery
- Personalized treatment
  - Fine tune treatments based on individual patient characteristics
  - Focus on improvements of patient outcomes and experiences



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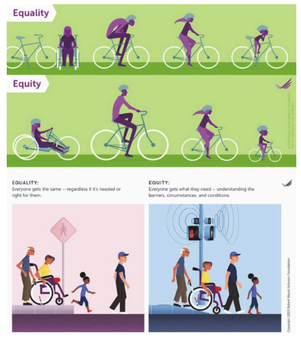
INTERVENTION DESIGN & EXPECTED IMPACT

Health Disparities Awareness

- Enhancing the understanding of social and cultural factors affecting health, and approach this in a data driven context
- Implementation of and utilization of geographic informations systems for spatial mapping of social determinants of health
- Identifying healthcare resource gaps or disparities across geographic regions
- Address any biases in preexisting data

Cultural Competence

- Multifaceted approach: intersection of socioeconomic, geographic, racial, cultural considerations
- Expanding and utilizing electronic health records with an emphasis on holistic patient profiles
- Address operational or computational issues in the integration of diverse population data sets



Source: (3)

Community Engagement

- Incorporating non-traditional data sources (community engagement, social media) to create a more complete picture
- Implementation of advanced information gathering techniques from nontraditional data sources: ie, natural language processing of unstructured data from community sources for use in data driven algorithms

Socioeconomic Considerations

- Designing framework to optimize treatment plans with cost-effective options
- Factor for medication affordability and consideration of socioeconomic factors in treatment recommendations
- Account for socioeconomically disadvantaged communities that may have historically low engagement with healthcare systems.

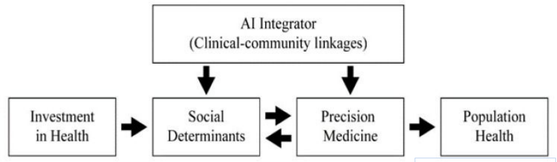
LOOKING FORWARD

Expected Challenges

- Data privacy & security concerns
- Resource constraints
- Provider education, training
- Healthcare system fragmentation and collaboration
- Cultural sensitivity, competence
- Standardization
- Community collaboration

Future Directions

- Continued research
- Policy advocacy
- Continued technological innovations
- Community engagement and empowerment
- Education, training
- Equity centered approaches



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CPR Education For Middle School-Aged Children

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Hackensack Meridian School of Medicine

BACKGROUND

Background:

- Bystander-provided CPR in out-of-hospital cardiac arrests (OHCA) is low at 28.6% with a significant discrepancy between low socioeconomic communities (as low as 18%) and high socioeconomic communities (as high as 37%).

- Previous studies have demonstrated benefit in starting CPR education amongst middle school students with retention of knowledge and skills 1 year after the course.

What is the knowledge/action gap?

- Bystander-CPR is low in OHCA due to lack of education and confidence in skills by non-healthcare professionals.

Objective of the project/study

- The goal of this project is to increase bystander-CPR rate in OHCA, especially in lower socioeconomic communities.

- This will be accomplished by addressing the lack of education in CPR amongst non-healthcare professionals.

- It will focus on providing education to a generation of community members, specifically the students, in local public schools.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- In order to increase the involvement of bystander-CPR, education must be provided to the public. Students in public middle schools are an organized population who represent the entire community and are eager to learn.

- CPR-trained facilitators will provide instruction on recognizing signs of cardiac arrest, initiating a call for further medical resources, and performing CPR.

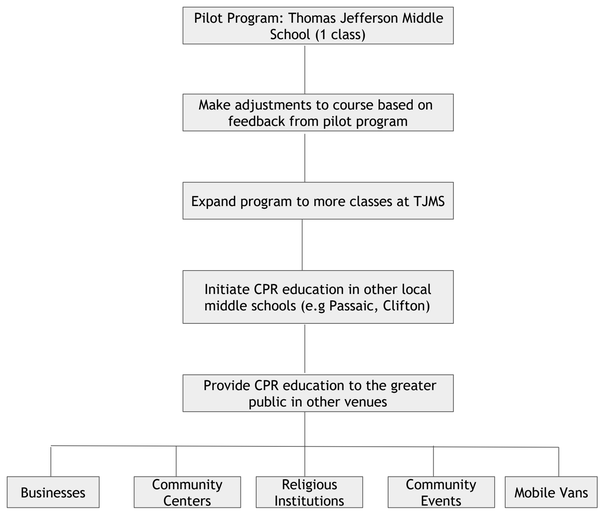
- CPR course would include small-group discussions about fears/questions, verbal instruction, video demonstration, and hands-on practice with mannequins.

- The knowledge these students acquire during these training sessions involving hands-on practice will provide them with the skills and confidence to perform CPR if they were to witness an OHCA.

- This project was presented to Mr. Klimek, of Teaneck Public Schools, who is intent on incorporating CPR education at the Thomas Jefferson Middle School.

- Next steps include receiving approval from the Board of Education, including the materials that will be utilized, and selecting a group of students for the pilot program.

Figure 1: Students learning to perform CPR in a class setting. Source: https://www.lifesaversinc.com/cpr-training-in-high-schools



DISCUSSION / CONCLUSION

CPR education should be a staple of our curriculum as it impacts the lives of others.

- Continued reinforcement of the knowledge and skills on annual basis is ideal for ensuring knowledge retention.

- Impact will improve exponentially as the number of public school systems participating in the project increases.

- Overall increase of bystander-performed CPR will occur as CPR education is provided to the masses.

- Therefore CPR education should be offered in workplaces, community centers, religious institutions, etc.

REFERENCES / ACKNOWLEDGEMENTS

- Mr. Edward Klimek, of the Teaneck Public School system, for his insight and enthusiasm to implement this project for the Thomas Jefferson students.
- Dr. Tracy, Ms. Williams, and Ms. Dublin for their input and guidance through the capstone process.

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Increasing Educational Material on Type II Diabetes Mellitus for Arabic and Farsi (Dari) Speaking Natives

Asina Wahab, Soumaya Bahlouli, Dr. Eigen, Dr. Khalil

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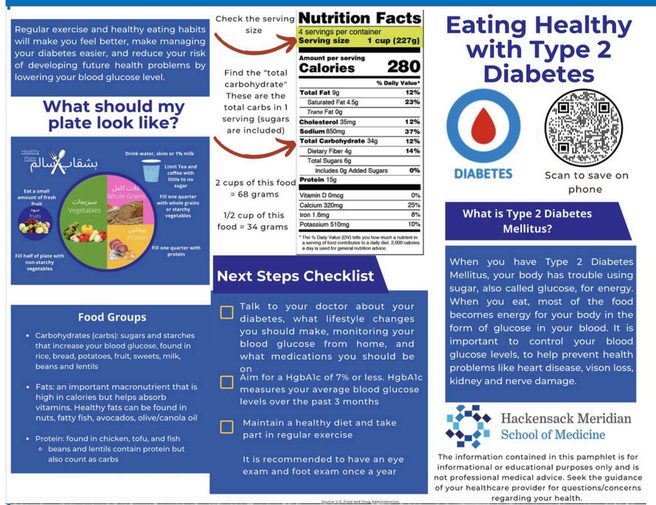
Hackensack Meridian School of Medicine

BACKGROUND

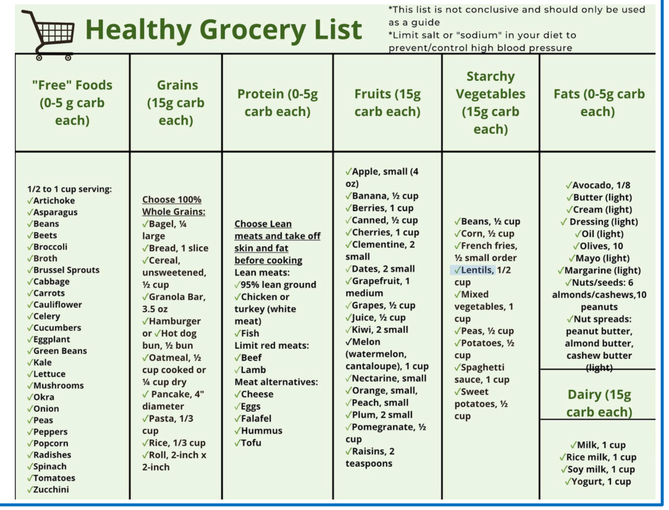
The determinants of health this project focuses on are education and the healthcare system, specifically increasing health literacy around T2DM. Low health literacy can lead to poor diabetes management, a decrease in engagement with health professionals, increased hospitalizations, and healthcare costs. The outcomes of low health literacy are even more prominent in minority populations and non-English speakers in America, as expected in refugees (1). Patients with low health literacy are twice as likely to have poor glycemic control and be hospitalized, when compared to patients with proficient health literacy (1). Previous toolkits targeting patients with low health literacy exist, containing modules on T2DM for English and Spanish speaking patients (2). However, projects such as the one described above are scarce for patients who speak Arabic or Farsi (Dari), two prominent migrant languages after Spanish.

The objective of this project is to increase health literacy regarding T2DM in Arabic and Dari-speaking natives to increase better T2DM management, reduce preventable diabetes complications, and foster a better relationship between healthcare providers and patients from these communities. After gauging the interest and need for such material, educational material on T2DM will be provided in English, Arabic, and Dari to participating clinical sites to ultimately increase the accessibility of health information in minority communities with hopes of encouraging healthy daily decisions, meanwhile serving as an model for the creation of similar resources for prominent yet overlooked communities.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

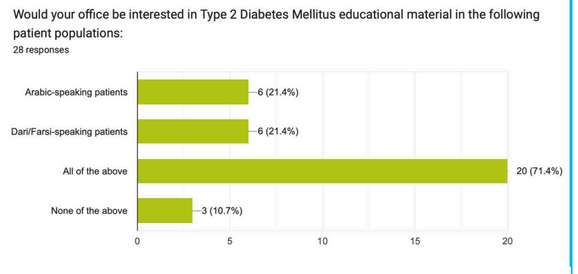


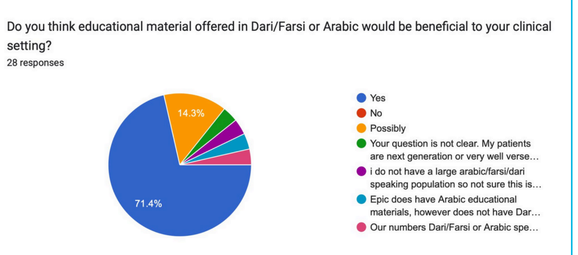
Through a google survey, the interest and need for T2DM educational material provided in Arabic and Farsi (Dari) will be determined in various clinical settings. The depicted images are the educational information that will be translated in Arabic and Farsi (Dari). The expected impact of providing such material to patients from minority backgrounds in their first language is to increase health literacy around T2DM to increase better management of T2DM, increase engagement with healthcare providers, and reduce diabetes-related complications in these communities.



DISCUSSION / CONCLUSION

We received 29 responses from various health organizations. Of the 29, 96.4% respondents care for patients with T2DM and 85.7% provide education material on T2DM, majorly in English and Spanish. Some providers mentioned resources available on Epic that provide handouts in other languages too. For most health providers, Arabic and Dari-speaking patients served as a minority of their patient population; however, the majority of providers were interested in obtaining additional resources provided in these languages and believe it would be beneficial to their clinical setting.





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Student to Student Mentorship in Medicine

Benjamin Thor Perrin Hee, Lawrence Rosen MD, Ghazalah Malik MD

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Hackensack Meridian School of Medicine

BACKGROUND

- **Background:** This Project addresses the education access social determinant as it seeks to improve access to medical education for underrepresented students and those who may not have the necessary experience. Online sources and support for pre-medical students are notoriously confusing and often unhelpful. I believe this project will benefit health outcomes because it will help empower the next generation of doctors and increase representation in the medical field from groups traditionally underrepresented in medicine (2).

- **What is the knowledge/action gap?**

- The knowledge gap I seek to address is the difficulty in entering the medical field for students who do not have a direct familial or social link to medicine. Medicine is notoriously difficult to enter academically but also difficult to navigate the entry process. I aim to make this easier for students by connecting them with those who have recently achieved this goal and resources to support them.

- **Objective of the project/study**

- The objective of this project is to connect pre-medical students with medical student mentors to help them navigate entry into the medical profession. This will help both groups grow and help the younger students become tomorrow's physicians.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- The intervention I planned began with a series of talks that I held with undergraduates from seton hall. Myself and other HMSOM students spoke to them about our experiences with entering medical school and how we navigated the transition from undergraduate.
  Next I gathered a group of interested HMSOM students to serve as mentors for the group of seton hall pre meds I had spoken to. These two groups are now in the initial steps of the mentoring process and will continue to work together throughout the year and possibly beyond. Currently **over 100 students** from both schools are involved and partners were assigned based on order of signing up. I will continue to recruit interested HMSOM students from the younger classes and hope to pass this partnership with seton hall pre medical society down when I graduate.

- The final step of this plan is to integrate the possibility of shadowing or physician talks for the pre med students to give them more direct access to the end goal of a career in medicine. Many of the students I have spoken to have had minimal actual experience in a hospital or doctors office and I believe they would benefit immensely from shadowing. To achieve this, my mentor Dr. Malik and I are speaking about creating a time for the pre-meds to shadow in the pediatrics department at JSUMC. This would give them a first hand experience of what hospital work is like and pediatrics is a very generalist specialty that would be a good starting point for new students to see a variety of presentations.

Goals of Mentees

"To learn about the med school application process and to find out good opportunities that will set me apart from other applicants."

"I would to get an insight of what life is like for a medical student."

"To learn more about HMSOM fit."

"Someone to ask questions to."

DISCUSSION / CONCLUSION

Numerous studies (1) show the benefits of mentorship to both mentor and mentee. I believe that this partnership will enrich myself and the other HMSOM students by helping to prepare us for our future careers as healthcare leaders. It will also greatly benefit the students we work with as it will empower them to achieve their goals in the field and help to ameliorate access issues that still make it challenging for underrepresented students to enter the field.

In conclusion, I have sought to create an enduring partnership between students in medicine that will benefit both groups and help at the local level to increase access to medical education for New Jersey undergraduates.

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Thank you to Chantal Vergara and the rest of the pre-medical support team and Dr. Ghazalah Malik for their continued support in this project! Thank you to Dr. Lawrence Rosen for your advice and guidance throughout my capstone project.

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Ask Me 3 at Jersey Shore University Medical Center: A Tool for Addressing Health Literacy

Brandon Sciavolino, MS3

Special Acknowledgments: Swapnil Patel, MD and Anne Park, DO

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- The aim of this project is to further evaluate the topic of health literacy and propose a tool for addressing this at a community level. Poor health literacy has been associated with prolonged hospital stays, increased rates of readmission, and even increased mortality. Further understanding of this topic can have a significant impact on the wellbeing of patients.

- A tool known as *Ask Me 3* has been developed by the Institute for Healthcare Improvement as a means of evaluating and addressing health literacy in the point of care setting. This tool has been successfully implemented within several clinical settings, demonstrating significant improvements in patient knowledge and satisfaction.

- The objective of this project is to propose the use *Ask Me 3* within a community clinic affiliated with Jersey Shore University Medical center (JSUMC), with the ultimate goal of improving health literacy in this population.

INTERVENTION DESIGN & EXPECTED IMPACT

- **Phase 1:** Present *Ask Me 3* as a pilot project to the administrative team at Jane H. Booker Family Health Center - a community health center affiliated with JSUMC
  - ◯ Administer an initial survey to patients regarding their level of confidence in understanding their current condition, management plan, and importance of managing their condition
  - ◯ Have patients ask the 3 components of the *Ask Me 3* Tool listed on a poster in the patient room
  - ◯ Administer a post survey evaluating the same components following administration of the Ask Me 3 Tool
  - ◯ Include demographic information: Age, current conditions, primary language, and level of education
  - ◯ Evaluate outcomes over the course of several months

- **Phase 2:**
  - ◯ Use data from community health center to propose implementation on a greater scale at the inpatient hospital level at JSUMC for patients prior to discharge

- **Phase 3:**
  - ◯ Use data from JSUMC to propose this tool as a systems-level solution for health literacy within both the inpatient and outpatient settings across the Hackensack Meridian Health network

DISCUSSION / CONCLUSION

- This project will be proposed to the administrative team at the Jane H. Booker Family Health Center. During this proposal, details regarding implementation of the tool will be discussed Surveys designed to assess patient comprehension before and
- after administration of the tool will be reviewed. Surveys may include additional information such as demographic data, primary language spoken, and education level. This will allow for even further evaluation of other factors that may contribute to health literacy and potential barriers for implementing a tool such as *Ask Me 3*. In conclusion, this project serves as a low-cost, easily implemented proposal for evaluating and addressing gaps in health literacy within patients of the
- JSUMC community, with the ultimate goal of improving patient satisfaction and clinical outcomes.

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Screen Time in Kids: Connection to Sleep and Exercise

Brian Cammalleri, Lawrence Rosen MD, Jose Contreras MD

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BACKGROUND

▪Technology has become more readily available, and children are getting introduced to it at younger ages. Technology use may not always be talked about at well child visits, and parents may not be aware of screen time recommendations or the type of media their child should be exposed to.

▪The current screen time recommendations per the American Academy of Pediatrics (AAP):

- ◯Under 18 months: Avoid screen time other than video chatting with family alongside parents.
- ◯18-24 months: If choosing to introduce media, choose high-quality programming, Parents should use media together with their children and avoid solo use.
- ◯ 2-5 years old: Limit to no more than 1 hour per day.
- ◯5 and older: no defined limit, but ensuring that media is not taking the place of important activities such as sleep, family time and exercise.

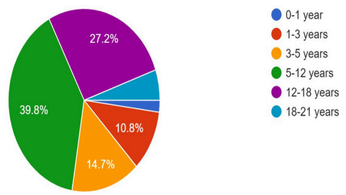
▪The objective of this project was to determine if children were within screen time guidelines and if increasing amounts of screen time had an impact on amount of physical activity and sleep a child received.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

▪A survey was designed using Google Forms and a link to the survey was sent out via a monthly newsletter to the parents of the Whole Child Center.

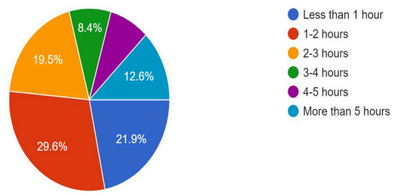
How old is your child?

334 responses



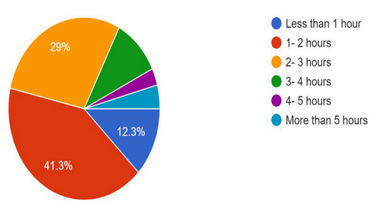
On average, how much screen time (time in front of a device) does your child have per day?

334 responses



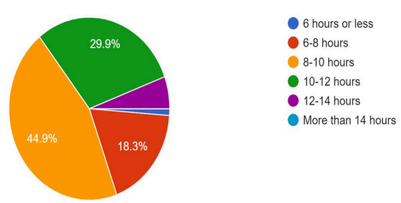
On average, how much physical activity does your child get per day?

334 responses



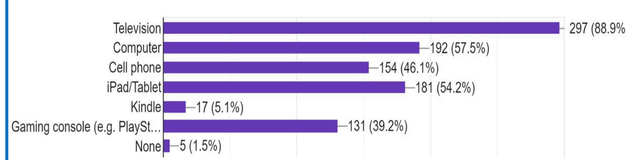
On average, how much sleep does your child get per night? (Including any naps during the day)

334 responses



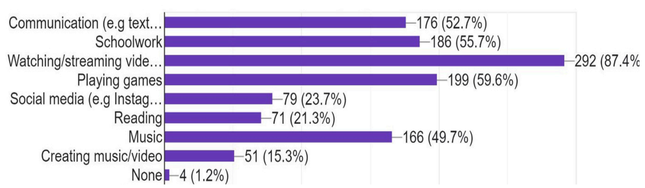
Which devices does your child have access to? (select as many as applies)

334 responses



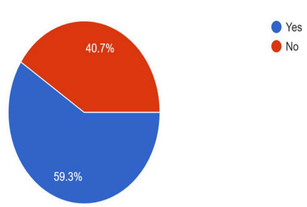
What does your child use the devices for? (select as many as applies)

334 responses



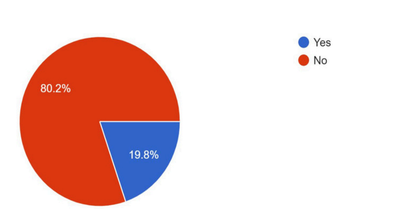
Do you think your child spends too much time in front of a screen?

334 responses



Has your primary care doctor/practitioner ever discussed screen time management with you and your child?

334 responses



DISCUSSION/CONCLUSION

▪16% of children under 5 years old were above the recommended amount of screen time. However, there was no impact on the amount of physical activity or sleep the children received.

▪For children 5 and older, there was no correlation between increasing amount of screen time and decreased amount of physical activity or sleep.

▪More interestingly, 80% of parents reported that their practitioner did not discuss screen time with them.

Recommendations:

▪Practitioners should try to discuss screen time habits with parents and their children, along with addressing any questions or concerns a parent may have regarding technology.

▪Practitioners should review interactive and educational media options with parents.

▪Practitioners should offer credible technology resources such as healthychildren.org, “Family Media Plan” and commonsensemedia.org.

Future Directions:

▪Expand survey to determine if screen time has an impact on child developmental milestones.

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Connecting Palliative Patients with Medical Students via 15-Minute Phone Calls

Bruce Osei-Frimpong, Anil Desai, MD

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

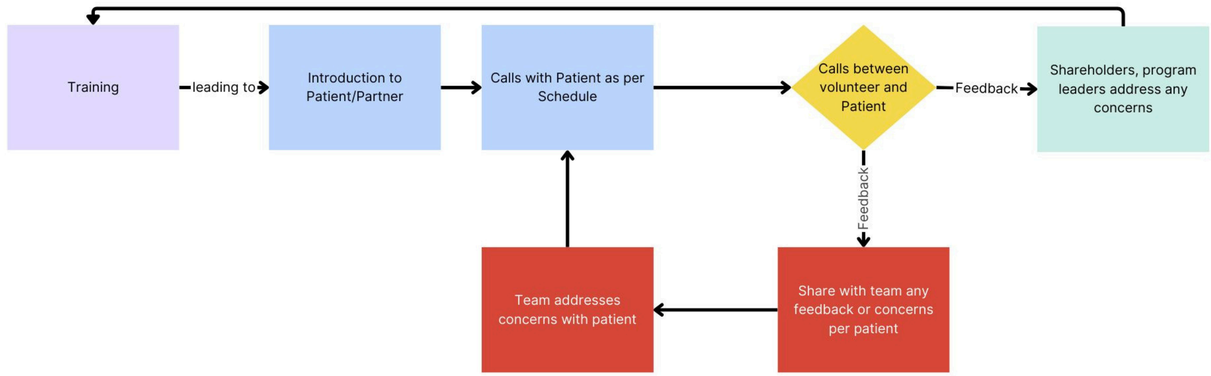
- Background: Loneliness is a prevalent issue in palliative care. As individuals come to terms with quality of life limiting diagnosis, a sense of isolation and depression can develop. Physical limitations that restrict social interactions, emotional toll of confronting mortality, shrinking social support groups can all lead to a sense of isolation.
- Healthcare providers are in a unique role of not only managing physical health but also providing emotional support and companionship. Healthcare providers see patients more so than family and friends and can become a safe space to share.

What is the knowledge/action gap?

- Objective: My capstone serves to provide a community-based initiative to provide additional support in combating loneliness in palliative care patients. Volunteers (students) can provide companionship, engage in meaningful conversations and ease the burden on families, friends, caregivers, and patients.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Methods



Key Points of Methods

- Training: according to research, training was essential to establishing purpose for volunteers, clarifying roles, expectations, and responsibilities. Training will take the form of a 30-60 minute session which will lay out the goal and purpose of the program. Students will be taught how to set appropriate goals in terms of calls, appropriate boundaries with patients, and how, when and what to report situations.
- Feedback and adaptation were integral to the most successful programs according to research. Volunteers and patients need to feel their voices matter.

Long Term Intervention

- Implement a permanent program operating as a medical school club
- Incorporate feedback, lessons, and reflections by students and providers as part of HD sessions to further illustrate the importance of empathy, listening, and care for patients.

DISCUSSION / CONCLUSION

- Implementing a 15-minute chat program between medical students and palliative care patients is a rewarding endeavor that fosters empathy, communication skills, and mutual understanding. Despite challenges, the experience provides valuable insights into the complexities of palliative care, experiences of patients, and the impact of meaningful connections on both students and patients.
- Implementation of programs like this can contribute to the development of compassionate and empathetic healthcare providers. Fosters humanism and elaborates on the tenets of HMSOM

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Nutrition & Mental Health: Education and Resources to mitigate symptoms of depression with the anti-inflammatory diet

Caile Criscione, Mentor Marissa Winters & HD facilitator Dr. Patrick Roth

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Education is a key social determinant of health and the cornerstone of my project. It has a profound impact on health outcomes in several ways, including health literacy, influences health-related behaviors (eg, diet), access to healthcare (related to SES), income and employment opportunities, influence psychosocial factors, and is a strong predictor of life expectancy. For individuals with depression, it can additionally facilitate effective self-management, reduces stigma, and enhances supportive social networks.

While extensive research has been done investigating the links between chronic inflammation and, for example, cardiovascular disease, there is a gap in the literature on neuroinflammation and psychiatric diseases. An additional gap is seen in an anti-inflammatory diets role in mitigating symptoms and diagnosis of depression. Further, lack of education and awareness among this population about the harms of inflammation and pro-inflammatory foods on mental health is a gap I felt I could personally make just a little bit smaller in my community.

Target Population: People suffering from depression and other mental health illnesses, who utilize psychiatric services at CarePlus NJ.

References:

INTERVENTION DESIGN & EXPECTED IMPACT

Objective: Outline a systems solution for educating individuals on the crucial relationship between nutrition, particularly anti-inflammatory diet, and mental health. By leveraging educational content and community resources, the aim is to empower people to make informed choices for a healthier lifestyle.

Methods: Literature review the links between inflammation and depression, inflammation and anti-inflammatory diet, and anti-inflammatory diet & decreasing symptoms of depression. The majority of my sources come from Meta-analyses and Systematic Reviews. My hypothesis was that a dietary pattern characterized by a high consumption of whole, unprocessed foods, including fruits, vegetables, and lean proteins, is associated with a lower risk of depression and a reduction in the severity of depressive symptoms when compared to a diet high in processed foods, sugary beverages, and unhealthy fats. Given the available research, there is increasing likelihood that this is a true statement, and likely has deeper connections than we currently understand. To provide my findings in an easily digestible way to my population of interest, I created a flyer that summarizes the research, and includes resources for people to attain fresh food, with the SDOH in mind. I proposed my systems solution proposal to Jaime Arlia, MA, LPC, ACS (she/her), Senior Vice President, Consultation & Education & Executive Director, CarePlus Foundation.

Resources on anti-inflammatory diet:

-Anti-Inflammatory Meal Planning: Plan You Plate (pdf) - wellvets.com
-The Harvard Plate – hsph.harvard.edu/nutritionsource/healthy-eating-plate/

Resources for fresh food and food assistance:
-Jersey Fresh
-NJ SNAP
-NJ Women Infants and Children (WIC)
-Rutgers Cooperative Extension
-Ample Harvest - ampleharvest.org

Community Partners:

CarePlus NJ is a(501(c)(3) non-profit organization dedicated to delivering comprehensive, recovery-focused integrated primary care, mental health care, and substance abuse rehabilitation services.

CarePlus NEW JERSEY

Nutrition & Mental Health:
How an anti-inflammatory diet can improve symptoms & diagnosis of depression

What is inflammation, and what does it do to our body and mind?

Inflammation is the body's natural defense response to harmful stimuli, such as pathogens, damaged cells, or irritants. It is designed to protect the body and promote healing by removing harmful agents and repairing damaged tissues. While acute inflammation is a normal and beneficial response, chronic inflammation can contribute to various health issues, including autoimmune diseases, allergies, and chronic conditions like arthritis. Neuroinflammation refers to inflammation that occurs in brain and spinal cord. The link between neuroinflammation and psychiatric illnesses has become an area of significant interest and research in recent years. While traditionally psychiatric disorders were primarily thought to involve disturbances in neurotransmitter function, emerging evidence suggests that neuroinflammatory processes may also play a role in the development and progression of psychiatric conditions, such as depression.

What is an anti-inflammatory diet, and how can it help my mental health?

Current research suggests that there is a significant association between a pro-inflammatory diet and increased risk of symptoms and/or diagnosis of depression, relative to those on an anti-inflammatory diet. Inflammation may contribute to non responsiveness to current antidepressant therapies, as well. The goal of an anti-inflammatory diet is to promote overall health and well-being by reducing chronic inflammation.

Key principles of the anti-inflammatory diet include:
- Emphasis on **Whole foods**, which are minimally process foods such as fruits, vegetables, whole grains, nuts, seeds, and legumes
  - Colorful fruits and vegetables provide antioxidants and nutrients that combat inflammation
- **Healthy fats**, particularly omega-3 fatty acids found in fatty fish (salmon, mackerel, sardines)
- **Limiting intake of Pro-inflammatory foods**: foods high in refined carbs, added sugars, trans fats, and processed meats should be avoided
- Adding **lean protein**, such as poultry, fish, tofu, tempeh, and legumes
- Including **Herbs & Spices**, such as turmeric, ginger, garlic, cinnamon, cloves
- **Hydration**: water and herbal, unsweetened teas
- **Moderation, Balance, Variety**

For more information, the following resources are great places to start:
- Anti-Inflammatory Meal Planning: Plan You Plate (pdf) - wellvets.com
- The Harvard Plate – hsph.harvard.edu/nutritionsource/healthy-eating-plate/

Okay, I have the information. Now where can I find the right food?
- Jersey Fresh – findjerseyfresh.com
- NJ SNAP – visit NJ.gov or call their hotline number: 1-800-687-9512
- NJ Women Infants and Children (WIC) – NJ.gov/health/fhs/wic/
- Rutgers Cooperative Extension – njaes.rutgers.edu/fch/fs/food-security.php
- Ample Harvest - ampleharvest.org

DISCUSSION / CONCLUSION

CPNJ is open to further discussion about utilizing my poster in their group therapy sessions. Possible changes to be made would include access to more of the information I obtained from my literature search and changes in delivery of information eg, brochure vs. flyer vs. presentation. Regardless, the invaluable knowledge, along with tangible resources may facilitate better self-management and sense of efficacy in this population.

FUTURE DIRECTION

Thankfully, greater efforts in research on mental health have been initiated in recent years, but there still is so much more to discover about neuroinflammation, and mitigating its effects on depression. Regarding the SODH, we should look to integrating education of this topic into therapy/counseling sessions and/or when creating a holistic health plans for psychiatric patients.

REFERENCES / ACKNOWLEDGEMENTS

Thank you to my HD facilitator, Dr. Patrick Roth, Dr. Rocchetti, and the entire HD department for the opportunity to better my community in this regard. Thank you to my mentor, Marissa Winters, RD, for her guidance, resources, and unwavering support.

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Naloxone Distribution: Increasing Access for Patients and Providers

Caitlin Murray BA, Anil Desai MD, Nathan Carroll DO, MBA

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Hackensack Meridian School of Medicine

BACKGROUND

- Over 2,564 people in NJ died of overdose in 2023, with the main culprits fentanyl, heroin, and cocaine. However, there were also 14,626 naloxone administrations recorded in NJ last year.
- Naloxone, or "Narcan," is an opioid receptor antagonist that is designed to reverse an opioid overdose. It is available intranasal or intravenously.
- Highest risk for drug related death after recent release from prison, rehabilitation or recovery treatment, or hospital admission.
- Most overdoses occur with bystanders. Those with opiate use disorder are often on the front lines in communities who are at high risk.
- Naloxone distribution programs have shown reduced rates of opiate overdose and have been proven to be cost-effective.

How to Obtain Naloxone in NJ:

- Participating Pharmacies https://data.nj.gov/Human-Services/Naloxone365-NJ-Free-Naloxone-at-Pharmacies-Program/nfsa-3664/data
- Harm Reduction Centers https://njharmreduction.org/naloxone-access/
- By Mail https://nextdistro.org/naloxone

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Objective: increase access to naloxone among at-risk populations, healthcare providers, and the general public through a multi-pronged capstone project.

Item 1: Provide naloxone to the HMOSM 2024 cohort students during orientation.

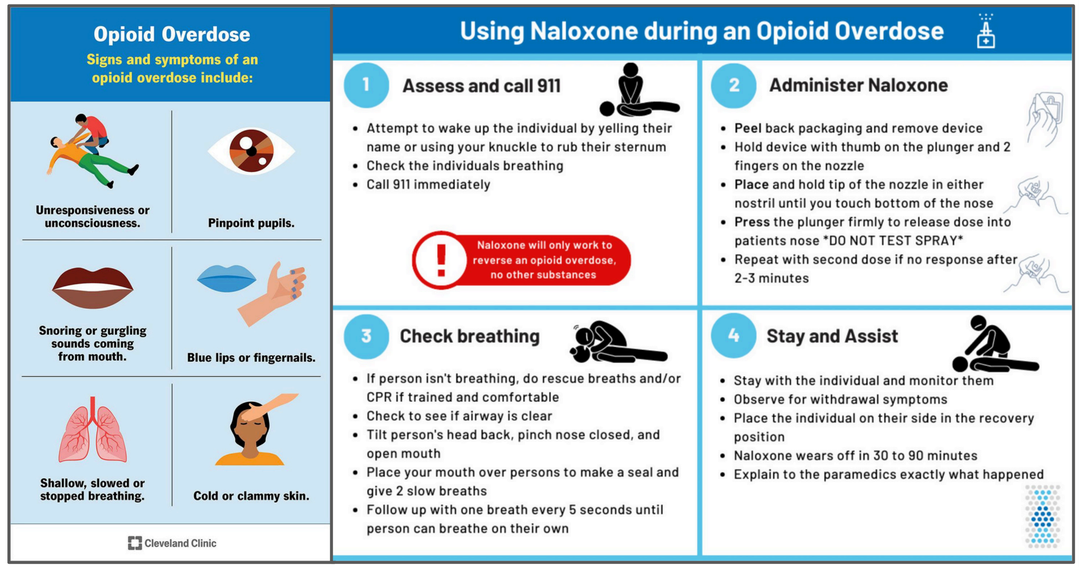
- Higher-education organizations in NJ can apply for free naloxone in bulk through the Naloxone 365 program. Such organizations are protected from criminal and civil liability related to the distribution of naloxone (Sections 4-5 of P.L.2013, c.46 [C.24:6J-4])
- I presented my capstone to HMSOM: Dr. Sullivan and Staci White, and we are coordinating efforts with Dr. Terlecky in order to provide the next generation of future physicians with the tools necessary to intervene in an opioid overdose.

Item 2: Distribute naloxone to patients upon discharge from the JSUMC psychiatry floor.

- Although naloxone is already being distributed throughout Jersey Shore University Medical Center by peer recovery specialists, patients on the psychiatric inpatient floor are not currently included in this workflow.
- I presented my capstone idea to Dr. Shah, an HMH emergency medicine physician, and we are coordinating with the psychiatry floor social worker and peer recovery specialists to expand access to take-home naloxone among this high-risk patient population.

How to Use Naloxone:

1) Identify Overdose
2) Call 911
3) Administer Naloxone
4) Monitor Breathing



"Opioid Overdose." Cleveland Clinic, https://my.clevelandclinic.org/health/diseases/24583-opioid-overdose

"Harm Reduction." MATTERS Network, https://mattersnetwork.org/harmreduction/

DISCUSSION / CONCLUSION

- Despite national and state-wide initiatives, significant barriers such as cost and stigma have continued to prevent access to naloxone among at-risk populations.
- My capstone seeks to address the opiate overdose epidemic through naloxone distribution among at-risk populations, healthcare providers, and the general public.
- Future directions include continued collaboration among the providers involved in naloxone distribution at JSUMC and standardized trainings for naloxone administration for students.

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Special thanks to my mentor Dr. Nathan Carroll, DO, MBA, PGY3, JSUMC Psychiatry

Healthy Literacy in Labor and Delivery

Authors: Dr. Ginja Morreale, Dr. Carmela Rocchetti, Cara Wong

Hackensack Meridian *Health*

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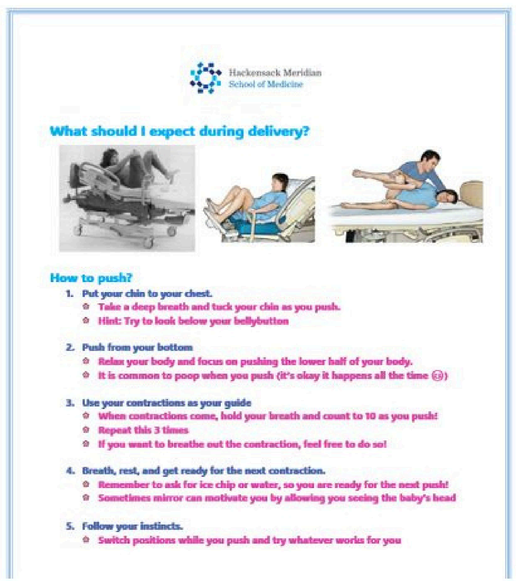
BACKGROUND

1. Patients in Labor and Delivery (L&D) who are not fluent in English face several challenges:
   - Higher rates of obstetric trauma (e.g., uterine rupture, infections, prolonged delivery)
   - Lower satisfaction rates compared to English-speaking patients

2. Our project addresses this issue by developing labor guidelines in multiple languages specifically for non-English-speaking patients.

3. The goal is to enhance patient comprehension of the labor process, leading to smoother deliveries and reduced postpartum complications.



INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

Intervention Design

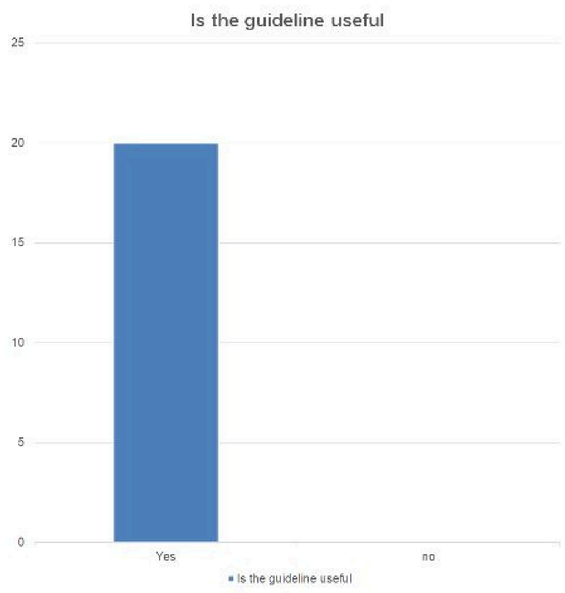
- Guidelines includes stepwise approach to labor with visual aids in different languages.
- Guidelines are distributed to patients who are not fluent in English
- Feedback from nurses in L&D will be used to assess the impact of the guidelines

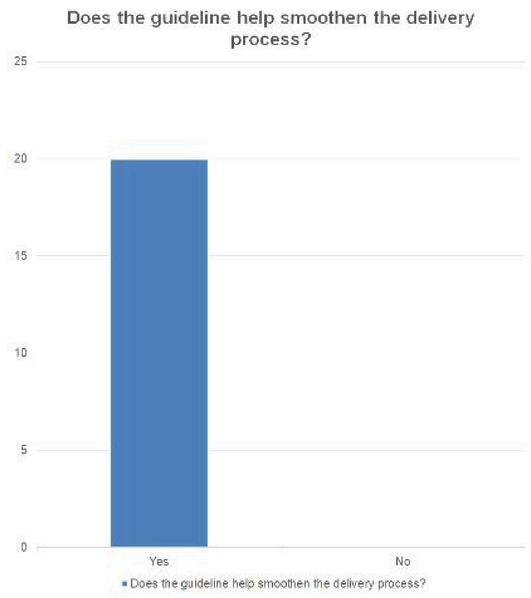
Expected Impact

- Better patient comprehension of medical information
- Fewer complications during labor
- Facilitate the laboring process
- Higher patient satisfaction rates and better patient experiences

Results:

- 20 nurses in L&D found the guideline is useful, smoothen the labor process by allowing patients know what to expect during labor





DISCUSSION / CONCLUSION

Lessons learned

1. multilingual intervention can help
   - improve patient autonomy,
   - enhance care quality and
   - promote equity in healthcare delivery.

2. the preliminary feedbacks are
   - easy to use and effective **with no difficulties in implementing the guidelines.**

3. Preliminary feedback has been overwhelmingly positive, suggesting that the intervention is **valuable and effective.**

Conclusion: Visual aid can help Non English speaking pregnant patient understand the labor process

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Be prepared to present and discuss your area of focus, challenge, share your resources and brainstorm potential solutions with your small group for peer review.

Implementation of Structured Reading Program on Pediatric Services

Cassandra Bakus, Divya Dadi, Stavroula Spyropoulos, Katherine Clouser, MD

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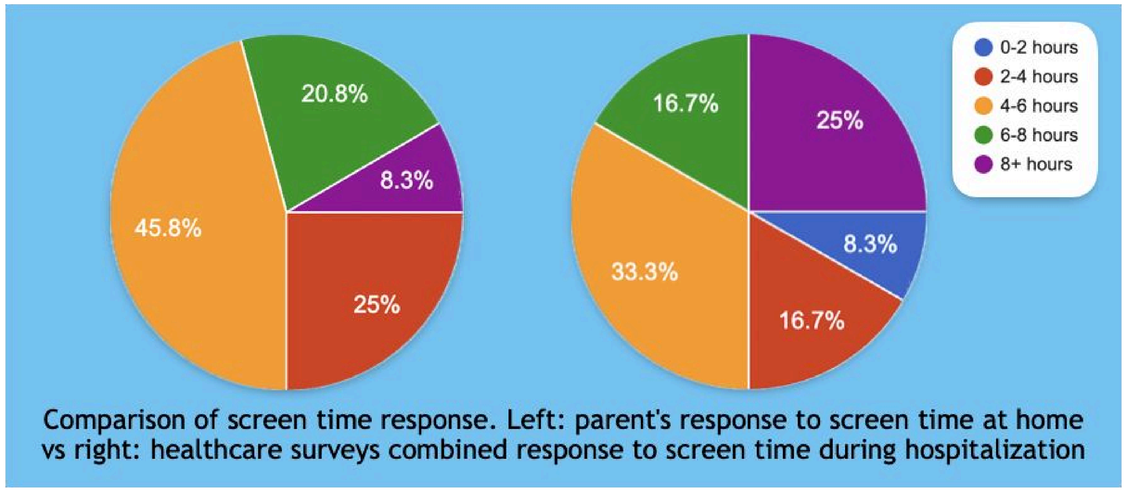
BACKGROUND

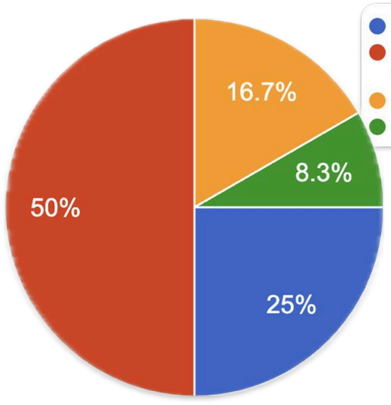
The hospital can be a very scary place for children. Hospitalizations have been shown to have an impact on a child's physical well-being, emotional health, and overall development1. Therefore, it is critical for hospital staff to strive to provide comprehensive and compassionate care that will optimize a child's health and ultimately get them out of the hospital, back into a familiar environment, where they can continue to grow and develop.

Additionally, past studies have demonstrated a relationship between screen time and lower language skills and reading with higher language skills2. Therefore, while ultimately trying to provide emotional support, there is an opportunity to nurture literacy as well. **Action Gap:** There is no formal reading program available at HUMC pediatric hospital **Objective:** To demonstrate how implementing a reading program for hospitalized patients can help support families and children by providing intellectual stimulation, emotional support, distraction and entertainment, along with encouraging literacy and social interaction.

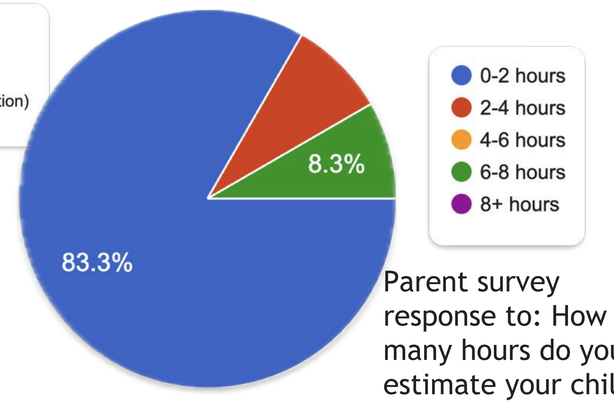
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)



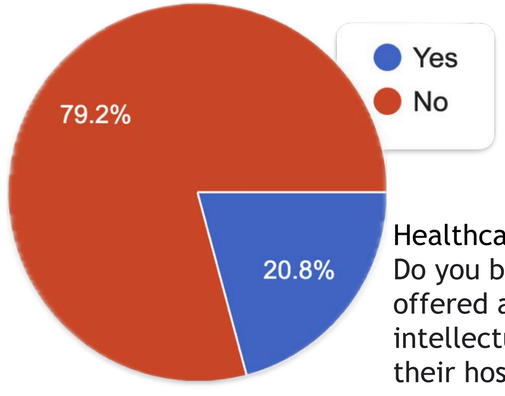
Comparison of screen time response. Left: parent's response to screen time at home vs right: healthcare surveys combined response to screen time during hospitalization



Parent survey response to the desire to leave hospital room.



Parent survey response to: How many hours do you estimate your child spends reading per day?



Healthcare survey combined responses: Do you believe that pediatric patients are offered adequate resources to engage in intellectually stimulating activities during their hospital stay?

DISCUSSION / CONCLUSION

There is strong potential of a reading program on pediatric floors as illustrated by the absence of parents declining the program. With the median screen time of 4-6 hours/day, while the median reading time being 0-2 hours/day, the data shows a need to encourage increasing literacy among children. Additionally, healthcare workers identified a lack of intellectually stimulating activities available to patients. A reading program could efficiently address both these gaps.

Hospitalization is not only taxing to patients, but also to their caretakers. Parental responses shows 75% of parents have wanted to leave their children's room at least once during the hospitalization, highlighting a secondary function of a reading program as volunteers can stay in the room while parents take their own break. **Conclusion**: The data collected among 3 populations suggests there is a place on floors for a reading program with the primary goal to increase literacy in children and to provide emotional support to patients. It also has a secondary accomplishment of relieving overwhelmed parents from the confines of their children's room.

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Expanding Screening for Women at Risk for Colon Cancer

Catherine Implicito, Lisa Marie Bronson, Dr. Bridget Tracy

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BACKGROUND

colorectal cancer is the:

3rd most common cancer worldwide

2nd leading cause of cancer related death

Colorectal cancer screening and education falls under the DOH of healthcare

- Colorectal cancer is becoming more prevalent in younger populations.
- Patients with inadequate preventive healthcare access may miss screening opportunities that would diagnose colorectal cancer earlier in the disease course.
- The objective of this project is to propose a plan for patients, specifically black women, to receive easily accessible colorectal cancer screening.

INTERVENTION DESIGN & EXPECTED IMPACT

- Our plan is to complete a Phase 3 project by orchestrating a Women's Preventive Health Fair, focused on many aspects of healthcare screening (including FIT testing and colonoscopies).
- 15% of Hackensack, NJ are uninsured and 12% live below the poverty line.
- We are partnering with:

John Theurer Cancer Center

HACKENSACK PUBLIC SCHOOLS EXCELLENCE IN EDUCATION

Hackensack Meridian Hackensack University Medical Center

The Health Awareness Regional Program

North Jersey FRIENDSHIP HOUSE

GREATER BERGEN COMMUNITY ACTION Broadening Horizons...

BUDDIES OF N.J. INC.

NJCEED Cancer Education & Early Detection

- In an effort to draw participants into the event, we hope to have fun incentives and interactive activities offered.

DISCUSSION / CONCLUSION

- For patients who are not properly being screened with colonoscopies, due to time restraints, worries about cost, or personal fears towards the procedure, FIT testing is an adequate alternative for them.
- Important demographic data about risk factors and healthcare access will be collected to better serve our community in the years to come.

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- A special thank you to our community partners, Dr. Tracy, Dr. Lee-Kong, and Lisa Marie Bronson for your help in planning this project. Thank you to my HD group for your continued support.

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Maternal Mortality Crisis: Understanding Knowledge & Awareness of Medical Students to Improve Outcomes

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BACKGROUND

- Pregnancy-related deaths (maternal mortality) are characterized as deaths during pregnancy or within one year postpartum. More than 80% of pregnancy-related deaths are preventable. Compared to other racial groups, Black women are 3x more likely to experience a pregnancy-related death.
- The leading cause of maternal mortality/morbidity in the United States include hemorrhage, infection, hypertensive disorders, thromboembolism, cardiomyopathy.
- The ongoing crisis is driven by systemic biases within the medical domain and its practitioners.
- An empirical survey conducted in 2016 among medical students revealed that approximately 50% held inaccurate beliefs regarding biological distinctions in Black patients, notably including misconceptions regarding skin thickness and nerve sensitivity.

OBJECTIVE

We aim to assess the knowledge, understanding, and awareness of medical students to ultimately inform curriculum development and create targeted solutions to safeguard the health outcomes of obstetric patients.

METHODS OF INTERVENTION DESIGN

- This is a mixed methods study, utilizing an electronically distributed, self-administered anonymous questionnaire. There are three (3) sections: section 1 obtains demographic information; section 2 will have quantitative data; Section 3 will have qualitative data. Verbal consent and information sheet will be obtained and given respectively to participants. Protocol submission will be made to the IRB and approval sought prior to study start.
- ***Section 1***: Demographics of medical students who will provide reproductive-related health services, specifically obstetrical care during their curriculum.
- ***Section 2:*** Knowledge, understanding, and awareness questions surrounding maternal mortality including risk factors, social determinants of health (SDOH), health-related social needs (HRSN), perinatal mental health. Answers are given on a seven-point (7) Likert scale from "Strongly Agree" to "Strongly Disagree", as well as "Select-All-That-Apply". Positively worded and negatively worded items were randomly included in the questionnaire reducing the possible bias.
- ***Section 3:*** Narrative (free text) responses, in which the participant can answer open-endedly. This allows for qualitative and thematic assessment.

SAMPLE OF SURVEY QUESTIONS

- Black maternal mortality should mainly be addressed on a ____ level (select all that apply).
- Women with both common mental disorders and severe mental illness have an increased risk for adverse obstetric and pregnancy outcomes, including preterm births and fetal growth impairments.
- The Joint Commission's standards to improve health care equity focuses on ____ (select all that apply).
- As a healthcare practitioner I have witnessed that other practitioners fail to listen to black women.
- Black people's skin has more collagen (i.e., it's thicker) than White people's skin.
- Blacks, on average, have denser, stronger bones than Whites.
- My organization has determined Social Determinants of Health (SDOH)/Health-Related Social Needs (HRSN) such as ____ are included in high-risk patient populations assessment (select all that apply).
- Black couples are significantly more fertile than White couples.
- Problematic health-related behaviors (e.g. nutritionally poor food choices, missed appointments) are attributed to ____ (select all that apply).
- What solutions would you suggest/explore to decrease this recent maternal mortality crisis.
- Black people's nerve-endings are less sensitive than White people's nerve-endings.

Acknowledgments: To Dr. Anjali Gupta & Dr. Elizabeth Koltz for optimization of this project

ANALYSIS

- Standard statistical analysis for inferential and descriptive statistics will be applied to this study. ANOVA testing for association/differences between years of training cohorts will be assessed.
- Statistical significance will be defined as p value <0.05.

CONCLUSION

- Our study aims to examine medical students' insights on the maternal mortality crisis.
- Identifying trends and associations can optimize current medical school curriculum and training of medical students who will participate in the care of obstetric-related patients and derive solutions that will empower and keep our patients healthy and safe.

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Early Palliative Care Intervention in High-Risk Surgical Patients

Christopher Diaz, 2021 MD Cohort

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- Palliative care aims to improve the quality of life of patients by alleviating suffering due to chronic medical conditions. Although palliative care often collaborates with some specialties such as psychology and oncology, data shows that palliative care is drastically underused amongst other specialties.

Surgical specialties have the lowest rates of palliative care consultations. There are multiple factors which contribute to the lack of collaboration between palliative care and surgery, some of the most important being understanding of the role of palliative care, prognostication challenges, surgical culture, and stigma of palliative care being associated with end of life.

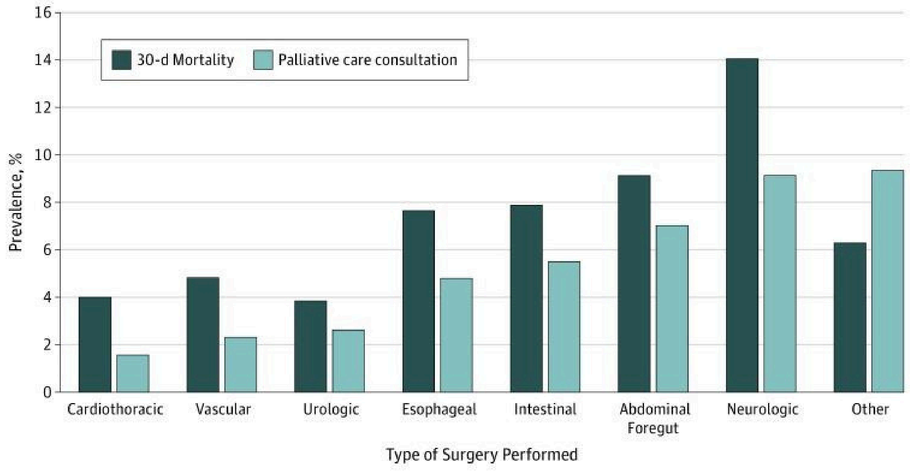
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- The goal of my Human Dimensions capstone is to demonstrate the positive impact of early palliative care intervention on high-risk surgical patients.
- Increased collaboration between surgery and palliative care could further lead to increased rates of patient satisfaction with hospital services, decreased patient suffering, and improved quality of life.
- Implementation of this intervention would begin with selecting criteria for what is deemed "high-risk" amongst our patients schedule for surgery. Once a patient is identified as high-risk a consultation for palliative care would be indicated.

Some examples include:

American College of Surgeons Risk Calculator:

Risk stratification guidelines by UCLA Health:



Yefimova et al. (2020) retrospective cohort study of 95,204 high-risk surgical patients where only 3,374 received palliative care. Many received palliative care the day of or the days following their surgery. Early palliative care decreased 30-day mortality in every surgical specialty.

Themes to address and destigmatize:

Surgeon level: knowledge and attitude, prognostication challenges, identity.

Patient and family level: expectations and discordance.

System level: culture and resources.

DISCUSSION / CONCLUSION

- Multiple cohort studies have shown that surgical patients are less likely to receive palliative care consultations. It is argued that this is due to poor understanding of the roles of palliative care, prognostication challenges, and stigma surrounding care for end of life.
- Poor understanding can be addressed with resident lectures/faculty presentations and prognostication challenges can be partially addressed with risk stratification/calculators.
- Current data calls for further investigation as to why palliative care is not more often consulted for high-risk surgical patients, improved understanding and destigmatization of palliative care, and implementation of a standardized classification for placing patients into a "high-risk" category therefore allowing for early palliative care intervention.

Future considerations for students wishing to pursue interdepartmental projects: degree of current collaboration between the two departments, the level of change (micro, mezzo, macro), the hierarchy of faculty needed to implement the change, prior in-network projects with similar goals, and the time limit for your project.

REFERENCES / ACKNOWLEDGEMENTS

Video Games as Treatment in Psychiatry

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BACKGROUND

- Access to care is a major problem in psychiatry. For example, a vast minority of patients with major depressive disorder are estimated to receive the minimally adequate treatment (1/5 in high-income countries, 1/27 in low/middle income countries)1

- Barriers to seeking care include geographical barriers, high cost, and the stigma of consulting a mental health provider2

- Video games may serve as a unique way to address these barriers to care
  - In the past decade, research in the use of video games as novel therapies for mental illness has grown rapidly. One such game includes the Endeavor RX, the first FDA- approved video game treatment for ADHD

- It is still unknown how beneficial video games may be in the field of psychiatry given its novelty

- The objective of this project is to review research on the effectiveness of video games for treatment of mental health conditions, while discussing research gaps and considerations for the clinical implementation of these modalities

METHODS AND FINDINGS

- **Methods**
  - Literature review on video games as treatment for psychiatric conditions
  - Collaborative team created to write a book chapter on this topic for incorporation into a
  - textbook on Internet Gaming Disorder
  - Textbook planned for submission to the American Psychiatric Association

  Chapter design
    - Introduction and history to games
    - Psychology and mechanisms behind video games
    - Review of Casual/Commercial games in Psychiatry
    - Review of Serious/Applied games in Psychiatry
    - Applications in illness evaluation, treatment, biofeedback, virtual reality, and education
    - Limitations in current research

    Future directions

Category	Study	Purpose	Design	Main Findings
Depression	Abd-Alrazaq et al. 2022	Evaluated serious video games effect on alleviating depressive symptoms	Systematic review (27 studies) and Meta-analysis (16 studies)	Meta-analysis resulted low quality evidence that exergames significantly decreased severity of depressive symptoms versus no intervention (P = .004) and was comparable to conventional exercises (P = .12) . Computerized CBT also significantly decreased depressive symptoms versus no intervention (P= .003) Most studied games were exergames and computerized CBT, and half of the games were not specifically designed to treat depression High risk of bias in included studies limits quality of evidence
	Ruiz et al. 2022	Reviewed video game interventions for those with depressive disorders or depressive symptoms	Systematic review (12 studies)	Most used platform for video game interventions are computers Most common intervention was computerized CBT, which was generally effective at reducing depressive symptoms. The main game studied was SPARX, a fantasy role-playing game delivering CBT
	Townsend et al. 2022	Evaluated gaming interventions for treating depression or anxiety in individuals aged 12-25	Systematic review and Meta-analysis (12 studies)	Amongst RCTs, there was a significant effect (g = −0.54, 95% CI −1.00 to −0.08) for gaming interventions in youth depression. A non-significant but strong effect was observed in non-RCTs (g = −0.75, 95% CI −1.64 to 0.14) No statistically significant effect for gaming interventions in youth anxiety
	Li et al. 2014	Evaluated video games effect on alleviating depressive symptoms	Systematic review (19 studies) and Meta-analysis (8 studies)	Moderate effect size of gaming interventions for depression therapy (d =-0.47, 95% CI -0.69 to -0.24]) VR exposure games had the highest effect size. Interventions with therapists involved had weaker effect size than those without.
Anxiety	Abd-Alrazaq et al. 2022	Assessed the effectiveness of serious games in alleviating anxiety	Systematic review (33 studies) and Meta-analysis (22 studies)	Meta-analysis resulted low–quality evidence for significant reduction of anxiety levels compared to no intervention in computerized CBT (P=.01) and biofeedback games (P=.03). Exergames had no significant effect on anxiety levels compared to conventional exercises (P=.70) and no intervention (P=.27).
Dementia / Memory	Saragih et al. 2022	Assessed the effectiveness of serious games for improving global cognition, ADL, instrumental ADL (IADL), and depression in people with dementia	Systematic review and Meta-analysis (12 studies)	Participants using serious games showed significant improvement in their cognitive function (p = 0.01) and depressive symptoms (p<0.001). There were no significant differences in ADL or IADL performance.
	Abd-Alrazaq et al. 2022	Assessed the effectiveness of serious games in improving memory in older adults with cognitive impairment	Systematic review (18 studies) and Meta-analysis (15 studies)	Serious games were more effective than none or passive interventions in improving nonverbal memory (P=.02) and working memory (P=.04) Serious games were more effective that conventional exercises in improving verbal memory (P=.003) Serious games were as effective as conventional cognitive activities in improving verbal memory, nonverbal memory, and working memory
ADHD	Peñuelas-Calvo et al. 2022	Assessed effectiveness of video game assessment tools and interventions for children with ADHD	Systematic review (22 studies)	Therapeutic interventions and assessment tools using video games were generally effective in improving cognition and decreasing ADHD symptoms Participants had high engagement rates across the studies
Schizophrenia	Miranda et al. 2022	Assessed VR games as complemental therapy in patients with negative symptoms of schizophrenia	Systematic review (11 studies)	All studies were able demonstrate reduction in some negative symptoms by increasing behavioral or cognitive skills that are typically deficient in schizophrenia Participant feedback suggested VR as more engaging, stress-free, and motivational compared to traditional therapy

Left: Table 1 (Systematic reviews and meta-analyses of video game interventions in psychiatry)
Right: Endeavor Rx, the first FDA-approved video game treatment for ADHD in children

- **Findings and Highlights**
  - Serious games have demonstrated efficacy in the evaluation and/or treatment of psychiatric conditions including ADHD, depression, PTSD, dementia, OCD, schizophrenia, alcohol use disorder, and more.
  - Commercial video games, like Tetris and Minecraft have been used successfully in studies to help manage psychiatric conditions
  - Limitations in current research include
    - High risk of bias in current studies suggests low quality evidence
    - Differences in patient populations studied
    - Few studies assess long-term outcomes

DISCUSSION / CONCLUSION

- **Gaps in research**
  - Effect of serious games in low-income countries, where traditional mental health resources are limited
  - Interventions designed for smartphones (>80% of people use smartphones)
  - Effect of long-term use of serious games
- **Future considerations**
  - What feedback and data will be available to provider vs patient?
  - Adapting games to each individual patient (customization)
  - Balancing harmful effects vs beneficial effects of video games
  - Collaboration with commercial sector and industry
  - Insurance model and reimbursement for new treatment modalities ; how to “prescribe” games
  - Integration into EMR and other health processes

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Pediatric Depression; A Commentary on Barriers to Screening and Treatment, and Interventions to Overcome Them

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BACKGROUND

- **Background:** Mental health is a critical component of pediatric healthcare as it involves a child's mental, emotional, and behavioral well being. Mental health disorders can impact the way in which a child develops, interacts with family and friends, and in how they handle life events and stressors.Increased exposure to social media and screen time predisposes many pediatric patients to unrealistic standards, bullying, and criticism of oneself. In the period between 2016 and 2019, the CDC found that 2.7 million pediatric patients were diagnosed with depression and 5.8 million pediatric patients were diagnosed with anxiety.1

- **What is the knowledge/action gap?**
  Currently there are many barriers to regular screening for pediatric mental health disorders as well as barriers to obtaining treatment. In the United States, 59.8% of youths with major depression do not receive any mental health treatment and that 57.3% of youths with severe depression do not receive any care.2

- **Objective of the project/study**
  To recognize the current barriers that prevent regular screening and treatment of pediatric patients for depression and propose possible interventions to improve long term mental health outcomes in the pediatric population.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Barriers to Screening:

- Physician Barriers:
  - Unwillingness to carry out regular screening
  - Uncomfortability with diagnosing and managing mental health disorders
  - Appointment time constraints
  - Lack of referral resources
  - Concern with overdiagnosing

Barriers to Treatment:

- Insurance coverage
- Lack of appropriate referral
- Personal disbelief of diagnosis
- Provider availability and long wait times for next available appointment
- Parental concern for child being labeled and stigmatized
- Parental concern about peer judgement
- Confusion surrounding diagnosis and treatment due to lack of physician clarity

Intervention & Impact: In order to improve depression management and patient mental health outcomes pediatricians have to develop a regular and frequent monitoring system for patients that screen positive for depression in the outpatient setting to ensure that they receive proper care. Through the implementation of strategies focused on patient education, patient monitoring, and tracking of patient goals and outcomes of treatment, improvements in pediatric mental health care can be made. Another intervention to improve care for pediatric patients diagnosed with depression is to create a "family partner" within the outpatient setting whose role is to adapt multiple strategies that target the improvement of mental health resource access and engagement.3 In the United States, 40-60% of children who receive outpatient mental health services attend a few sessions and discontinue receiving care.4 Family partners can work with parents to reduce stigma surrounding mental health and better educate parents about the importance of receiving and continuing care following a positive screen.

DISCUSSION / CONCLUSION

As the conversation surrounding mental health continues to grow and evolve in the United States, it is especially important to focus on the pediatric population. Consistent and thorough screening for pediatric depression is needed to detect the early symptoms of depression and allow for effective management to prevent worsening of depressive symptoms, suicidal ideation, and suicide attempts. Through the recognition of the current barriers to screening and treatment and the implementation of interventions such as patient monitoring systems and "family partners," pediatric mental health treatment and outcomes can be improved.

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Proposal to Incorporate an Exercise Space on the Nutley Campus

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Lisa Marie Bronson, HMSOM Wellness Coordinator Mentor
Gary R. Weine, MD, FACP Facilitator

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BACKGROUND

- Background: The purpose of my project is to address social, biological, and behavioral determinants of health, more specifically physical fitness and wellbeing. Research has shown that medical students are at greater risk for depression than the general population.1 Furthermore, mood scores were higher in those who reported using physical activity as a way to help with their mental well-being than those who did not.2

- Action gap: Currently the Nutley campus of HMSOM has neither a outfitted fitness room nor an area for exercise classes. The goal his project is to generate data about the potential utilization level of such a facility. This data can then be presented to the appropriate stakeholders to convince them that such a facility would have a utilization rate that is worth the investment of both space and money. Figure 1 shows that 26.2% of respondents stated that they strongly disagree with the statement "HMSOM does a good job of supporting my physical fitness and wellbeing" while a composite 66.4 % either disagreed or strongly disagreed with that statement.

- The objective of this study is to convince stakeholders that a systems level change is needed to address the inadequate support that students feel when it comes to physical health and wellbeing.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Figure 1: "HMSOM does a good job of supporting my physical fitness and wellbeing"
-66.4% or ⅔ of all respondees either disagreed with or strongly disagreed with that statement.

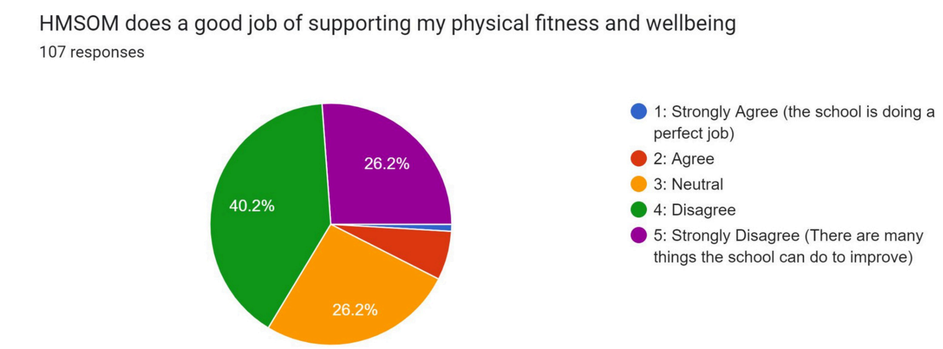


Figure 2: "Which, if any of the following represent a barrier to your personal fitness goals?"
-The greatest barrier to personal fitness goals was that the school does not have a designated work out spot.
-Cost of local gyms and insufficient time due to school obligations had an equal number of respondents stating them as barriers to personal fitness goals .

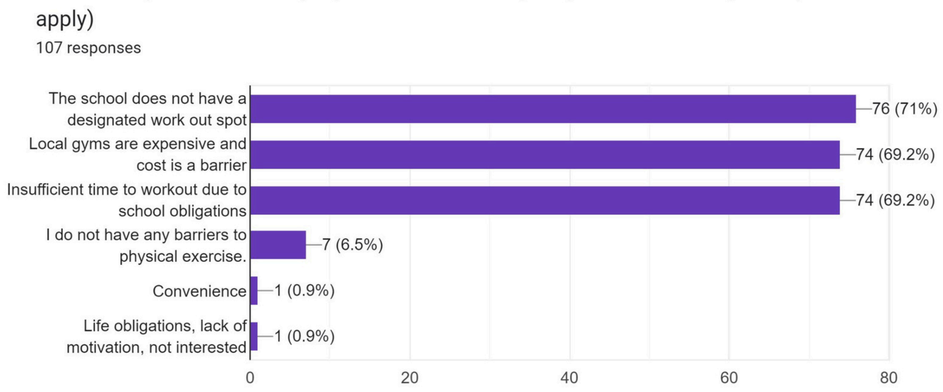
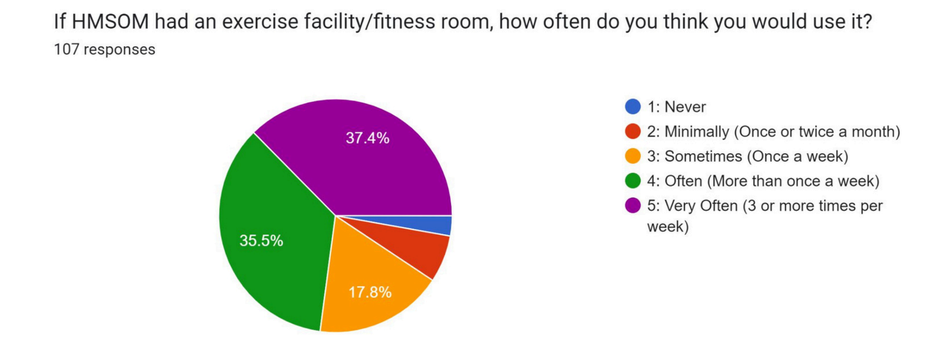


Figure 3: "If HMSOM had an exercise facility/fitness room, how often do you think you would use it?"
-72.9% of all respondents stated that they would use the facility/fitness at least once a week. 37.4% of respondents stated they would use it 3 or more times per week.



DISCUSSION/CONCLUSION

- Incorporating an exercise space on campus would address the students' perception that the school does not do a good job with supporting physical fitness and wellbeing.
- Having a free exercise space/fitness room on campus would completely eliminate cost as a barrier to physical fitness and wellbeing that 69.2% of respondents felt was a barrier.
- The most important question posed by stakeholders would be whether student (and potentially faculty) utilization would be worth the investment. Figure 3 illustrates that almost three quarters of the students would use the facility at least once a week.
- Funding is usually a secondary issue in implementing a systemic change, especially when it comes to large corporate budgets; the primary step is first in implementing change is answering the question of "who does this affect and why should we care?"
- Consideration into incorporating an exercise space/facility on the Nutley campus should be taken to address students' perception that the school does not care about their physical fitness and wellbeing and to help boost mood scores in medical students who are already at a higher risk of depression than the general population.

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Empowering Recovery: A Handout For Patients With SUD in the ED

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BACKGROUND

▪**Background:**

▪Of all adult ED visits in the US, SUD patients make up 11.1% annually (1).

▪Emergency department patients with SUD were more likely to return to the ED within 72 hours and more likely to be admitted to the hospital or intensive care unit (1).

▪One randomized controlled trial, found that initiating treatment in the ED with primary care follow-up for opioid abuse, resulted in an increase in treatment engagement, decreased self-reported 7 day opioid use, and decreased use of inpatient addiction treatment services (2).

▪ **Objective:**

▪To focus on patients with SUD who present to the emergency department with the goal of providing a direct line of communication to these patients for available resources to help combat overdose death, readmission to the ED, and engage in treatment options for recovery

▪Connect patients with the proper services, using social workers and consolidated information on an informational handout, and follow up-care

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Hackensack Meridian *Health*

ADDICTION RECOVERY RESOURCES

RETREAT & RECOVERY AT RAMAPO VALLEY™

Hackensack Meridian Carrier Behavioral Health™

SERVICES OFFERED

INTENSIVE OUTPATIENT PROGRAM (IOP)
- Offered Monday through Thursday
- Consists of both group and individual therapy as well as case management services
- Provides 9-12 hours of clinical care each week, depending on clinical need

OUTPATIENT PROGRAM (OP)
- Offered Monday through Thursday
- Consists of both group and individual therapy as well as case management services
- Provides up to 8 hours of care each week, depending on clinical need

FAMILY PROGRAMS
- Offered once per month in a group setting
- Our clinical team guides a psychoeducational discussion for family members and loved ones to increase insight and awareness surrounding substance use disorders
- Topics include, but are not limited to boundary setting, communication, recovery planning, neurobiology of addiction, family systems, and support networks

INDIVIDUAL FAMILY THERAPY
- Offered based on the identified needs of each person and their family
- Offered Monday through Friday between 10 am and 8 pm

MEDICATION-ASSISTED TREATMENT (MAT)
- Use of FDA- approved medications, in combination with counseling and behavioral therapies, to provide a "whole-patient" approach to the treatment of a substance use disorder
- Under the guidance of our certified medical director, our interdisciplinary team provides the education and clinical support needed to effectively provide this level of treatment

CO-OCCURRING SERVICES
- Our holistic care model is designed to simultaneously address BOTH the substance use and mental health disorder

Retreat and Recovery at Ramapo Valley
1071 Ramapo Valley Road
Mahwah, NJ 07430
Hours: 9 am- 9 pm

Hackensack Meridian Riverview Medical Center

SERVICES OFFERED

ADULT INTENSIVE OUTPATIENT PROGRAM (IOP)
- The IOP meets in a group setting for three hours, three to four times a week.
- Address both mental health and addiction issues simultaneously, using evidence-based treatments that include specialized components, early recovery skills, relapse prevention, family education and social support.
- Therapies are all integrated within the context of the twelve-step model of recovery and the wellness model for co-occurring recovery.

RELAPSE PREVENTION GROUPS (RPG)
- The RPG assists with continued treatment in the early stages of recovery and is the aftercare program upon completion of IOP or a long-term inpatient residential treatment.
- Consists of weekly groups, where individuals receive support from their peers and work on their relapse prevention plans.
- Challenging problems are brought to the treatment process to prevent a return to dysfunctional thinking and behaviors.

EARLY RECOVERY GROUP
- The ERG provides weekly group treatment for individuals who have a mild substance use disorder that requires less intervention than IOP.
- Goals include education to prevent the substance abuse disorder from progressing into a more serious disease.

DIALECTICAL BEHAVIOR THERAPY AND THE 12 STEPS (DBT)
- Group based treatment
- Ties the DBT principles of mindfulness, distress tolerance, interpersonal effectiveness, and emotional regulation to the 12-step recovery model to better assist individuals in coping with difficult emotions and preventing relapse.

Riverview Medical Center Behavioral/Mental Health Services
661 Shrewsbury Avenue
Shrewsbury, NJ 07702
Hours: 8:30 am – 5 pm

▪The objective is to distribute educational resources, as seen above, to patients with SUD during their ED visit. The handout details the services offered at different treatment centers as well as a description of what the service entails. It includes a range of treatment centers in the Hackensack system and outside the system, totaling 6 centers.

▪This is an intervention that is designed to remove one less barrier for patients with SUD who would like to implement a change but don't know where to start.

DISCUSSION / CONCLUSION

▪The ED visit has been increasingly identified as a unique opportunity for intervention and linkage to treatment for patients who currently have or are at risk for developing SUD.

▪The ED may be the only point of contact within the healthcare system for many SUD patients, providing a window of opportunity where patients may be more receptive to education and referral to treatment for their SUD.

▪Providing addiction recovery services succinctly into one place could help those who don't know where to start and alleviate some of the stress and stigma surrounding asking for help with addiction.

▪The information is written in easy to understand English and can be translated to other languages, if necessary, with a goal of being readily available to everyone.

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Physician for a Day: HMSOM's Newest Pipeline Program

Destiney Carter, MS3; Dr. Patrick Roth, MD; Dr. Tade Ayeni, PhD

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BACKGROUND

- **Background:** I chose to work on this project because I am passionate about implementing a sustainable pipeline program at HMSOM that targets underrepresented minorities in medicine. Through a program like this I hope to indirectly help improve health outcomes in communities of color by inspiring the next generation of minority physicians and help to increase the diversity of the physician workforce in the US.

- **Knowledge/action gap:** Pipeline programs and other affirmative action policies are directly under attack. The Health Resources and Services Administration (HRSA) under Titles VII and VIII of the federal Public Health Service Act aims to help shape the supply, diversity, and distribution of the physician and health professions workforce. Title VII was proposed for elimination in the House Labor-Health and Human Services appropriations bill for 2024. With this trend, funding for pipeline programs continues to decrease. Additionally, many federal programs are no longer accepting applications. Due to this, the burden falls on universities and health systems, like HMH, to fund and maintain these programs.

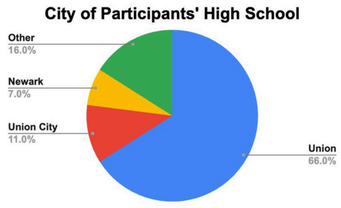
- **Objective of the project/study:** With the *Physician for a Day* pilot program, I hope to demonstrate the necessity for pipeline programs like these, as they are an essential way to increase the diversity of US physicians. Specifically, I hope to illustrate how these programs inspire young underrepresented minority students to believe that they too can become physicians despite barriers, while also providing unique exposure to the medical field that many of these students would not have otherwise had.

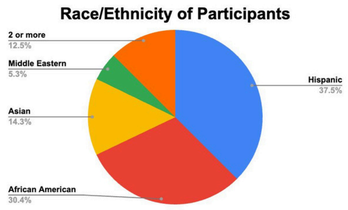
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

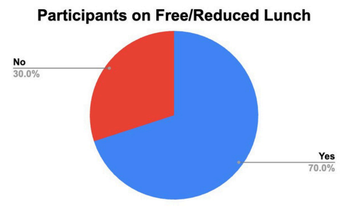
***Physician for a Day* Pilot Event**

- Saturday April 29, 2023, 9-4pm
- 60 minority 11th and 12th grade students from Essex County, NJ
- 20 minority HMSOM medical student volunteers
- Agenda:
  - Keynote speaker
  - Hand-on workshops
    - Medical student led intubation workshop
    - Medical student led heart/lung auscultation workshop with HiFi mannequins
  - Road to Medicine Lecture
  - Medical Student Panel
- Collected surveys from participants before and after event

PARTICIPANT DEMOGRAPHICS

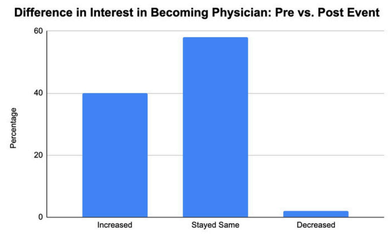




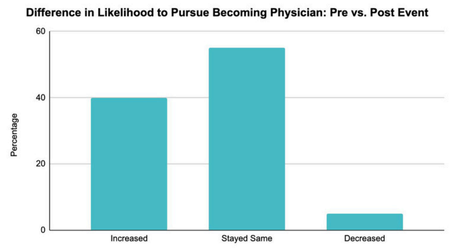


- 63% of participants reported **no or minimal exposure** to the medical field prior to the event

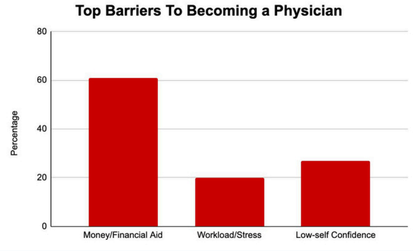
DATA

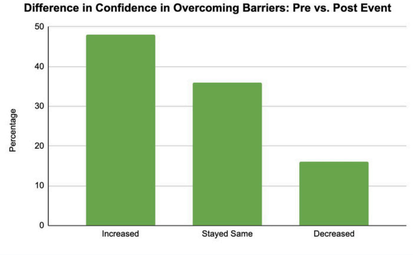


- *For participants whose interest in becoming a physician remained the same both pre and post event, **75% maintained max interest***



- *For participants whose likelihood to pursue becoming a physician remained the same both pre and post event, **73% maintained max interest***





DISCUSSION / CONCLUSION

- Participants were mostly from targeted demographics: local, lower socioeconomic status, underrepresented in medicine, with minimal exposure to the medical field
- Data specifically showed
  - **40% increase** in both interest in becoming a physician and likelihood to pursue becoming a physician post event
  - **60% of participants maintained** both their interest to become a physician and likelihood to pursue becoming a physician post event, with **over 70% maintaining max interest**
  - **50% increase in confidence** in overcoming barriers post event
- Pipeline programs like *Physician for a Day* can directly inspire young underrepresented minorities in medicine to pursuing a career as a physician and can have a positive impact on their confidence to overcome any barriers they may face
- This data is further evidence of how one event can have such an influence on minority students, with more research needed to quantify the exact longitudinal impact

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ACKNOWLEDGEMENTS:

- Thank you to Tatiana Oliveira, MS3 for helping to create, plan, and implement *Physician for a Day*
- Thank you to Dr. Alizabeth Acevedo for being *Physician for a Day's* first keynote speaker and supporting Tatiana and I along the way
- Thank you to HMSOM Office of Admissions and Office of Student Affairs and Wellbeing for helping to fund *Physician for a Day*

The Assessment of Culturally Relevant Resources in Gestational Diabetes Mellitus Lifestyle Management

Elisa Park
Marianna Shimelfarb, MD and Colette Knight, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

The focus of this project was address the cultural diets of patients and how it affects gestational diabetes mellitus (GDM) treatment plans. Behavioral and lifestyle modifications are an integral part of GDM treatment and prevention of diabetes mellitus type 2 (T2DM) in the future. However, many diabetes resources do not address all cultural foods or diets, which is integral to many patients' lives. It has been studied that tailoring patient's treatments to their diets has significantly reduced HbA1C levels in Latino populations (Hildebrand et al). In pregnant patients, there can be many complications of GDM on the patient as well as the fetus.

HMH serves a diverse patient population and much of their diabetes education is through the Molly Diabetes Education Center. Currently, the Molly Center provides outside resources to tailor treatment plans to cultural diets, usually from sources like the CDC along with their 3 visit GDM education program, which includes 1 postpartum visit. They also provide resources and services addressing any socioeconomic barriers that may also affect necessary lifestyle changes.

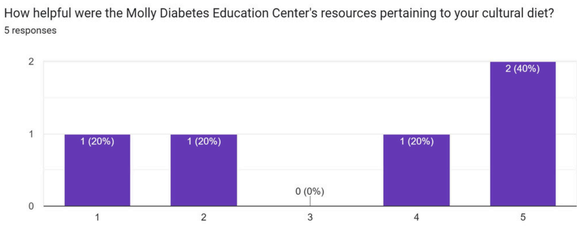
The purpose of this project was assess the resources provided by the Molly Center (the outside resources for cultural diets and socioeconomic resources) and how effective these resources through a patient survey.

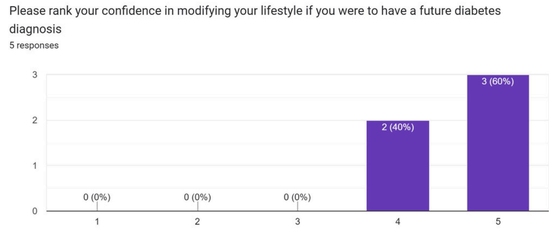
INTERVENTION DESIGN & EXPECTED IMPACT

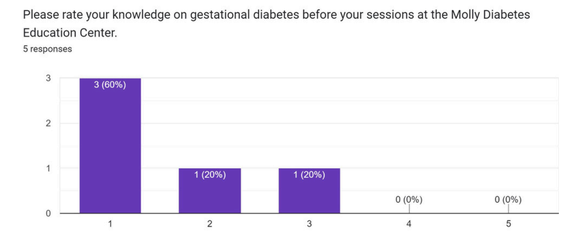
Based on Neven et al., I created a survey to assess the gestational diabetes program at The Molly Center for Diabetes Education for their ability to help patients with cultural diets. This paper was a systematic review that found particular aspects to patient care that were particularly successful in helping POC/immigrant GDM patients with cultural diets. Like the paper, the survey was broken down into 3 parts:

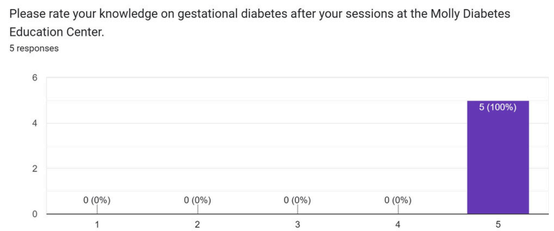
- Capability of the patient
  - Knowledge about DM and that behavioral changes are linked to DM management
- Opportunity
  - Addressing economic, social, and environmental barriers preventing the patient from maintaining behavioral changes
- Motivation
  - Confidence in self to maintain behavioral changes

The survey was distributed to patients finishing their 3 session GDM educational program at the Molly Center. The survey was completed electronically or physically per the patient's preference. If language was a barrier, the patient would be helped to walk through the survey with a translator.









DISCUSSION / CONCLUSION

- 40% of respondents were hispanic or latino
- 40% of respondents (1 latino/hispanic respondent and 1 non-latino respondent) received resources
- Patients who reported receiving diet resources for their cultural diet scored these resources 4 or 5 out of 5
- Clear increase of knowledge and trust in healthcare providers after program completion
- All patients reported good familial and environmental support
- Patients all scored 3-5 out of 5 when asked about their confidence in managing and preventing future DM

Despite the low response rate, patients are satisfied with the culturally competent resources provided by the Molly Center. Some gaps not addressed due to low response rate like other cultural diets and financial strain.

I encourage the Molly Center to continue to survey their patients to assess these gaps and fully assess the cultural competency of their GDM educational program

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I would like to thank Dr. Shimelfarb, Dr. Knight, and folks at the Molly Center for helping with this project.

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Expanding Continuous Glucose Monitor Access

Elise Merritt, Dr. Neha Paralkar, Dr. Nancy Tham

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Hackensack Meridian School of Medicine

BACKGROUND

- Access to Healthcare: Patients may be undertreated or not benefit fully from treatments if they are not able to access health providers, or access medicine or medical devices they have been prescribed.

- Continuous glucose monitors (CGMs) have been recommended for all insulin-dependent patients.
  - Studies have shown that patients with diabetes who use CGMs have fewer hospitalizations for hypoglycemic episodes and lower HbA1cs than patients with diabetes who use traditional finger-stick glucose meters.

- However, there are several disparities in use of continuous glucose monitors.
  - People who identify as Black or Hispanic/Latino, who have government-provided insurance, or who are older are less likely to have CGMs.

- Objective of the project: Increase awareness of and access to continuous glucose monitors in the HUMC service area.

INTERVENTION DESIGN & EXPECTED IMPACT

- Increasing patient awareness of continuous glucose monitors
  - Patients may not be aware continuous glucose monitors could benefit them
  - Patients may not be aware their insurance covers the devices
    - Both Medicare and Medicaid cover continuous glucose monitors for patients with diabetes dependent on insulin
  - Patients may not know other ways to access the devices
    - GoodRx provides coupons for many continuous glucose monitors
    - Many CGM manufacturers provide free trials and/or programs to help patients without insurance pay for the devices out-of-pocket
- Having a pamphlet available in the office of PCPs in the HMH network
  - What CGMs are
  - How CGMs can benefit patients
  - How to access CGMs
- Increasing primary care provider awareness of continuous glucose monitors benefits and disparities in access
  - Presentation on continuous glucose monitors to Internal Medicine residents
    - Benefits of continuous glucose monitors for patients
    - Results of literature review on disparities in access to continuous glucose monitors and the effect of these disparities on patients
    - Proposal for placing pamphlet in primary care provider offices in the HMH network (including the outpatient residency practice)

Scan this QR code to view the proposed pamphlet

DISCUSSION / CONCLUSION

Overall, I found the experience of trying to make systems change through my Capstone project rewarding. Through doing so, I learned about the health disparities that limit patients' access to care and the way primary care physicians can impact these health disparities, which I hope will help me as a physician in the future.

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PUBLIC SCHOOL HEALTH SCREENINGS: CLOSING THE GAP ON ACCESS TO CORRECTIVE LENSES

Elizabeth Christophel, Jennifer Knight MD, Martin Pelavin MD

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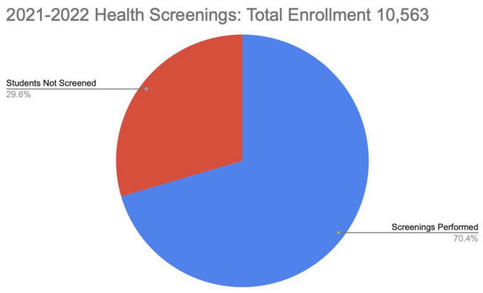
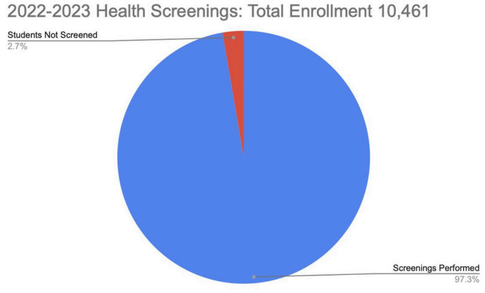
BACKGROUND

- NJ law requires vision screening biennially for K-12th graders
- HMSOM Community Medicine partnership with Clifton BOE increased number of students screened
- Despite parent notification, many students who screen abnormally on vision assessment do not follow-up with eye specialists and do not receive corrective lenses
- Barriers to follow-up have been studied and include lack of understanding on parents' part, parental unawareness of results, miscommunication and lack of clarity in communicating screening results, delay in administering follow-up care, financial problems, lack of insurance, and language barriers





INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Goal: To increase the number of Clifton public school students who follow-through with the recommendation for ophthalmologic evaluation and prescription corrective lenses after screening positive for vision abnormalities on their annual health screening
  - Addressing the "lack of clarity in communicating screening results" barrier
  - Providing more robust information and resources tailored to Clifton students and their families
- Intervention: I created an informational pamphlet to be sent home to the families of students who screen positive for vision abomorities
  - Compilation of local resources to aid in ease of scheduling follow-up appointments

Vision Screening Next Steps

Vision Screening at Clifton Public Schools

NJ Law: "Each district board of education shall ensure that students receive health screenings. Screening for visual acuity shall be conducted biennially for students in K-grade 10."

Clifton Public School nurses conduct annual health screenings of students' height, weight, vision, hearing, and blood pressure

ONE CLIFTON

Eye Health - General Information

- Impaired vision can significantly impact a child's ability to learn and develop socially
- School-based vision programs are designed to identify chider that **require further evaluation by an eye specialist**
- Risks of uncorrected vision: Avoiding reading/ math, difficulty with comprehension, shortened attention span, fatigue, eye/head pain from

1/4 children aged 2-17 years old wear glasses or contact lenses

Local Resources: During an annual health screening examination, your student's results indicated they would benefit from an eye examination by an eye specialist

1. Find an eye doctor near you:

2. Call your insurance company and see what kind of eye examination your insurance covers (optometrist vs. ophthalmologist)

- American Academy of Ophthalmology: www.aao.org/find_eyemd.cfm
- Centers for Medicare and Medicaid Services: www.medicare.gov/physiciancompare

Horizon NJ Health covers 1 routine eye exam per year

DISCUSSION / CONCLUSION

- HMSOM Community Medicine Club has helped screen over 3,000 children since its establishment in October, 2022
- While the HMSOM + Clifton BOE partnership has improved overall screening numbers (especially in the post-COVID school years), the next problem to address was ensuring students received appropriate follow-up after screenings
- This project was a first step at attempting to ensure students receive necessary corrective lenses to optimize learning and social development
- Further research needed to establish the effectiveness of this intervention

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Creating an Effective Sun Safety Curriculum for NJ schools

Ellen Anshelevich, BA, Helen Shin, MD, Jasneet Kaur, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Background:

-Skin cancer is the most commonly diagnosed cancer worldwide.

-Number of new melanoma cases in NJ is eleventh highest in the nation

-Thought to be in part due to large knowledge gap regarding skin cancers

-Many skin cancers are preventable but many young students are not exposed to sun safety education

-Because UV exposure and tanning behavior starts early, sun protection education most effective when targeted towards children and adolescents

-Literature review showed that lessons were most effective with:

-Repetition of crucial information

-Problem solving and application of lessons learned to real-life situations

Determinant of Health: Behavior

Action Gap:

New Jersey does not have a program to educate students on skin cancer prevention and identification.

Objective:

To create standardized lesson plans for skin cancer prevention education.
Target Audience: Pre-K to 8th grade students, age groups which are not commonly educated on this subject.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

Three sun safety curricula were created for various age groups in Eatontown school district: Pre-K to 1st Grade

▪Focused on general rules for sun safety

▪ Incorporated cartoons, props, and music

2nd to 4th Grades

- Introduced concept of skin cancer
- Incorporated myth busting and problem solving

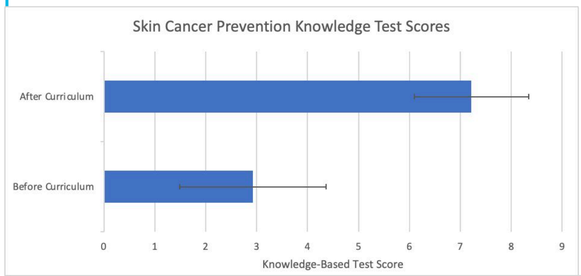
5th to 8th Grades

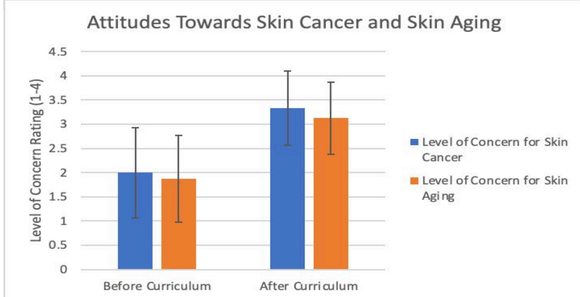
▪Focused on skin cancer identification and prevention

- Incorporated problem solving and team quizzes

RESULTS

Students in grades 5-8 were given quizzes on knowledge and attitude towards skin protection





-Among 5th-8th graders, the curriculum was associated with a statistically significant difference in knowledge about skin cancer and protection.

CONCLUSIONS

-The curriculum was effective in and was well-received by students and teachers.
-Future projects should facilitate implementation of this as a continual longitudinal curriculum and explore its effects on behavioral changes.

ACKNOWLEDGEMENTS

Thank you to my facilitator, Dr. Jasneet Kaur, and the HD department for their support.
Thank you to my mentor, Dr. Helen Shin for her guidance and to Gina Nastro for her help in establishing the curriculum.

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Pilot program highlights gap in residency training: interpreter services

Emma Zoubek, David Kountz MD, Michal Divney LCSW, Carmela Rocchetti MD

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BACKGROUND

Over 25 million people in the US speak English "less than very well." This population would largely benefit from interpreter services in healthcare. Interpreters can greatly impact patients' access to healthcare and influence many of their outcomes.

-improve patient outcomes
- lead to decreased hospital lengths of stay

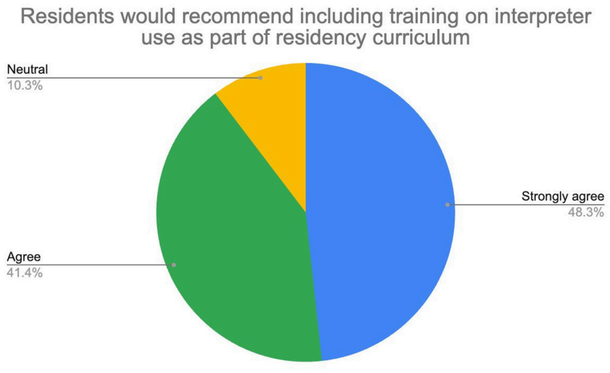
-Decrease readmission rates
-improve patient and physician relationships
- increase symptom reporting
- increase comprehension of diagnosis and treatment

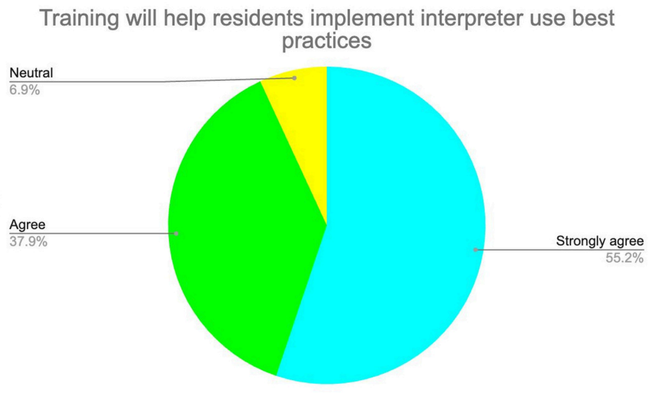
I realized that the current HMH residency curriculum does not include the interpreter training that we had received through the HD program. My project consisted of a pilot program in which I held a similar interpreter use training for residents. After the training, I administered a survey to assess if they felt this training would be a beneficial part of their residency curriculum. The objective of this study was to evaluate if residents previously received training on how to use interpreter services in addition to highlighting the importance of interpreters in medicine to improve patient health outcomes.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Completed a literature review on both interpreter use in healthcare and interpreter use trainings for physicians in training
- Developed workshop to help residents develop skills necessary for interpreter use including: best use practices, hospital policies, patient outcomes
- Used video examples to highlight common mistakes
- Led this pilot for Jersey Shore University Medical Center Internal Medicine residents
- Administered a survey; questions included
  - prior training on interpreter use
  - attitude toward interpreter services
  - desire to have training as part of their residency curriculum.

Of the 29 physicians in training attending the session, 21 of them had never received any interpreter training previously. All 29 either agree or strongly agree that interpreter use is important in the medical setting.





- Presented this literature and pilot results to Dr. Kountz, HMH Chief Academic Officer, who constructs resident curriculum
- Dr. Kountz feels holding similar trainings throughout HMH would add great value to the residency curriculum and believes it would be beneficial for both patients and residents
- I was invited to meet with additional administrators to advocate for the inclusion of interpreter use training in order to improve health outcomes
- The impact of physicians using these services properly will greatly impact patient care for those with Limited English Proficiency (LEP)

DISCUSSION / CONCLUSION

- ACGME requires that residents are able to communicate effectively with those with different language capabilities. Interpreter services & interpreter use trainings both serve to help accomplish this goal.
- By highlighting this current gap in residency curriculum, I hope interpreter use training becomes an incorporated part of residency curriculum throughout the HMH network.
- Programs similar to this can serve to
  - improve residents ability to communicate with patients
  - reduce readmission rates
  - decrease hospital length of stays
  - better patient outcomes
  - improved patient physician relationships with limited english proficiency populations
- In future, trainings should focus on the importance of interpretation, interpreter best use practices, & communication skills. They can also practice with interpreters & patients at bedside.

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Thank you to Professor Divney, Dr. Rocchetti, & Dr. Kountz for making this possible

Reshaping Healthcare: Enhancing Discharge Planning for Chronic Heart Failure Patients at Jersey Shore University Medical Center

Emmanuel Ihionkhan, Martin Pelavin, MD; Mohamed Bakr, MD

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Hackensack Meridian School of Medicine

BACKGROUND

- Chronic Heart Failure patients encounter frequent readmissions presenting substantial challenges in healthcare management.
- The Care Transition Center (CTC) at Jersey Shore University Medical Center (JSUMC) provides pre-discharge support including patient education , medication review and appointment scheduling for patients.
- The lack of adequate training regarding the role of the CTC among nursing staff creates gaps in patient education and care coordination ultimately impacting health outcomes for CHF patients.
- Patient allocation to the CTC is coordinated by the patient progression team and based on the LACE index score which has some limitations.
- The action gap arises from discrepancy between the importance of the CTC in post-discharge care and the lack of understanding among nursing staff about its role and services.
- The primary objective of this project is to improve discharge planning for CHF patient at JSUMC by addressing the gaps in knowledge and actions related to the CTC among nursing staff.

INTERVENTION DESIGN & EXPECTED IMPACT

Intervention:

- Target the gap in nurse education about the CTC. By collaborating closely with nursing leadership, we aim to implement comprehensive orientation sessions for new nurses and continuous training programs for existing staff. By engaging stakeholders such as nursing educators and unit managers, we can ensure all nursing staff receive thorough education on the CTC's role, services and significance in post-discharge care for CHF patients.
- The reliance on the LACE score for CTC allocation poses a challenge. We propose enhancing communication and collaboration between the patient progression team and the discharge team. By providing education sessions to the patient progression team about the limitations of the LACE score and importance of clinical judgement in identifying patient who may benefit from CTC services, we can ensure a more nuanced and comprehensive approach to CTC allocation.

Expected Impact:

- Improving nurse education about the CTC and enhancing communication between the discharge team and the patient progression team are anticipated to foster a culture of understanding and collaboration among healthcare professionals at JSUMC.
- This multi-faceted approach will empower nurses to effectively advocate for CHF patients' CTC involvement during discharge planning while ensuring a more holistic and patient-centered approach to CTC allocation.
- Patients will have a clearer understanding of post-hospitalization care options, leading to smoother transitions and **reduced readmission rates**.
- By addressing both education and communication challenges, our intervention aims to improve patient outcomes and healthcare resource utilization.

DISCUSSION / CONCLUSION

Our project emphasizes the importance of stakeholder collaboration to improve discharge planning for CHF patients. Next steps include:

- Engaging nursing educators and unit managers in the development and delivery of orientation and continuous training programs.
- Providing education sessions to the patient progression team about the limitations of the LACE score and the importance of clinical judgment in CTC allocation.
- Incorporating feedback mechanisms to assess the effectiveness of nurse education initiatives and communication strategies.
- Evaluating the impact of enhanced nurse education and communication on patient outcomes, readmission rates, and healthcare resource utilization.

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A Framework for Improved Patient Education in the ED

Eric Bernstein and Herman Morchel, MD

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BACKGROUND

Patients often lack knowledge, confidence, or health literacy to understand appropriate times to seek emergency care. This exposes patients to unnecessary testing, costs, and other potential harms. Unnecessary visits also contribute to overcrowding in the ED and potentially delays care for patients with more critical needs. It also inflates healthcare costs at the national/population level.

Example: Asymptomatic Hypertension

- Over six million visits nationally between 2006 and 20151
- Despite guidelines by the American College of Emergency Physicians, nearly 80% of patients with a primary diagnosis of hypertension did receive testing of some form1
- Very few patients receive specific discharge instructions about asymptomatic hypertension2

INTERVENTION DESIGN & EXPECTED IMPACT

Proposed Framework

Issue Selection	Development of Materials	Implementation	Data Collection
Identify common ED complaints that result in unnecessary testing or interventions	Create simple handout or pamphlet containing relevant information in an easy to read format	Distribute materials to patients in the ED.	Examine impact of intervention of number of patient visits, repeat visits, and frequency of unnecessary testing.
Input from physicians and other clinical staff, and data scientists	Input from physicians, patient education experts, risk management, graphic designers, and translators	Feedback from physicians, clinical staff, and patients	Feedback from physicians, clinical staff, data scientists, and patients

Asymptomatic Hypertension (Elevated Blood Pressure Without Other Symptoms)

You came to the emergency department today because your blood pressure was elevated. **Without other symptoms, elevated blood pressure is not considered an emergency.** No specific testing is required, but you may have had tests to rule out other life-threatening conditions such as heart attack or stroke, and the doctor discussed the results with you if applicable. Elevated blood pressure without other symptoms is generally not treated in the emergency department. **You should follow up with your primary care physician to discuss any concerns you still have.**

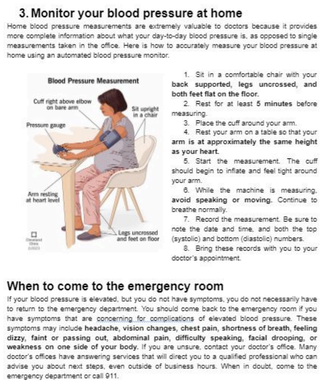
If you have already been diagnosed with chronic hypertension (also commonly referred to as essential hypertension), **here are some things you can do to help keep your blood pressure in a healthy range.**

1. Take any medications exactly as prescribed

Your Primary Care Physician may have prescribed blood pressure medication to help lower your blood pressure and reduce risk of complications like heart attack or stroke. **You should try to take these medications exactly as prescribed by your doctor.** Usually, these medications are taken once a day, ideally at the same time every day. Common medications for blood pressure include amlodipine, hydrochlorothiazide, lisinopril, and metoprolol. If you are unsure what a medication is for, how to take it, or if you are concerned about side effects, ask your doctor or pharmacist.

2. Avoid foods that are high in sodium (salt)

Salt is extremely common in food. Eliminating salt entirely would be impossible, but too much salt can raise your blood pressure. Processed foods are particularly high in salt. Processed foods include things like chips, crackers, lunch meats, and frozen or fast foods. **Look for Sodium on the nutrition label of foods that you purchase and try to keep this number as low as possible.** Also, avoid adding salt to your food at the table.



3. Monitor your blood pressure at home

Home blood pressure measurements are extremely valuable to doctors because it provides more complete information about what your day-to-day blood pressure is, as opposed to single measurements taken in the office. Here is how to accurately measure your blood pressure at home using an automated blood pressure monitor.

1. Sit in a comfortable chair with your **back supported, legs uncrossed, and both feet flat on the floor.**
2. Rest for at least **5 minutes** before measuring.
3. Place the cuff around your arm.
4. Rest your arm on a table so that your **arm is at approximately the same height as your heart.**
5. Start the measurement. The cuff should begin to inflate and feel tight around your arm.
6. While the machine is measuring, **avoid speaking or moving.** Continue to breathe normally.
7. Record the measurement. Be sure to note the date and time, and both the top (systolic) and bottom (diastolic) numbers.
8. Bring these records with you to your doctor's appointment.

When to come to the emergency room

If your blood pressure is elevated, but you do not have symptoms, you do not necessarily have to return to the emergency department. You should come back to the emergency room if you have symptoms that are concerning for complications of elevated blood pressure. These symptoms may include **headache, vision changes, chest pain, shortness of breath, feeling dizzy, faint or passing out, abdominal pain, difficulty speaking, facial drooping, or weakness on one side of your body.** If you are unsure, contact your doctor's office. Many doctor's offices have answering services that will direct you to a qualified professional who can advise you about next steps, even outside of business hours. When in doubt, come to the emergency department or call 911.

Expected Benefits

- Patients would be empowered with knowledge about their diagnosis
- Patients would be comforted in knowing that their symptoms are not serious
- Unnecessary visits to the ED would be reduced, along with unnecessary testing or interventions

DISCUSSION / CONCLUSION

The proposed intervention will educate patients and empower them with knowledge about their diagnoses. Anticipated benefits include reduction in unnecessary ED visits, testing, and interventions. Challenges could be overcome with an interdisciplinary team of experts. The suggested framework is broadly applicable to a wide range of common complaints.

Possible Challenges

- Standardizing implementation, patient selection, and distribution
- "Cookie Cutter" approach to patients with the same diagnosis
- Patients may seek care at other institutions
- IRB Approval
- Liability

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Thank you to Dr. Andrew Amaranto and Dr. Michael Ullo for their participation and feedback on this project.

Supra Powers: Evaluating Healthcare Provider Awareness and Integration of Suprapubic Catheterization

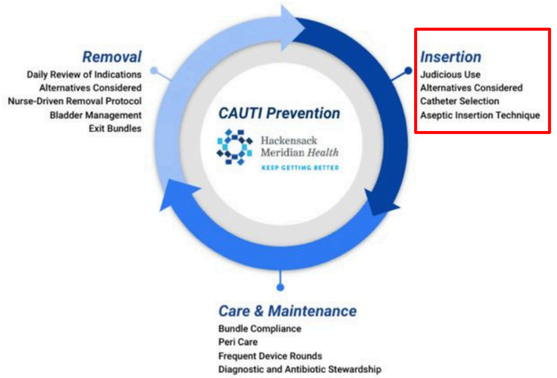
Erica Wan BA, Carmela Rocchetti MD, Elliot Frank MD

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

- The determinant of health (DOH) this project focuses on is access to healthcare: about 1 in 5 hospitalized patients will have a urinary catheter at some point during their hospital stay.
- Catheter-associated urinary tract infections (CAUTIs) are the most common hospital-acquired infection, constituting 20% of hospital-acquired bacteremias, with a mortality of 10%. Medical expenditures due to CAUTIs are $131 million annually.



- Objective: To review the existing literature on indwelling and suprapubic urinary catheters, and to assess the awareness of healthcare providers regarding suprapubic catheters.

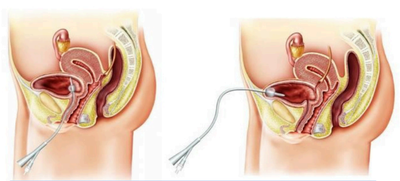


Image from Milton Keynes University Hospital.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Literature Review

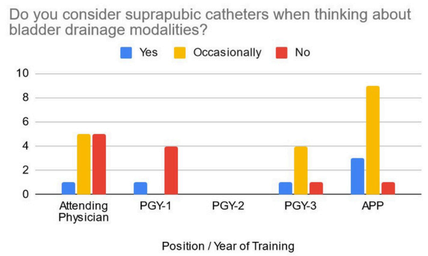
- Suprapubic catheters (SPCs) decrease asymptomatic bacteriuria (RR=2.25, 95% CI=1.63 to 3.10), re-catheterization, and pain compared to indwelling urinary catheters (IUCs), (RR=5.62, 95% CI= 3.31 to 9.55). (Kidd et al. 2015)
- Retrospective cohort study showed rate per 1000 device-days CAUTI and antimicrobials days of therapy was markedly reduced in SPCs. (Buehrle et. al. 2020)
- Some studies showed no significant difference between SPCs and IUCs, whereas some showed significant advantage for SPCs. No studies found showed an advantage for IUCs.

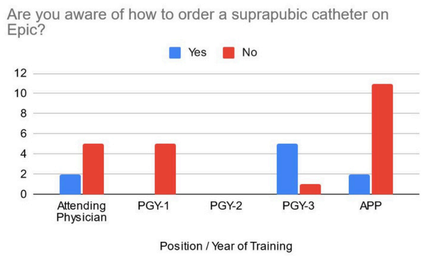
Intervention

- A quality improvement (QI) presentation with the data from the literature review was given to stakeholders, which included hospitalists, medical residents, and advanced practice providers (APPs) at Jersey Shore University Medical Center (JSUMC).
- A pre- and post- survey was administered to assess stakeholder attitudes and awareness of suprapubic catheterization as an option in catheter selection.

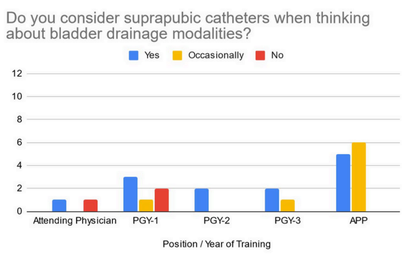
Survey Results

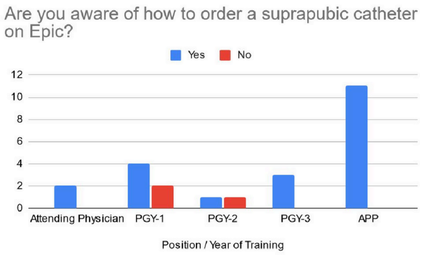
Pre-Presentation Survey

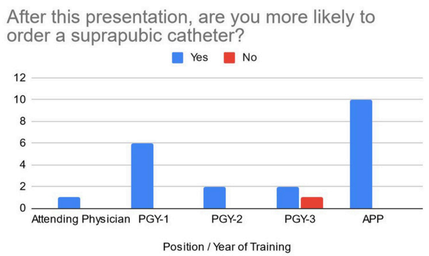




Post-Presentation Survey







DISCUSSION / CONCLUSION

- After the presentation, there was a 58.5% increase in participants who knew how to order a suprapubic catheter on Epic. 95% of respondents stated that they were more likely to order a suprapubic catheter.
- We surveyed participants' option on barriers to implementation. Barriers mentioned included:
  - follow-up at discharge (22%)
  - agreement from urology or other
  - attendings (66%)
  - interventional radiology
  - availability (11%)

  patient declining procedure (11%)

  invasiveness of procedure (11%)
- Future directions for this project include tracking the clinical use and outcomes of suprapubic catheters at JSUMC.

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A special thank you to Drs. Hossein, Bakr, and Ann Abate, PA for their support in the realization of this project!

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Knowledge is Empowerment: Community Outreach to Enhance Women's Cancer Screening Awareness

Erika Fleming B.S. M.S., Paulette Brauch, Jose Contreras M.D.

Hackensack Meridian Health

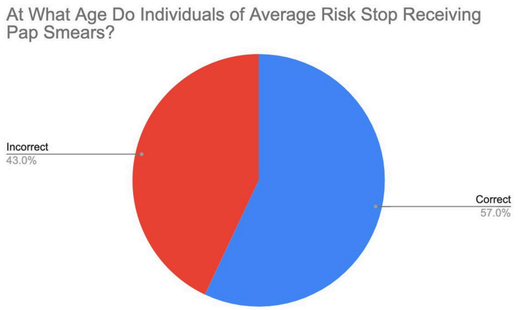
Hackensack Meridian School of Medicine

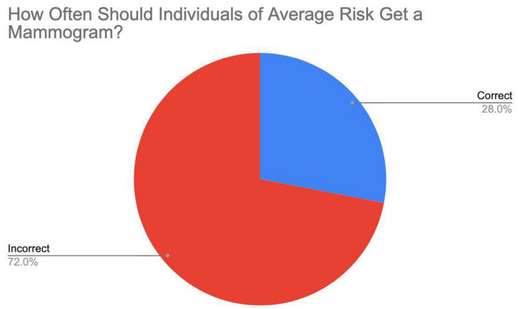
BACKGROUND

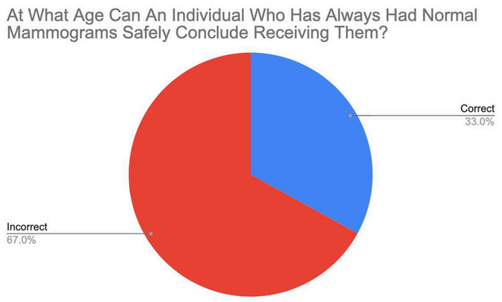
- The USPSTF recommends women ages 30 to 65 years screen for cervical cancer with a Pap test every 3 years and human papillomavirus (hrHPV) every 5 years.
- The USPSTF recommends that women who are 50 to 74 years old and are at average risk for breast cancer get a mammogram every two years.
- The American Cancer Society recommends that women begin screening for colon cancer at age 45 and then receive a colonoscopy once every 10 years until age 75.
- The most common reason why patients reported not receiving regular pap smears in 2019 was due to lack of knowledge (55%), 10% more than patients in 2005.
- 22% of women who are non adherent to mammogram screenings report normal results in the past. In addition, the majority of non screeners report not being referred for a mammogram by their doctor.
- Having no family history and having no symptoms were two common self reported reasons for colon cancer screening non adherence.
- The goal of this project is to address cancer screening gaps in women over the age of 30 by increasing knowledge on screening timelines.

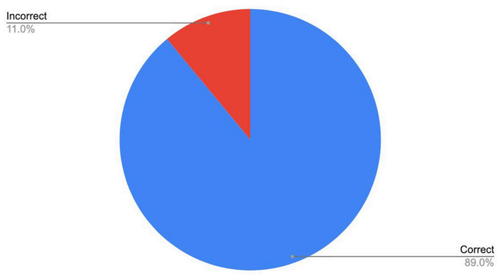
INTERVENTION DESIGN & EXPECTED IMPACT

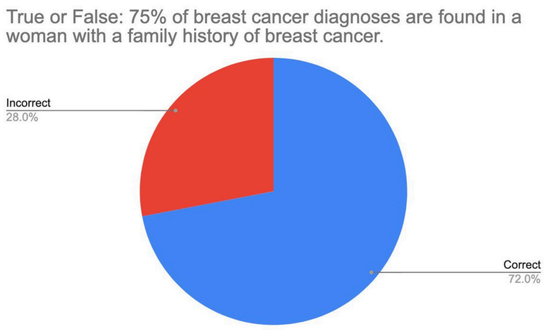
Collected data from the New Jersey State Federation of Women's Clubs-Pompton Lakes Chapter members. Attendees anonymously filled out and returned the pre-quiz prior to the presentation. Survey data showed discrepancies between USPSTF guidelines for cancer screening and knowledge. The greatest discrepancies were seen in breast cancer screenings with the lowest being related to colon cancer screening.
Expected impact: greater knowledge, empowerment, and drive to stay up to date with personal cancer screenings.

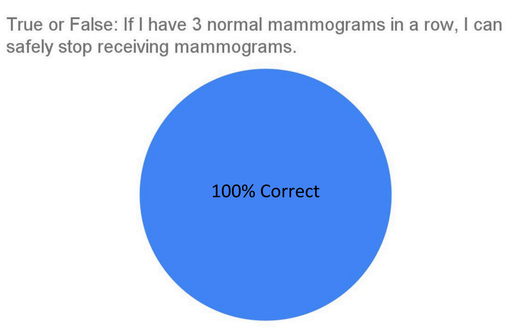












Graphs A-F are the pre quiz questions categorized as answered as either correct or incorrect. N= 60.

DISCUSSION / CONCLUSION

- There is a discrepancy between USPSTF cancer screening guidelines for women over the age of 40 and the amount of women who complete cancer screenings.
- One possible reason is a lack of understanding of the most up to date guidelines on cancer screenings.
- This study indicated that there is a lack of understanding of current cancer screening guidelines, with the greatest discrepancy being in breast cancer screening and the best understanding being in colon cancer screening guidelines.
- Future studies should focus on the impact that targeted education has on adherence to cancer screening guidelines for cervical, breast, and colon cancer screenings.

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Special thanks to the Women's Club of Pompton Lakes and Dr. Jose Contreras for all your help and support.

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HMSOM Saving A Life Under Distress (S.A.L.U.D) Initiative: Basic Approach to Choking and Opioid Overdose

Estephen Boutros, Katharine Clouser, M.D.

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

The SALUD initiative aims to address education as part of the Social Determinants of Health, especially targeting medical students and upcoming healthcare providers. This project strives to help develop an educational program about choking and opioid overdose that could be utilized in the medical school's clinical skills curriculum to help educate students about these topics. With proper education and awareness about these topics, and others in the future, students can become well equipped with the necessary skills and knowledge to save a life under distress in emergency situations.

Why is this important?

Choking is the leading cause of infantile death and the fourth leading cause of unintentional death.

Furthermore, worldwide, in 2019 about 600,000 deaths were attributable to drug use, with close to 80% of these deaths being related to opioids (25% of which were caused by opioid overdose).

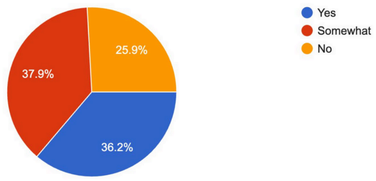
Objectives of the project:

- To educate students about preventable causes of death such as choking and opioid overdose.
- To create proper educational materials and design a clinical skills session that can help educate students about choking and opioid overdose.
- To help students apply their knowledge with hands-on training, learning how to aid individuals who are choking, use anti-choking devices, and resuscitate an individual experiencing opioid overdose.

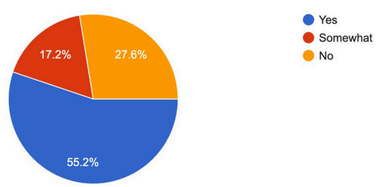
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- The following graphs represent data collected from 58 HMSOM medical students (11 M1, 11 M2, 30 M3, 6 M4) via a pre-session survey about their initial familiarity regarding choking, Anti-Choking Devices (ACDs), opioid overdose, and naloxone administration, as well as their interest in learning more about these topics:

Do you know what to do if you see a person choking?
58 responses



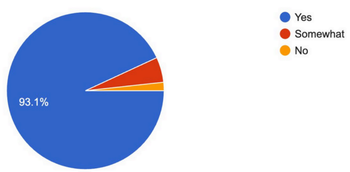
Do you know what to do if you see a person who has experienced an opiate overdose?
58 responses



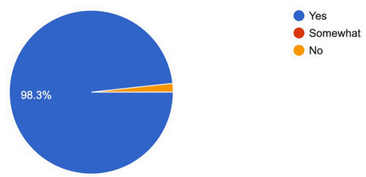
Have you heard of Anti-Choking Devices (ACDs)?
58 responses

Do you know how to administer naloxone?
58 responses

Would you be interested in learning first aid protocol for choking and how to use Anti-Choking Devices during Clinical Skills?
58 responses



Would you be interested in learning first aid protocol for opioid overdose and naloxone training during Clinical Skills?
58 responses



nasal spray

auto-injector

injectable

DISCUSSION / CONCLUSION

- Based on an internal survey of Hackensack Meridian School of Medicine medical students from varying years of education, 63.8% of students lacked adequate knowledge about helping individuals who are choking with 82.8% of students never having heard of ACDs, and 98.3% not knowing how to properly utilize an ACD.
- Furthermore, 44.8% of students lacked adequate knowledge about helping individuals who have experienced an opioid overdose, with 69% of students unsure about how to administer naloxone appropriately.
- Fortunately, 93.1% of students were interested in learning first aid protocol for choking and how to use Anti-Choking Devices, while 98.3% of students were interested in learning first aid protocol for opioid overdose and naloxone training, and having these topics implemented in the Clinical Skills (CS) Curriculum.

Thus, there is an evident need and interest in implementing this program into the CS curriculum which can edify student's knowledge and even potentially enhance patient safety in the future.

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- Chou R, Korthuis PT, McCarty D, et al. Management of Suspected Opioid Overdose With Naloxone by Emergency Medical Services Personnel [Internet]. Rockville (MD): Agency for Healthcare Research and Quality (US); 2017 Nov. (Comparative Effectiveness Reviews, No. 193.) Table 1, Naloxone: Dose and route of administration.

The Effect of Medication Assisted Treatment Education on the Knowledge, Attitudes and Practices Regarding Opioid use Disorder Among Medical Students

Dr. Abdullah, Dr. Rosen and Ethan Burg

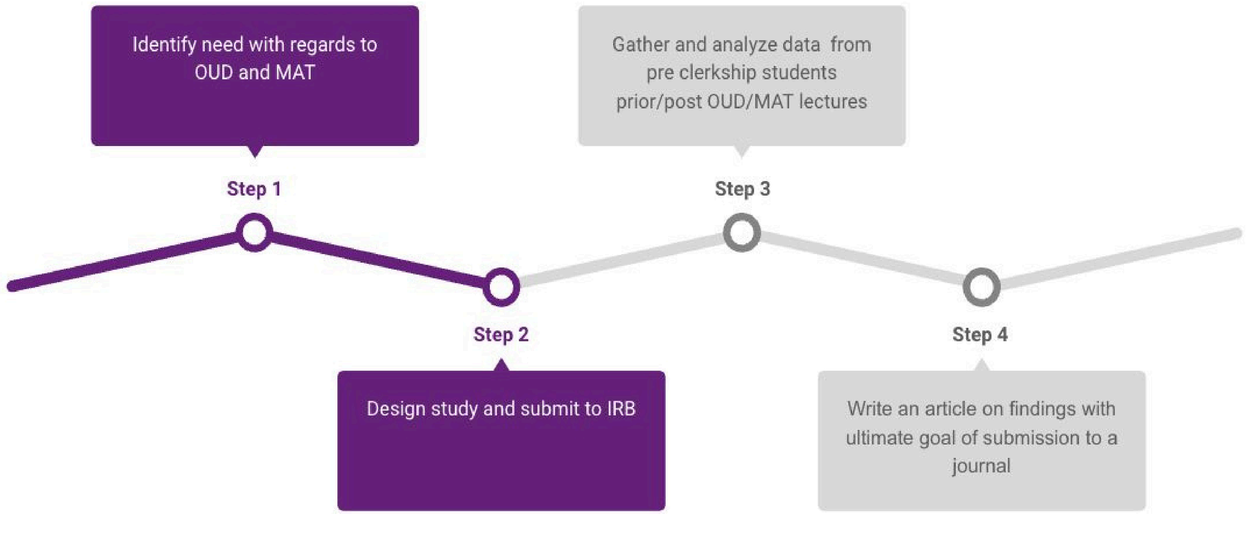
Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

- Background: I focused on a behavioral determinant of health being biases among healthcare providers towards medication assisted treatment of opioid use disorder. This bias leads to under utilization of a life saving treatment modality, ostracization of a patient population and the providers who treat them and overall poor health outcomes.
- The actionable gap that exist here is reducing bias against MAT of OUD among providers. This is something HMSOM is actively working towards. Thus the goal of this project is to evaluate the effectiveness of HMSOM's MAT/OUD curriculum
- The objective of this study is to utilize surveys to evaluate the effectiveness of HMSOMs OUD/MAT preclerkship curriculum in improving the knowledge, attitudes and practices of medical students regarding MAT and OUD. By targeting medical students we hope to reduce biases towards MAT/OUD in future provider who will practice in a diverse array of fields.

INTERVENTION DESIGN & EXPECTED IMPACT



Pre-Intervention	Intervention	Analysis
Pre-clerkship students in the 2024 cohort attending mandatory OUD/MAT lectures beginning with the SAMHSA lecture and ending in NB can choose to volunteer to participate in the study	Students will attend the lectures and will take pre and post lecture series KAP surveys.	We will analyze the data based off changes in individual domains i.e. knowledge, attitudes as well as total KAP scores. We will further analyze demographic data with logistic regression.

Impact: The goal of this study is to reduce biases among medical students regarding OUD and MAT and to foster positive knowledge, attitudes and practices. If an educational intervention such as the pre clerkship lectures at HMSOM pertaining to the topic proves successful in significantly changing students KAP scores it could be extrapolated onto other populations such as providers in various fields or even the general population to combat bias within the community. The study may also serve as a starting point for a more longitudinal study assess the impact of this education on our students at various points in their medical career.

DISCUSSION / CONCLUSION

- Moving forward with the study we hope to demonstrate that lectures at HMSOM are effective tools in combating the stigma against MAT of OUD. It is our belief that a reduction in bias will help to facilitate better health outcomes for a marginalized patient population and improve their access to a life saving treatment modality.
- What I learned:
  - How to design a study
  - IRB process
  - Communication/Coordination
  - Need for reduction in bias against MAT

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Addressing Sudden Cardiac Arrest: An Analysis of the Efficacy and Implementation of Automated External Defibrillators in New Jersey Schools

Ezra Schneier, Themba Nyirenda PhD, George Kipel MD, Marianna Shimelfarb MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

-Out of hospital sudden cardiac arrest (OHSCA) is a major health concern, with low survival rate (1)

-When used properly, AEDs have been shown to decrease the mortality associated with OHSCA (2)

-In 2014, New Jersey passed Janet's Law to mandate AED access in all public and private schools

-Our project surveyed NJ public and private schools of all levels to evaluate the implementation and maintenance of AEDs and to analyze the AED usage and its outcomes

METHODS

- This was an observational, cross sectional study utilizing an online survey form via RedCap 12.4.2
- We included NJ public and private school principals and nurses, and have been collecting data since March 2023.
- Data Analysis SAS version 9.4
- We analyzed demographic data of school characteristics, AED training, AED availability, medical emergencies when AEDs were utilized, and outcomes of those events

RESULTS

- 99.3% of responding schools reported having an AED
- 12.8% had sudden cardiac arrest emergencies that required AED utilization
- When an AED was used, the patient was resuscitated with no long term neurological outcomes 78.8% of the time
- The plurality of reported OHSCA occurred in a classroom setting (27.8%)
- The percentage of positive patient outcomes in NJ schools was significantly higher than the national average on OHSCAs with excellent neurological outcomes

TABLES & FIGURES

Figure 1. AED Utilization Outcome

Patient was resuscitated *on school campus with no long term neurological complications*	78.8% (41)
Patient was resuscitated *on school campus but has long term neurological complications*	1.9% (1)
Patient was not resuscitated	19.2% (10)

Figure 2. Survey Respondents' Comments

Figure 3. Location of AED Use

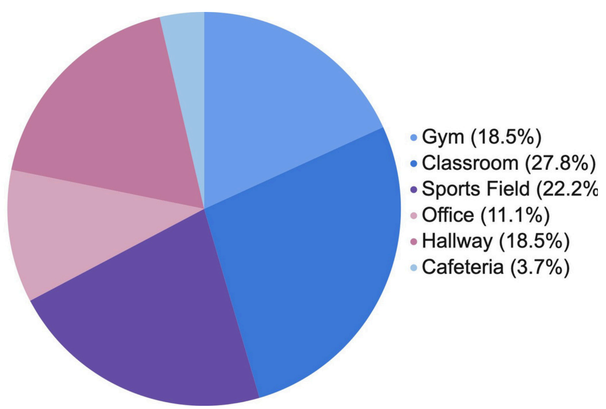
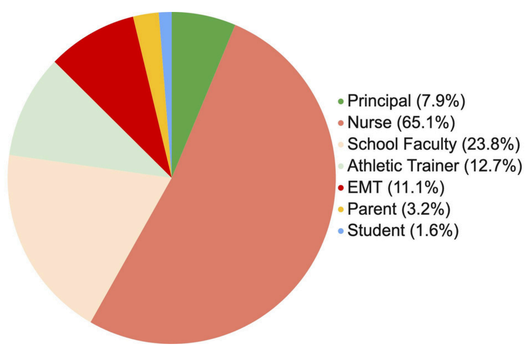


Figure 4. Administration of AED



DISCUSSION

-Successful AED use in our survey was well above previously published rates of about 30% (1), potentially due to personnel training and established emergency action plans

-Despite Janet's law being an unfunded mandate, near complete compliance

CONCLUSION

-NJ Public and Private schools have complied with Janet's Law

-The survival rate of OHSCA in NJ schools is higher than earlier pediatric reports, and comparable to studies with AED accessibility

-AED accessibility in settings beyond the gym and sports field is vital

-Early AED and CPR implementation greatly improve survival in pediatric OHSCA in school settings

-Ongoing advocacy and legislation is needed to improve OHSCA in children

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The Urgency of Stress Reduction Amongst Medical Students: Reiki Therapy as a Potential Modality

Gabrielle Sharbin BS1, David Leopold MD1,2, Marissa Winters RD2, David Kountz MD1

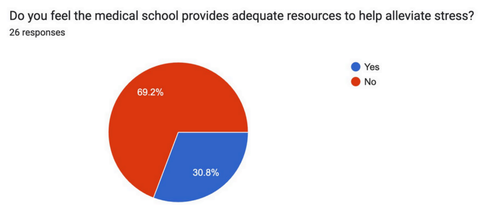
[1]Hackensack Meridian School of Medicine, 2HMH Integrative Health and Medicine

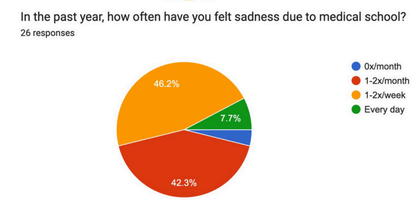
BACKGROUND

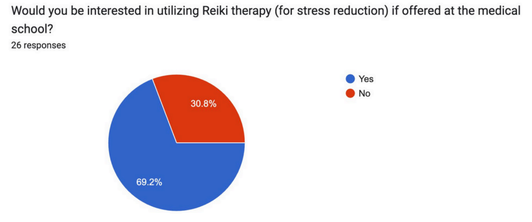
- Healthcare quality is an essential SDOH.
- In order for patients to live happy, healthy lives, providers must be able to provide excellent quality care.
- The pathway to becoming compassionate and intellectually capable physicians begins in medical school.
- This is incumbent on the willingness and ability of medical students to actively learn in pre-clinicals and in clerkships.
- Meaningful student learning can only occur when stress does not interfere (1), and provider stress negatively impacts the care of patients (2).
- Burnout results in medical errors, lower quality of care, higher costs, and overall worse outcomes (2).
- Healthcare quality is not just about the direct care provided, but also how we provide it. As healthcare providers we can only provide empathetic care when we ourselves are emotionally grounded.
- Several studies have documented the presence of high levels of stress, anxiety and depression amongst medical students (3, 4).
- Interventions such as mindfulness have been utilized to mitigate stress among medical students, but results have been mixed (5).
- While Reiki has not been studied in medical students, Reiki therapy has shown benefit in other caring populations (6).

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- This intervention will recruit HMSOM medical students to participate in Reiki therapy at the medical school. They will be provided with pre-surveys to determine their baseline stress levels before Reiki therapy is provided.
- Validated surveys which have been utilized to document medical student stress include the Perceived Stress Scale (7) and GHQ-12 (8).
- A certified Reiki master will conduct the sessions in a quiet, relaxing room, with proper lighting music and aromatherapy if requested.
- Following the Reiki sessions, the students will be provided with post-session surveys to determine their stress levels. If possible, we will continue the Reiki sessions over the course of 3-4 weeks to obtain sufficient data.
- Following the completion of the intervention, I will engage in data analysis and manuscript composition to submit for publication.
- A short survey was provided to HMSOM medical students to gauge attitudes on stress/mood, need for further resources and interest in Reiki therapy.







- The expected impact is that this intervention will hopefully reduce medical student stress, which is significant at our medical school.
- 69.2% of HMSOM students feel the school does not provide adequate resources and 69.2% would be interested in Reiki therapy, indicated that this could be a useful intervention with a meaningful impact.
- It will hopefully allow for more meaningful learning, better academic outcomes and happier medical students who are better able to provide high quality healthcare as students and in their future as physicians.

DISCUSSION / CONCLUSION

- Research globally and at HMSOM, reflects the substantial burden of medical student stress and necessitates change.
- 38.5% of our students feel school related stress everyday, 53.8% 1-2x/week, 7.7% 1-2x/month, and 0% never experience stress.
- Not only does research suggest the need for change, but our expected physician shortage also suggests this.
- The U.S. faces a predicted shortage of 37,800-124,000 physicians within the next 12 years (9).
- The reasons for this are likely multifactorial but, the stress and rigor associated with medical training is almost certainly implicated, and reflects a need to find inventions which can effectively help medical students manage stress.

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Evaluating Mandatory Jockey Baseline Concussion Testing and in the Context of Native Language: A Systematic Review and Meta-Analysis

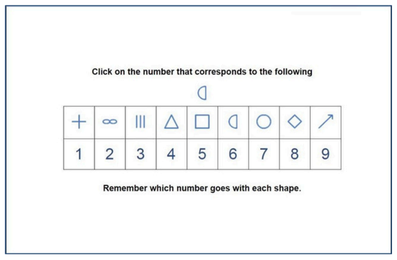
Geoffrey R. O'Malley, Jr Mentor: Angelo Chinnici, MD HD Facillitator: Nancy Tham, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- While not a sport with the popularity or prominence in the national media as football, hockey, soccer, or basketball, jockeys in horse racing experience concussions at a higher rate than any other professional athlete.
- Unlike most sports, jockeys remain an afterthought with the focus of the fans being the horses they ride, with less thought given to the individuals in brightly colored silks atop.
- Baseline concussion testing (BCT) for jockeys has become mandatory for all racetracks in the US.
- While BCT is an important step forward, it is important to consider the growing presence of jockey's who do not speak English as a first language.

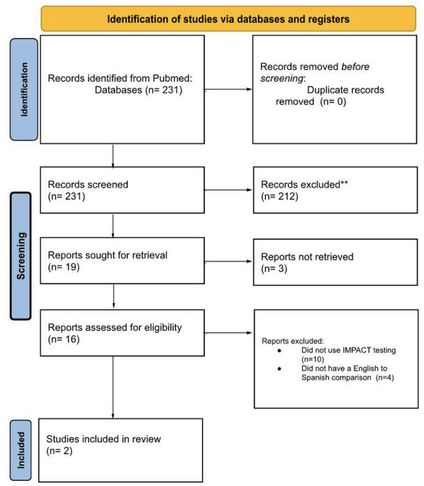


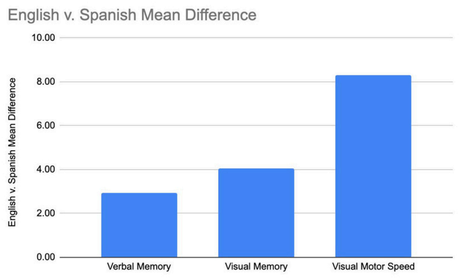
- Language barriers make it difficult for concussion testing to be administered and calls to question the validity of questions designed and verified in non-native English speakers.
- This calls to question are current commonly used BCT modalities effective in this patient population?

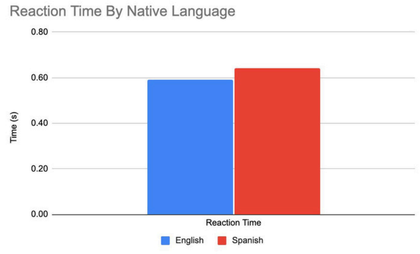
INTERVENTION DESIGN & EXPECTED IMPACT

Methods

- A Literature Review and Meta-Analysis following PRISMA guidelines was conducted.
- Only articles that examined the use of the popular concussion assessment tool, ImPACT, as baseline concussion assessments, and compared English to Spanish speaking individuals taking tests in their native languages were included.
- Information was extracted from included articles in regard to the study type, patient population, and performance by language.







Results

- The search criteria resulted in 231 papers, of which 19 records were sought for retrieval. Of the 19 papers 3 could not be accessed, 10 did not use IMPACT testing, and three did not compare Spanish and English.
- Two studies met the inclusion criteria. They were comprised of 12,124 English-Speaking participants and 2,256 Spanish-Speaking participants.
- English-Speaking participants outscored Spanish-Speaking participants in all aspects of IMPACT testing including Verbal Memory, Visual Memory, Visual Motor Speed, and Reaction Time (<0.0005).

DISCUSSION / CONCLUSION

- Current literature is limited but suggests that common baseline concussion tests are limited in their ability to gauge the performance of non-English speakers in regard to potential concussion symptoms. Inadvertently, concussion testing may cause a much higher rate of diagnosis of concussions in jockeys who are primarily Spanish speaking.
- As jockey's pay is primarily based off of their horses performance in the race, failing a concussion test could lead to days to weeks of lost pay.
- Development and adoption of language independent or Jockey specific concussion testing, such as Balance Error Scoring System, can help to curb possible language based concussion testing disparities.
- In the meantime physicians managing jockeys and other athletes who do not speak English as their native language should be cognizant of these testing disparities.
- Research should continue to assess the influence of native language in the use of baseline concussion testing.

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Improving Kloxxado® Pilot Program: Expanding Access to Naloxone

Gracie Jenkins, Aakash Shah, MD, Lucrecia Campisi, PharmD, Bridget Tracy, MD
Jersey Shore University Medical Center

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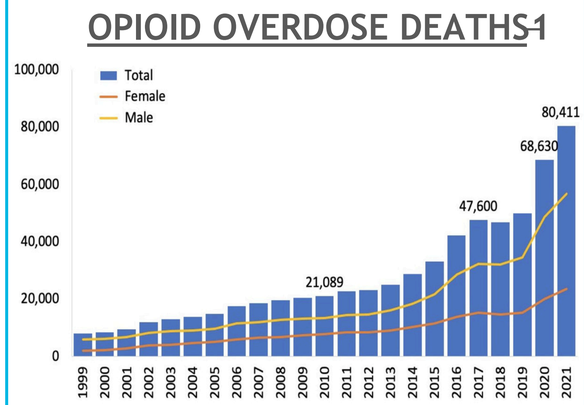
BACKGROUND

- The prevalence of substance use disorders (SUD) continues to grow in our country.



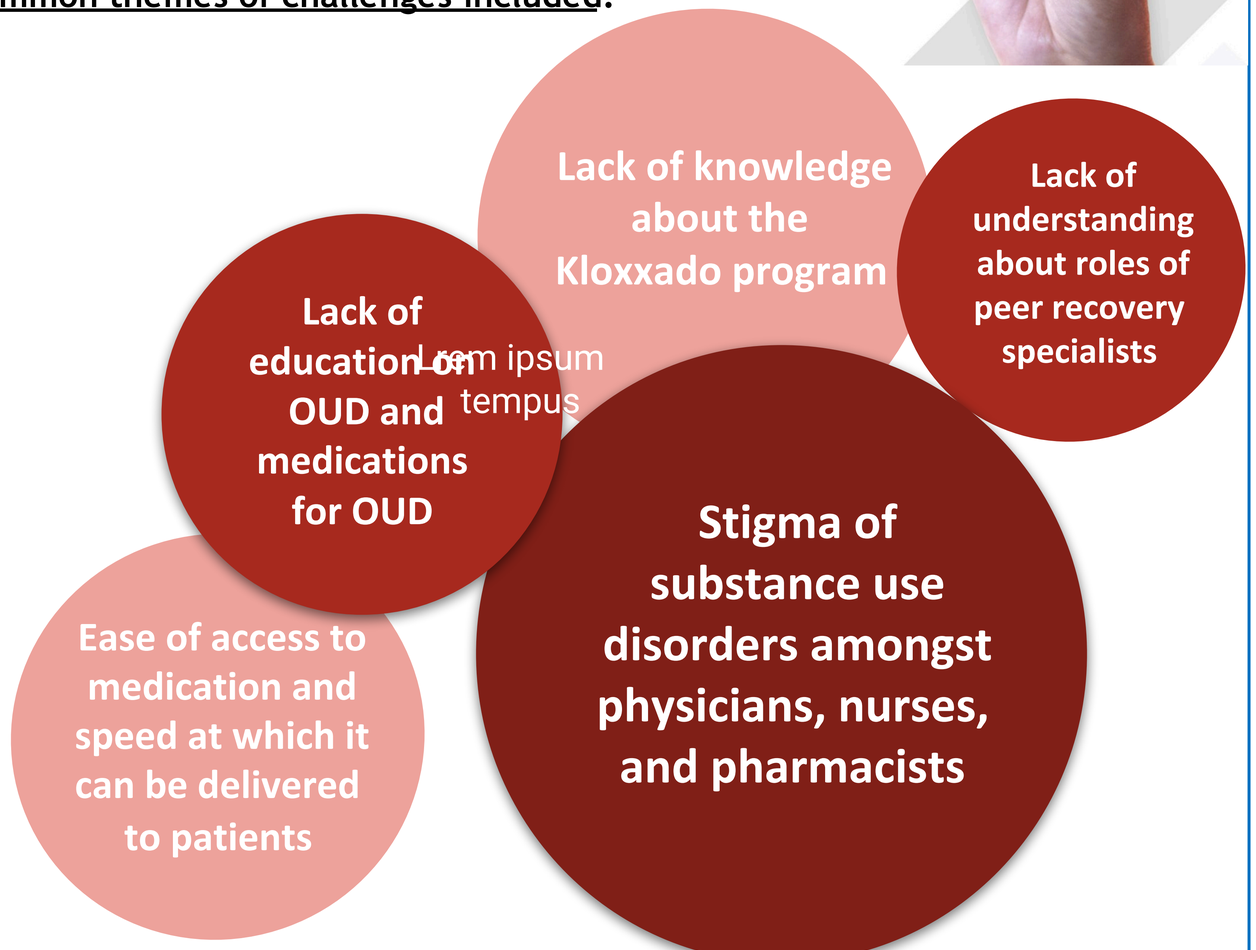
- Naloxone is an opioid antagonist that is FDA approved as a rapid opioid overdose reversal agent.
- Kloxxado® (naloxone HCl) Nasal Spray 8 mg contains twice as much medicine per spray as Narcan® (naloxone HCl) Nasal Spray 4 mg2,3.
- Hikma, a pharmaceutical company based in NJ, partners with Dispensary of Hope to distribute Kloxxado® free of charge to patients with opioid use disorder (OUD) at JSUMC.
- While this pilot program began with the potential to reach many patients at risk for future opioid overdose, there have been barriers to getting Kloxxado® into the hands of patients.

Kloxxado (naloxone HCl) nasal spray 8 mg

INTERVENTION DESIGN

- In order to elucidate areas of growth for the program with the hopes of reaching more patients, we decided to organize **three focus groups** with the care team members who experience these challenges firsthand:
  - **Pharmacy team**
  - **Peer Recovery Specialists**
  - **Addiction Medicine Fellows**

Common themes of challenges included:



RECOMMENDATIONS:

1.) **Education:** continuing medical education seminars, resident didactics, trainings on SUD & medications for OUD
   - Remove stigma amongst providers
   - Improve confidence in prescribing medications for OUD
   - Raise awareness of Kloxxado® program amongst providers
   - Promote relationships between physicians and peer recovery specialists
2.) **Access:** advocate for JSUMC to begin stocking Kloxxado® in the ED, outpatient offices, and across hospital departments to facilitate improved speed of distribution to patients
3.) **Community engagement:** expand this program to include all of the communities HMH serves, and embody the vision of HMH to "*create a world where: the highest quality care is human-centered, accessible and affordable.*"

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Thank you to Dr. Shah, Dr. Campisi, and Dr. Tracy!

Language Interpreter Services: Pearls and Pitfalls

Student: Hajrah Hussain HD Facilitator: Dr. Tadé Ayeni Mentor: Jessica Ansbach

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- This project served to research the existing language interpreter services at HMH hospitals in order to address a factor that contributes to Health Access as a social determinant of health.
- Given that NJ is the 4th most diverse state in the US[1] it is at times challenging but particularly important to deliver care in the language that is best understood by patients.

Top 10 Languages Spoken at Home Other than English in New Jersey			
		New Jersey	
		Estimate	Percent
Rank	Total	8,882,190	100.0%
1	Spanish	3,215,353	36.2%
2	Filipino, Tagalog	310,877	3.5%
3	Chinese	301,994	3.4%
4	Hindi	293,112	3.3%
5	Korean	293,112	3.3%

- HMH's existing language services department is 21 years old and includes a variety of language interpretation options:
  - 15 full-time equivalent (FTE) on-site interpreters at HUMC who can be scheduled in advance for outpatient visits
  - 4-6 Video Remote Interpreter (VRI) devices on each hospital unit for on-demand interpretation
  - 400 trained Bridging the Gap team members
  - Bilingual Fluency Assessments
- Objective: identify workflow and policy changes to optimize existing language services

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

- **Intervention #1:** optimize workflow to increase VRI usage
  - Reduce wait times and ensure better uptake of existing VRIs by having the iPad connected and waiting in the patient's room prior to rounds or appointments
  - Assign responsibility to a specific team member to ensure regular process of use (e.g. medical assistant can set up VRI in patient room when taking morning vitals)

  - Con: cost of leaving the interpreter running while no one is using the device
  - Pro: increased ease of using the interpreter and less tendency to "make do" without proper interpretation

Bilingual Pay

Residents who pass proficiency exams in Spanish, Mandarin, Vietnamese, Cantonese, Russian, Tagalog or Arabic are eligible for an additional bilingual stipend through the City and County of San Francisco. Qualified residents receive an additional $120 per month in bilingual pay during SFGH rotations.

- **Intervention #2:** pay bilingual employees for their language services
  - Ensures and incentivizes in-person interpretation services while appropriately compensating team members for the additional labor they are performing
  - There is precedent with residency programs compensating residents for bilingual skills and this should be extended to other team members as well to encourage completion of the existing bilingual fluency assessments and/or Bridging the Gap training program.

UCSF +$120/month at San Francisco General Hospital

Natividad +$108/month (listed as $54/pay period)

Harbor-UCLA +$100/month (listed as $12,000/year)

Contra Costa Health +$100/month

DISCUSSION / CONCLUSION

The existing language services offered at HMH-network hospitals is commendable — as evidenced by HUMC being the first hospital in the country to receive the Joint Commission's Health Care Equity Certification — but there is always opportunity to optimize existing resources. This can be by increasing uptake and use of the virtual remote interpreters with a change in workflow and training of team members or by changing policy to ensure team members are adequately compensated for their additional language skills and services.

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Thank you to Ms. Jessica Ansbach and Ms. Elizabeth Lind from the HMH Language Services department for taking the time to field my questions and help me understand the existing landscape of services. Thank you to Dr. Ayeni for his patience, support, and guidance throughout the course of HD and especially the Capstone project.

References:

Communications Gap

Hamzah Almadani, M3, Dr. Gupta

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BACKGROUND

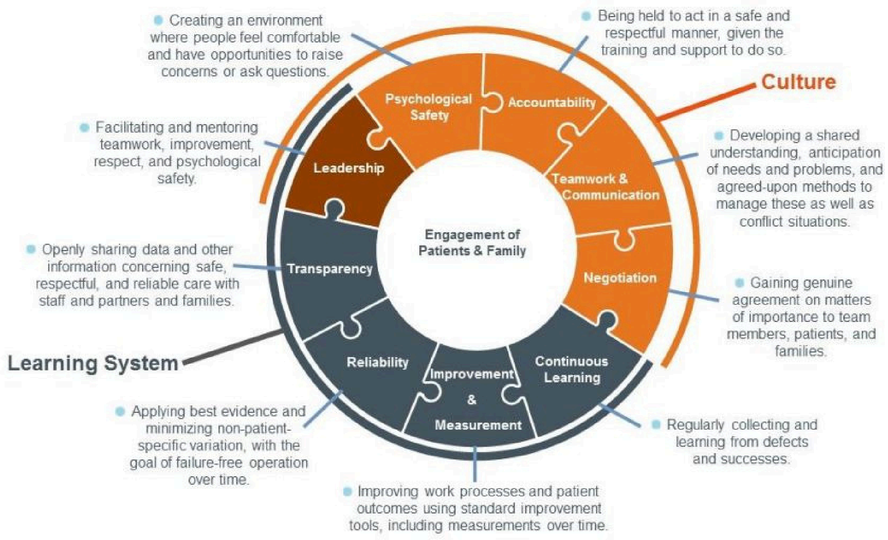
- Good and effective communication between physicians is key to enabling positive outcomes and avoiding medical errors for patients, a widely accepted concept.
- Poor communication can result in errors due to missing or incorrect information, leading to gaps in patient care and reduced patient adherence to care plans.
- 22% of these physicians stated they "sometimes" or "seldom or never" send clinical information to specialists at the time of referral, while 33% of PCPs reported they "sometimes" or "seldom or never" receive information back from a specialist after consultation, often referring to time constraints as the major cause.
- Even with optimal communication among physicians and patients, adherence is only at 70%, dropping to 50% .

Goal

- The project's goal is to bridge the gap in care resulting from communication issues among medical professionals by involving students as active members of their primary care practices. This project creates a task list and pocket informational in order to help students develop proper skills in health communication.

INTERVENTION DESIGN & EXPECTED IMPACT

- The Institute for Health Care Improvement (3) has established a framework for safe, reliable, and effective care where students can contribute to achieving quality standards in the family practice setting. The framework emphasizes four core values to culture that all involved
- parties – medical students, residents, attendings, and healthcare professionals – should uphold:



- Our intervention allows for students to develop knowledge outlined above, while having the students close communication gaps amongst physicians.
- From this framework, we created comprehensive guidelines and pocket informational for students and residents to enhance proactive communication between primary care physicians and specialists
- These guidelines provide structured direction for students during their clinical rotations, particularly in Family Medicine and Internal Medicine, fostering the development of communication skills within the healthcare setting.
- The guidelines aim to cultivate students' comprehension of the healthcare system, identification of care gaps, and strategies to address these gaps effectively, thereby contributing value to the medical team.

DISCUSSION / CONCLUSION

- It is widely accepted that good, effective communication is key for healthcare
- However, gaps in care are often developed amongst PCPs and specialists
- Students are timid in their approach to helping the medical team, wanting to not get in the way and or be a bother.

The guidelines created in this project

- allow students an effective member of the team that

The impact of this project is to help

- bridge the gap in coverage amongst physicians.

In the future, we would like to shift the

- focus of Healthcare quality improvement by healthcare communication in the primacy care setting to implementation of similar projects across all rotations

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HMH Transportation Access Project

by Hannah Weisman BA, MS; Tade Ayeni EdD, MA; Edward Murawski

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BACKGROUND

- Transportation is a pivotal determinant of health when it comes to shaping access and health outcomes. Transportation barriers disproportionately affect vulnerable populations, exacerbating health disparities. Individuals with lower socioeconomic status face more challenges in accessing healthcare. This disparity is compounded by rising costs of public transit and stagnant minimum wages, exacerbating health inequities.
- Addressing transportation barriers necessitates collaborative efforts on multiple levels. For instance, partnerships between healthcare institutions and transportation companies, such as the collaboration between HMH and Lyft, have facilitated greater access to medical appointments for underserved populations. Despite these strides, gaps persist, particularly in healthcare providers' awareness of available transportation resources for patients. The objective of this project is to establish educational programs within healthcare systems to inform providers about transportation options to help bridge this gap, ensuring equitable access to healthcare for all individuals, irrespective of their socioeconomic status.

INTERVENTION DESIGN & EXPECTED IMPACT

Further Background :

-HMHN has a contract with Lyft Rideshare Services to increase access to transportation service for healthcare visits across the network

-While this contract exists, few departments across the network were aware of this resource and even fewer departments utilize this resource as it stands

Intervention:

-A team of individuals familiar with the transportation services across the HMH network were assembled to create educational materials for departments throughout the network to increase accessibility to transportation services for patients in need.

-The first step of this intervention was to reach out to the team of HMHN transportation experts to glean information about the program that exists with Lyft

-Next, a powerpoint of the main informational points was created to spread awareness regarding this resource

-The powerpoint presentation went through multiple rounds of edits and was not ready to be shared by the time the capstone project was due.

-After the presentation is complete, the next focus of the project will shift to how to get the information distributed to the departments across the network

-An individual on the transportation team was able to connect me with someone in the network who has access to a myriad of resources and people who would be able to help me send the information out to the network so this resource could be utilized to its fullest potential, which is work I will continue after capstone is over.

Calls were made and meetings were had:

- Individuals across the network involved with case management, curriculum and education, patient experience, and discharge planning were contacted to disseminate this information across the network and make it more widely available across multiple departments.

-The powerpoint with all of the information will be shared with various HMH departments to broaden this initiative and increase patient access to transportation across HMHN.

DISCUSSION / CONCLUSION

-Transportation barriers have an important impact on healthcare including SES, medication access, distance, special populations, interventions, and public policies.

-This project aimed to increase access to healthcare by directly increasing access to transportation services

-While this project was not completed prior to the end of the capstone assignment, valuable lessons were learned from this initiative which will continue to inform and inspire future endeavors to enhance patient accessibility and experience. If I were to do things differently from the beginning of the project, I would get buy-in from stakeholders earlier on in the process and would have them participate in the brainstorming process of this project. This is a lesson I will take with me into future projects throughout my career.

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Medical Spanish Volunteer Health Interpreter Initiative at the SOM

Harsimran Bhandal, Ofelia Martinez MD, MPH, Patrick Roth MD, MPH

Hackensack Meridian *Health*

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BACKGROUND

The project aims to establish a Volunteer Health Interpreting Organization among the medical students by providing training in Medical Spanish to Spanish-speaking students and working with local community partners such as the Bergen County Volunteer Medical Initiative (BVMI) to offer free interpreting/translation services.

This project stems from the idea of providing support to the growing population of non-English speaking patients, with an emphasis on Spanish speakers. At Jersey Shore University Medical Center, from the months of August to December 2023, approximately 800 requests were made for an in-person Spanish-speaking interpreter. For phone requests, there were 10,217 calls that were conducted with a Spanish-speaking Interpreter. The high demand for Spanish speakers in healthcare is significant in the state of New Jersey and training future physicians in Medical Spanish is a powerful way to address this need. In fact, over 50% of medical schools in the US provide a forum for addressing/teaching Medical Spanish. Studies such as those done by the Harvard University School of Medicine on their Medical language curriculums demonstrate that providing medical language training in foreign languages has a positive impact on their trainees and influences the nature of the type of medicine and population they work with. Furthermore, language concordance has been proven to positive impacts on patient care including fewer medical errors , increased understanding of illness and the treatment plan, adherence to the treatment plan, and satisfaction with care

There is great variability within the types of Medical Spanish courses that are offered by Medical School across the country. While some provide live-instruction with Spanish-speaking physicians, others rely on online softwares to the meet the increasing demands for Medical Spanish. Furthermore, schools such as Thomas Jefferson University provide a 4-year Medical Spanish program where the two years focus on learning Medical Spanish and the latter 2 years allow students to work in Spanish-speaking clinics in Philadelphia and abroad.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- At our School of Medicine, I propose creating an Intermediate/Advanced Medical Spanish course that will allow students who are proficient in Spanish to gain skills in Medical Spanish. While designing the curriculum, consideration was given to the specific format the course would have. Ideally, the most pragmatic solution would be to incorporate a predesigned, asynchronous Medical Spanish curriculum that students could complete on their own time. Given the high demands and pressure that medical education places, a flexible self-paced course seemed ideal. However, programs that provide this curriculum such as Canopy are not fiscally sustainable for the SOM (approximately $5,000 for 15 students for a 6 month subscription). Free premade courses available through Coursera such as Rice University's Spanish for Successful Communication in Healthcare Settings do not offer the same rigor and are easily able to be taken by the University offering the course. While the course may be available currently, there is no guarantee that it would remain and be offered at the appropriate time that corresponds to when students would need to take it.

- To offer the most comprehensive and helpful course to students engaging in this endeavor would be to provide a personalized HMSOM Medical Spanish Course. Not only does this allow us to tailor the exact content delivered in the course to be the most relevant for medical students, but also it is sustainable in that there are no high standing fees to be paid. This project involves the creation and implementation of such a course for the purpose of creating a Volunteer Health Interpreting Organization.
- The capstone project proposes creating a Medical Spanish Curriculum based off of the following textbook: *A Healthcare Workers' Guide for Communicating With the Latino Patient.* This curriculum will be designed to for students who are at the high intermediate level (4+ college semesters or above) or heritage Spanish-speakers. The curriculum will include covering 7 chapters of the textbook with live weekly sessions last approximately 1 hour as well in asynchronous exercises for students to complete during MCP. The stretch goal includes teaching chapters 8-13 during the beginning of I2C. The course will be taught with weekly lists of vocabulary words that are based on the theme for the week. The course will be taught exclusively through interactive exercises with a focus on listening and speaking. There will be weekly quiz will be given at the start of each session covering words from the previous week. At the end of the session, there will include a "cultural highlights" component that elucidates important cultural information to build cultural competency. This component may also be done in partnership with LMSA through additional sessions that are provided, and may also be done asynchronously.
- Once students receive training in Medical Spanish, they will be able to work as volunteer interpreters for the Bergen County Volunteer Health Initiative Clinic. Not only will this allow students the opportunity to utilize the Spanish skills they acquire in a medical-context, but also it was greatly benefit the clinic which has a positive impact on the Bergen County Community. Currently, the BVMI Clinic relies on bilingual staff and volunteers to meet their interpreting needs, so medical student involvement will have signifant impact in providing an important resource to the clinic.

DISCUSSION / CONCLUSION

There is a large population of Spanish-speakers utilizing the healthcare system with a high demand for interpreter services. Nationally, medical schools have risen to meet the increased needs by offering Medical Spanish courses to their students in various in-person and virtual formats. Given the high population of Spanish speakers in New Jersey as well as the HMSOM's Mission and Vision to provide equitable care, offering a Medical Spanish course at SOM and serving local community partners such as the BVMI as potential for positive impact for the community.

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Navigating Empathetic Conversations with Patients: A Guide for Medical Students

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INTRODUCTION

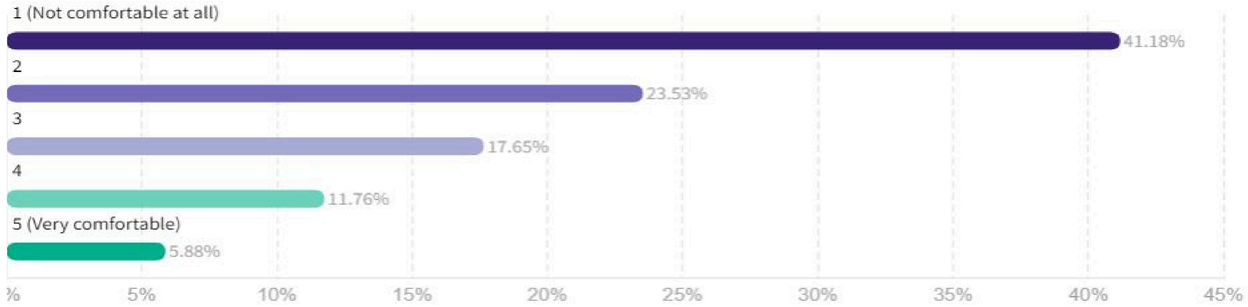
An empathetic patient-practitioner relationship has been shown to improve treatment and recovery among patients, and decrease the likelihood of malpractice suits among medical professionals. A virtual module aimed to equip 1st year medical students with a background in communication skills to improve empathy in patient interactions

BACKGROUND

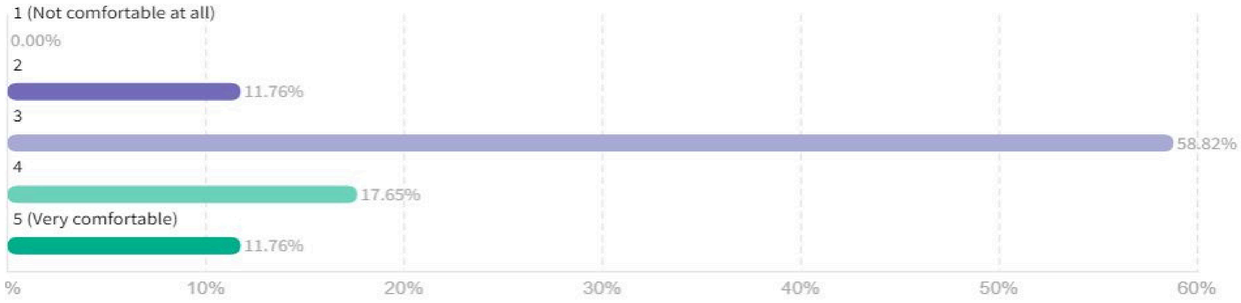
Currently, personalized feedback and face-to-face learning is used to build communication skills in medical school - further research is needed to explore the role of online learning, peer role-play, and the validity of expert expectations compared to real patients. Studies also show that medical students experience a significant decline in empathy during the third year, contradicting the curriculum's focus on patient-care activities. Online modules can be easily accessible to retain and enhance empathy during this transitional period.

SURVEY RESULTS

On a scale of 1-5, how comfortable did you feel talking to standardized patients in your first month in medical school?



How comfortable are you in emotionally challenging scenarios with patients?



ASPECTS OF MODULE

The module will include stages of conversations, the utilization of open-ended questions, recognizing and reinforcing the patient's strengths exhibited in challenging situations (Strength IDs), thoughtful paraphrasing, and the use of "tentafiers" (phrases like "it sounds like," "it seems as if")

NEXT STEPS

A module will need to be created with various practice scenarios and implemented within the curriculum as seen fit by HMSOM CS team.

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Addressing Inaccessibility to Fertility Preservation in Pediatric Oncology Patients

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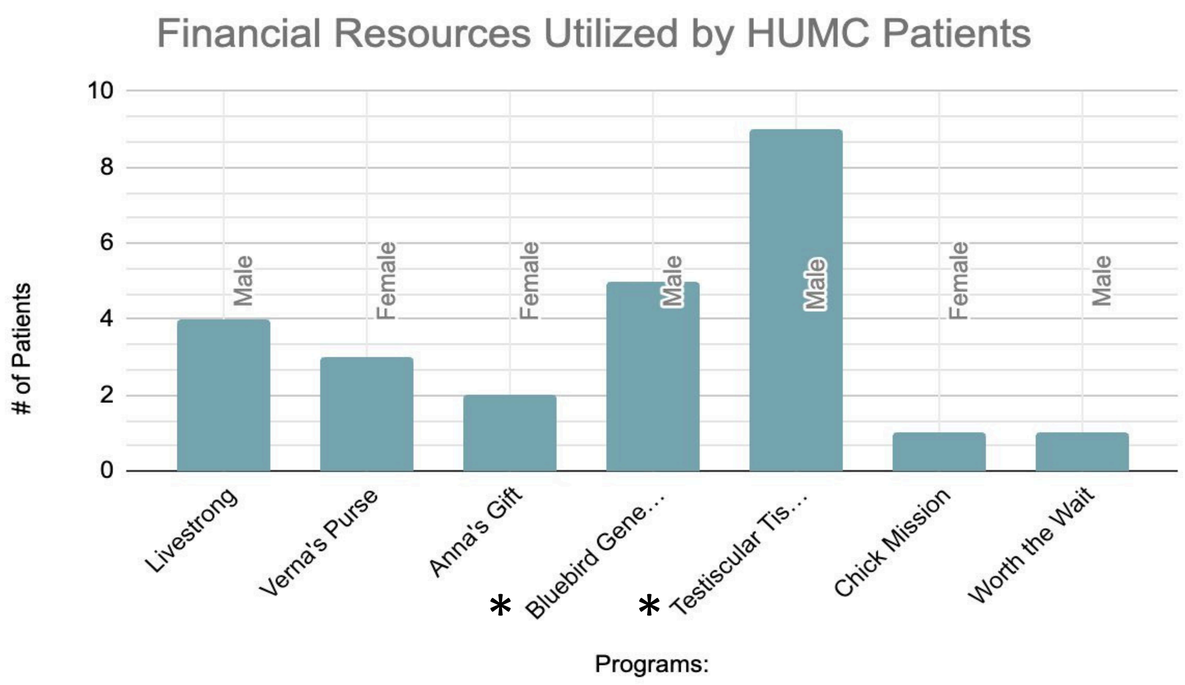
BACKGROUND

- The aim of this project was to address some of the inequities present in fertility preservation in pediatric oncology patients in New Jersey. One primary source of these disparities seems to stem from limited access to information about resources for financial support.
- Financial constraints pose a major hurdle, as fertility preservation procedures can be expensive and may not be covered by state insurance.
- This financial burden disproportionately affects families with lower socioeconomic status, potentially forcing them to forgo fertility preservation due to the high costs involved.
- The information deficit is being alleviated by the intervention of a dedicated Fertility Preservation team, which has existed at HUMC for the past 5 years.
- Therefore, we strove to compile a stream-lined database of all philanthropic resources available to assist families in need of financial support. Using existing records of previous HUMC patients, we aimed to identify previously used resources as well as analyze which patients qualify for financial assistance.
- SDOH: Access to care

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Current database of pediatric oncology patients at HUMC who underwent fertility preservation treatments in the years 2017-2024 indicate that of 71 patients, 25 utilized a form of financial assistance (35%).
- Of the 25 patients, only 11/25 (44%) patients utilized a philanthropic financial assistance program. The other 14 received financial assistance through entry to a clinical research trail.
- The programs utilized by previous patients are indicated in the chart below.
- Using the database of pediatric oncology patients in HUMC that already exists, we were able to analyze whether patients elected to receive fertility preservation treatment and how they were able to pay for these treatments. We were able to determine how many utilized any philanthropic resources and how they qualified for these resources.



*: Fees covered through participation in a clinical trial

DISCUSSION / CONCLUSION

- We hope to expand the database so it will be specific for each demographic and whether there are population-specific resources.
- Using these, we will then compile a database that can streamline the process for families looking into fertility preservation.
- This project has underscored the significance of providing clear and readily accessible information to patients. Time-sensitive matters, such as fertility preservation for newly diagnosed cancer patients, highlight the crucial need for clarity and swift access to information.

REFERENCES / ACKNOWLEDGEMENTS

- *Pending further analyzation and access to redcap database*

Scan me!

Postnatal Management and Barriers to Care for Antenatal Hydronephrosis

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Background

- Hydronephrosis manifests as the impaired drainage of urine from one or both kidneys, resulting in renal swelling. Characterized by the dilation of the renal pelvis and calyces, it constitutes a subset of Urinary Tract Dilation (UTD). This condition is the most frequently identified prenatal anomaly, affecting 1-2% of pregnancies. In approximately 70-80% of cases, postnatal resolution occurs without surgical intervention. However, a subset of patients requires surgical correction for obstruction or vesicoureteral reflux. Despite the commonality of resolution, it may necessitate several years, prompting recurrent clinical visits and potentially invasive diagnostic procedures. After birth, it is recommended to delay ultrasound assessment until the conclusion of the first week of life, once normal urinary output has been established in the newborn. Exceptions to this protocol are noted in cases of mild hydronephrosis, where evaluation can be deferred for up to 3 weeks. However, in instances of more severe conditions such as solitary kidney, bilateral moderate to severe hydronephrosis, or suspected lower urinary tract dilation, prompt evaluation is imperative, ideally within 1-3 days after birth. Long-term surveillance is crucial for infants with antenatal hydronephrosis. The existing literature presents a discourse on the optimal frequency and duration of follow-up. Late exacerbations or recurrences of hydronephrosis may manifest within the initial two years of life, potentially extending into the second and sixth years.

While no single study has specifically addressed the barriers hindering long-term follow-up imaging for newborns previously diagnosed with antenatal hydronephrosis, several studies have endeavored to elucidate factors impeding pediatric patients from receiving follow-up imaging.

Barriers to Follow Up

Flores et. al. conducted a retrospective site-specific study composed of 7,275 children <18 yo. during a 12-month period requiring imaging including CT, MRI, US, fluoroscopy, and nuclear medicine

The study found an increased likelihood of imaging missed care opportunities among:

- ◈Children of Black/African-American race
- ◈Children with Medicaid
- ◈Self-pay and other insurance categories
- ◈Fluoroscopy
- ◈Children living in ZIP codes associated with <$50,000 median household income
- ◈Children waiting 7-21 days and greater than 21 days for their scheduled exam

The study also found that missed care opportunities among their pediatric population was found to be 8% which is higher than that among adults with a range of 2%-6.5%

Additionally, they found that ultrasound had a higher share of imaging appointments missed compared to MRIs and posited that ultrasound appointment flexibility is greater than that compared to MRIs; thus, parents may be more willing to miss or reschedule ultrasounds

Shah and Tennermann et. al. conducted a single center 5 year (2015-2019) retrospective study of pediatric patients aged <21 and younger who were scheduled for at least one outpatient at their pediatric academic medical center

- ❖The study looked to assess differences in pediatric MRI imaging missed care opportunities and whether health system and socioeconomic factors represented by a geography-based Social Vulnerability Index influenced racial/ethnic differences
- ❖Total of 68, 809 scheduled appointments for 43,999 patients
- ❖**Insurance status proved to be a strong independent predictor of missed care opportunities and those having no insurance status on file having "exceedingly high" odds of missed care opportunities compared to the privately insured.**
- ❖"In this study, racial and ethnic differences persisted after controlling for a limited set of geography-based socioeconomic factors. This suggests that additional structural and social determinants, as well as systemic and individual factors, result in barriers to care and warrant attention, including interpersonal and systemic racism"

Factors in Our Own Back Yard

JSUMC/KH SERVICE AREA vs. BENCHMARKS

SOCIAL DETERMINANTS	JSUMC/KH Service Area	vs. HMH	vs. NJ	vs. US	vs. HP2030	TREND
Linguistically Isolated Population (Percent)	2.3	5.9	6.1	4.1		
Population in Poverty (Percent)	8.2	9.5	9.7	12.8	8.0	
Children in Poverty (Percent)	11.8	13.1	13.3	17.5	8.0	
No High School Diploma (Age 25+, Percent)	6.9	9.6	9.7	11.5		
% Unable to Pay Cash for a $400 Emergency Expense	19.4	17.9		24.6		
% Worry/Stress Over Rent/Mortgage in Past Year	34.0	33.4		32.2		35.7
% HH Member Lost Job, Wages, Insurance Due to Pandemic	26.3	28.0				
% Unhealthy/Unsafe Housing Conditions	10.0	10.6		12.2		
% Food Insecure	26.3	28.8		34.1		24.8

better · similar · worse

JSUMC/KH SERVICE AREA vs. BENCHMARKS

ACCESS TO HEALTH CARE (continued)	JSUMC/KH Service Area	vs. HMH	vs. NJ	vs. US	vs. HP2030	TREND
[illegible] Dr Visit in Past Year	9.9	9.8		8.9		6.5
% Language/Culture Prevented Care in Past Year	2.1	1.9		2.8		1.5
% Written Health Info is "Seldom/Never" Easy to Understand	9.9	11.9				12.3
% Spoken Health Info is "Seldom/Never" Easy to Understand	7.9	9.7				9.4
% Skipped Prescription Doses to Save Costs	15.3	13.7		12.7		11.6
% Difficulty Getting Child's Health Care in Past Year	11.2	8.1		8.0		5.8
Primary Care Doctors per 100,000	98.9	108.4	105.8	103.3		
% Have a Specific Source of Ongoing Care	73.0	72.2		74.2	84.0	75.8
% Have Foregone Medical Care Due to Pandemic	25.7	28.0				
% Have Had Routine Checkup in Past Year	70.3	68.2	74.4	70.5		71.6
% Child Has Had Checkup in Past Year	86.5	86.9		77.4		87.8

Physician Survey

Electronic survey consisted of 4 sliding scale questions as well as one question in which multiple choices could be selected and was sent to an OB/GYN, pediatrician, pediatric radiologist, and pediatric urologist

-Physicians were asked: how often following up with patients regarding their imaging was necessary in their practice, how likely they were to follow up on abnormal imaging, how likely they were to collaborate with other specialties on abnormal imagine, how often they utilize the social determinants of health when making their recommendations, and identify the top 3 factors they observed as barriers to follow up imaging for pediatric patients

-While responses were limited, at least one physician noted they were "definitely likely" to follow up on abnormal imagine, but less likely to both collaborate with other physicians in the management, and even less likely to consider the social determinants of health in their recommendations

LIMITATIONS

- Limited number of survey respondents
- Limited existing data on pediatric imaging follow up and even less data on specific conditions (i.e. antenatal hydronephrosis)

Recommendations

Meet patients where they are!

- •Strategically engage expectant parents at various stages of pregnancy to actively involve them and provide early counseling on postnatal follow-up opportunities.
- •Employ culturally sensitive and empathetic approaches to identify risk factors, particularly pertaining to insurance status, initiating intervention during pregnancy.
- Inquire about the availability of support for attending imaging appointments and endeavor to locate imaging facilities nearer to their residences whenever feasible.
- •Demonstrate flexibility in scheduling appointments while emphasizing the significance of ultrasound examinations and the necessity of early addressing of concerns.
- •Play a pivotal role in assisting patients in navigating the complexities of insurance acquisition.
- •Bridge knowledge gaps and ensure comprehensive responses to inquiries regarding the condition and prognosis.
- •Maintain a multidisciplinary approach, collaborating with social workers, primary care providers, and specialists throughout the patient's care journey.
- •Provide necessary imaging recommendations on standard hospital discharge documentation following delivery for review by the child's pediatrician

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Stop the Bleed Program Outreach to Middle Schools: Empowering Students to Save Lives

Ilona Cazorla-Morales, MS3, Tracy Nerney, BS, MMBA, RN, Marni Kriegel, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

What is Stop the Bleed?

- The purpose of the campaign is to build national resilience by better preparing the public to save lives by raising awareness of basic actions to stop life threatening bleeding following everyday emergencies and man-made and natural disasters.
- The STB course teaches individuals how to provide vital initial actions to stop uncontrolled bleeding in emergency situations.
- Techniques:
  - Direct Pressure: Explain the importance and technique.
  - Tourniquet Use: Demonstrate proper tourniquet application.
  - Packing a Wound: Briefly explain the concept.

METHODS

DESIGN

1. Phase 1
   a. Meeting with personnel from Hackensack Public Schools in order to establish relationship between HMSOM and Hackensack Public School systems.
2. Phase 2
   a. Offer multiple methods of implementation
      i. Option 1:
         1. Train HMSOM medical student volunteers to become certified in Stop the Bleed
         2. Certified medical students will provide standardized sessions for both teachers and students in small groups within Hackensack middle schools.
            a. Certified teachers will be able to also aid in providing standardized presentations
         3. Provide a post-course exam (participants must pass in order to become certified)
         4. Check-in: provide a survey one month post certification in order to assess both student and teacher comfort and confidence in aiding in situations requiring Stop the Bleed training.
      ii. Option 2
         1. Acquire certified Stop the Bleed trainers through program coordinator at HUMC
         2. Stop the Bleed trainers will go through necessary steps to certify teachers at Hackensack Middle Schools
         3. Certified teachers can train students within their classrooms.

DISCUSSION / CONCLUSION

- Literature has shown that perception for school preparedness can be improved upon by developing clear school-wide protocols, providing more frequent Stop the Bleed training sessions, increasing the availability of equipment, and giving school personnel more realistic training scenarios.
- After STB training, K-12 personnel felt empowered to organize additional STB training and capable of teaching STB methods to others.
- Community impact:
  - A 13-yo boy rescued his 81 year old neighbor after she fell off a four-wheeler and became trapped

STOP THE BLEED®

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Analysis of AHRQ Patient Safety Indicator 12: Perioperative Pulmonary Embolism and Deep Vein Thrombosis Rate at JSUMC

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HD/CAPSTONE FACILITATOR: Dr. Marni Kriegel

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BACKGROUND

SDOH: Healthcare access and quality

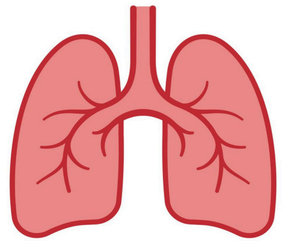
Impact on health: Prevention of adverse patient outcomes requires tertiary prevention through systems level interventions. Such changes involve a culture and community of quality improvement; the burden cannot fall on an individual or the medical team and even goes beyond single hospitals or hospital systems. Such deficits in tertiary prevention were further exacerbated by the COVID-19 pandemic, elucidating the need for systems-level interventions and support.

Patient Safety Indicators (PSI) are one way that the AHRQ attempts to evaluate and oversee healthcare quality and patient safety at individual hospital centers; these PSIs should be frequently investigated to ensure they are effective and provide clinically-relevant data for evaluating hospital systems.

Knowledge / Action Gap: Research has shown poor predictive value and limited clinical utility for PSI 12: Perioperative pulmonary embolism (PE) and deep vein thrombosis (DVT) rates in surgical patients. In addition, COVID-19 caused increased rates of thrombo-embolism, possibly confounding the accuracy of PSI 12. Overall, the use of PSI 12 as a metric for patient safety initiatives should be carefully evaluated.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Study Objective: To review previously identified PSI 12 events at Jersey Shore University Medical Center on a case-by-case basis, evaluating the patient circumstances leading up to, and during, the event. To develop and propose systems-level interventions to attempt to lower PSI rates at JSUMC.



Methods: Participants taken from list previously identified of PSI 12 events at JSUMC. Data collected via in-depth chart review. Measures were collected pre-, peri-, and post-operatively. Data collected included: indications for anticoagulation; time, date, and dose of pharmacologic anticoagulation; SCD use; Caprini risk score; type of venous thromboembolic event (VTE).

Preliminary Results:

- Agents given: heparin, apixaban, enoxaparin, IVC filter
- Only 66.7% of surgeries had documented SCDs
- PRE-PROCEDURE: approximately 24.7 hrs between stopping anticoagulation and procedure start, when applicable
- POST-PROCEDURE: approximately 29.6 hrs between procedure end and restarting anticoagulation, when applicable

Proposed Interventions:

(1) Provider training on (1) discrepancy between postoperative orders and med administration and (2) lack of SCD documentation

(2) Resident training & clear guidelines on perioperative anticoagulation measures & EPIC notification with specific start time

(3) Conduct PDSA cycle to determine efficacy of these methods, and re-evaluate PSI 12 rates and data at JSUMC in 6 months

(4) Evaluate HMH policy to identify "non-error" events, in which all proper protocols were followed but the PSI event still occurred.

IMPACT / DISCUSSION

- Expected Impact: Spread awareness on opportunities for improvement in perioperative anticoagulation protocols and VTE rates at JSUMC.
- While this study provides some useful evidence on possible causal analysis of PSI 12 events at a single high-reliability organization, additional data is needed to evaluate its efficacy as an indicator of patient safety.

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A huge THANK YOU to Dr. Frank and Patient Safety and Quality at JSUMC!

Agency for Healthcare Research and Quality (AHRQ); Patient Safety Indicator (PSI); Jersey Shore University Medical Center (JSUMC); Sequential compression device (SCD); Venous thromboembolic event (VTE)

Evaluating ChatGPT as a Resource for Navigating Insurance and Healthcare

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BACKGROUND

- Navigating Medicaid and Medicare information is complex for the general public.
- The challenge is greater for those with low health literacy, affected by social determinants of health like environment and access to care.
- These individuals face barriers that increase healthcare inequities.
- ChatGPT by OpenAI offers solutions by simplifying information, translating, and allowing for follow-up questions.
- This project aims to evaluate ChatGPT's role in making Medicaid and Medicare information more accessible, targeting to reduce healthcare disparities.

METHODS

▪Data Collection

A list of the 20 most frequently asked questions about Medicaid and Medicare was compiled from HHS.gov and Medicaid.gov, reflecting the common concerns of the general public regarding these healthcare policies.

▪ChatGPT Interaction

On January 10th, 2024, these questions were posed to ChatGPT-3.5. Each session was reset before querying to avoid any learning bias from previous interactions. Responses were then compared with the responses available on the government websites dedicated to Medicaid and Medicare.

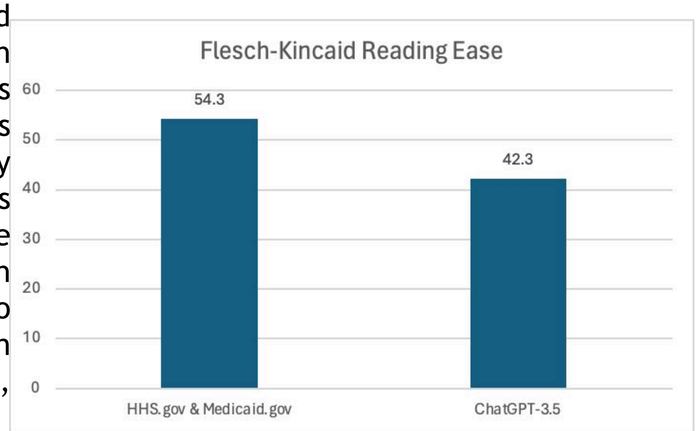
METHODS (con't)

▪Readability and Quality Assessment

ChatGPT-generated answers and the official website content were subjected to a readability test using the Flesch-Kincaid score along with other readability indices such as the Gunning Fog score, SMOG index, Coleman-Liau index, and Automated Readability Index. This analysis aimed to determine whether ChatGPT's responses met the government-recommended eighth-grade reading level for public documents. To assess the quality of ChatGPT's answers, two independent graders evaluated them on a Likert scale based on criteria including accuracy, completeness, and relevance. A detailed rubric was developed to ensure consistent and fair grading across all responses. This rubric included a Likert Scale of 1-5 for each category, with clear definitions for each score to address potential challenges in evaluating the nuanced performance of AI in providing concise and accurate information on complex policies.

RESULTS

- Responses from HHS.gov and Medicaid.gov were easier to read, with higher average Flesch-Kincaid Reading Ease scores (54.3, 10-12th grade level) than ChatGPT's responses (42.3, college level). ChatGPT's responses scored highly in accuracy
- (average of 4.7), completeness (average of 4.1), and relevance (average of 4.5). There was a high level of agreement between the two graders, as evidenced by Pearson
- correlations (accuracy: 0.95, completeness: 0.84, relevance: 0.76).



DISCUSSION

- High accuracy, completeness, and relevance scores assigned by the graders highlight ChatGPT's potential as a reliable source of healthcare information.
- Reliability is crucial in contexts where misinformation can lead to significant health risks or exacerbate existing inequities.
- Comparison of readability scores between ChatGPT and government website responses highlights a nuanced trade-off: while control sources may be easier to read, ChatGPT's responses are not significantly more complex, suggesting that the depth and quality of information do not necessarily compromise accessibility.

CONCLUSION

- Showcases the potential of AI tools like ChatGPT in bridging information gaps.
- Also calls attention to the necessity for careful consideration of how these tools are designed and used.
- Ensuring that AI complements efforts to make healthcare information more accessible and understandable can be a crucial step towards mitigating healthcare inequities and fostering a more informed and health-literate public.

PREVENTION OF FATAL INJURIES IN CONSTRUCTION WORKERS

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BACKGROUND

- Falls are the leading cause of fatalities in construction

- Other mechanisms of injury while on site are being struck by an object, electrocution, and getting caught in/between objects or vehicles

- Significant injuries that may occur include traumatic brain injuries, limb loss, broken bones, knee injuries, neck injuries, shoulder injuries, and wound lacerations
  In survivors, injuries can lead to a
- diminished quality-of-life, time off work, and financial instability

- According to the National Safety Council, the average cost of medically consulted injuries for workers is $42,000, while the work injury cost per fatal work accident is more than $1.3 million

- Currently, there is a gap in literature in terms of what immediate response can be taken by bystanders on construction sites after an injury occurs

- The goal of this project is to provide emergency response training to construction workers in the event of a workplace accident

- Social Determinants: Social and Community Context, Economic Stability

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Providing education with the STOP THE BLEED course
- Targeted audience consisted of construction workers and tradesmen with similar workplace hazards
- A list of a variety of construction and trade companies/suppliers in Monmouth county was compiled, appropriate contacts were emailed to discuss educating their workers with STOP THE BLEED
- Introductory PowerPoint and brochure was created to emphasize the importance of preventing workplace falls to the audience, as this is the most common cause of fatality in construction workers
- Expected that the intervention will increase awareness of workplace safety standards and possibility of injury while on site
- Intervention will educate employees and employers on how to respond in the event of a
- severe workplace accident, reducing mortality
  Intervention provides additional training that can be implemented by individuals on site while waiting for first responders

If you witness a workplace injury that results in an emergency:

1)Call 911

2) If there is bleeding, apply direct pressure with hands on the site of the wound
3) If bleeding continues, pack any visible wound and compress the site
4) If the primary injury is on the arm or leg, and the bleeding continues, apply the tourniquet

DISCUSSION / CONCLUSION

- Some companies elected to purchase bleeding control equipment to add to their first aid kit
- Contact list will continue to be utilized for continued outreach within Monmouth County
- Primary barrier in continuing outreach is the limited number of instructors who can teach STOP THE BLEED
- Intervention needs further follow-up to determine efficacy
- Potential next steps include surveying participants to determine if their outlook on workplace safety and possibility of workplace injury changed

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Navigating Healthcare and Access to Social Services

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BACKGROUND

- Social determinants of health have a large but often hidden impact on health outcomes, especially in underserved communities
- A large array of assistance programs are available to those of low socioeconomic status
- However, many patients are unable to access these programs due to:
  - Complicated application processes
  - Rigorous documentation requirements
  - Inadequate healthcare and technology literacy
  - Language barriers
  - Lack of awareness of these programs
- Social Workers often lack the time to individually provide relevant and comprehensive information regarding these programs to patients when they come to clinic appointments

OBJECTIVES

- Reduce friction associated with signing up for high-volume assistance programs through comprehensive informational guides
- Assist social workers in the clerical work (documentation, paperwork, explaining benefits) associated with signing up patients to these programs

INTERVENTION DESIGN

- To create self-contained, comprehensive informational guides that help patients understand what services are available and how to sign up for them from start to finish
- To distribute these guides to patients and social workers at HMH clinics that primarily serve communities of low socioeconomic status

NJ FAMILYCARE ENROLLMENT

What is NJ FamilyCare?

NJ FamilyCare is federal and state funded health insurance program that provides no-cost health insurance to qualified New Jersey residents. It is a comprehensive healthcare coverage program with no premium or copayments, providing a wide range of services including doctor visits, medications, hospitalizations, lab testing, imaging, and more.

Eligibility:

- **Adults** (age 19-64): Must have Legal Permanent Resident status in the US for at least 5 years
- **Children** (age <19): Qualify regardless of immigration status
- **Pregnant Women:** Qualify if lawfully present in the US, regardless of date of entry into the United States

Financial Eligibility: Determined by the latest federal tax return
Tip: You may choose any health plan available in your county

FAMILY SIZE *	Adult(s) (Age 19-64)	Children (Under Age 19)
	Maximum Monthly Income	
1	$1,732	$4,456
2	$2,351	$6,047
3	$2,970	$7,639
4	$3,588	$9,230
5	$4,207	$10,822
6	$4,826	$12,414
Each Additional	$619	$1,592

Required Information & Documentation:

1. NJHelps Online Account
2. Email Address
3. NJ Home Address
4. Social Security Number and/or USCIS Number (if applicable)
5. Household Member Information including Income & Employment
6. Proof of Income (if applicable)

Apply Here!

Hackensack Meridian *Health*

Have Questions? Need Help?
1-800-701-0710 (Multilingual Operators Available)
Mon & Thur 8AM-8PM | Tues, Wed, Fri 8AM-5PM
Website: njfamilycare.org

NEW JERSEY SNAP ENROLLMENT

What is NJ SNAP?

New Jersey's Supplemental Nutrition Assistance Program, NJ SNAP, provides food assistance to families with low incomes to help them buy groceries through a benefits card accepted in most food retail stores and some farmers markets. Eligibility is set by several factors, such as income and resources. You can use SNAP benefits to stretch your food budget and buy nutritious foods that can keep you and your family healthy.

NJ SNAP food assistance

Eligibility:

Work Requirements apply to all participants between the ages of 16 through 59 who are not specifically exempted by law:
- Minimum 80 hours per month
- Requirement is waived if >60 years old

Financial Eligibility (see chart) is determined by:
- Household size
- Total monthly income

Eligible members receive a minimum monthly benefit of $95 through the Families First Card

Household Size	Max. Allowable Income
1	$2,248
2	$3,041
3	$3,833
4	$4,625
5	$5,418
6	$6,210
7	$7,003
8	$7,795
Each Additional Member	+ $793

Application Process:

1. Fill out an Online Application
2. Phone or In-Person Interview
   -Date & Time Communicated via Mail
   -Usually within 30 days of applying
3. Submit Documentation Online

Scan the QR Code to access the SNAP application:

To fill out the application, you will need a list of all incomes and expenses.

Required Documentation:

1. Valid ID (i.e. Driver's License, Birth Certificate)
2. Social Security Number
3. Proof of Residence (i.e. Lease, Rent Receipt)
4. Proof of All Income (i.e. Paystubs, Employer Letter, Tax Return)
5. Proof of All Expenses (i.e. Rent, Gas, Electric, Phone and Utility Bill, Child Care)
6. Receipts of Child Support (if applicable)
7. Receipts of Medical Bills (if >60 years old)
8. Proof of Immigration Status (for non-citizens)

Hackensack Meridian *Health*

Need Help? Contact a SNAP Navigator!
Bergen County: 1-908-838-4831

EXPECTED IMPACT & GOALS

- Increased enrollment in social services amongst patients at HMH clinics
- Reduced burden on social workers regarding explanation of services and enrollment
- Improved health outcomes for patients after receiving social service benefits
- Adoption in various settings within the HMH network (hospitals, rehab centers, etc.)
- Expansion of informational pamphlets to other applicable services
- Build and improve upon formal partnerships between HMH and these various organizations, including outreach events, enrollment drives, and more

DISCUSSION & CONCLUSION

- Doctors and nurses often lack the time to address the numerous social issues that patients present with in clinics serving underserved populations.
- Our goal in providing these informational guides is to address issues related to social determinants of health that are often overlooked by clinicians.
- Through partnerships with HMH social workers and HMH programs like Healthy Connections, we aim to distribute these flyers year-round and update them as needed.
- The next steps for this project involve translating the flyers into different languages (e.g., Spanish), expanding the distribution network, and including other valuable services such as WIC, WorkFirst NJ, and NJ SHARES.

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Psychiatric Patients with Nasogastric Tubes

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BACKGROUND

- **Eating disorders according to DSM-5 (highly abbreviated):**
- Anorexia Nervosa: Restriction of energy intake leading to significantly low body weight
- Bulimia Nervosa: Recurrent binge-eating with inappropriate compensatory mechanisms
- Binge-eating disorder: Recurrent binge-eating episodes within discrete time frame
- ARFID: Eating disturbance based on sensory characteristics of food leading to nutritional deficiency.

- **What is the knowledge/action gap?**
  - Proper care of eating disorder patients requires both medical and psychiatric care
  - Even when medically stabilized, discharge to psychiatric care can be impossible for these patients if they still require NG tube feeds despite underlying psychiatric reason
  - Balancing this interdisciplinary care is very difficult as most hospital systems do not have overlapping med/psych care aside from consults

- **Objective of the project/study**

Create a simple protocol that allows for the use of NG tube feeds on primary psychiatric floors with minimal medical monitoring/intervention

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Guidelines for transfer:

- To meet eligibility criteria for psychiatric inpatient transfer, patients must be medically cleared (i.e. no longer requiring medical monitoring such as labs, 24-hour vitals/monitor, telemetry, etc.). Therefore, they cannot meet either of the below disqualification criteria:

Medical Instability for at least 24 hours:

Hypothermia (<35.5 C)
Bradycardic (HR < 50 bpm)
Hypotensive (BP < 80/ or /40)
Orthostatic instability (Pulse > 20 bpm, SBP decrease > 20 mmHg)
Arrythmia (QT interval > 0.45s)
Any electrolyte abnormality, especially potassium, phosphate, magnesium, glucose

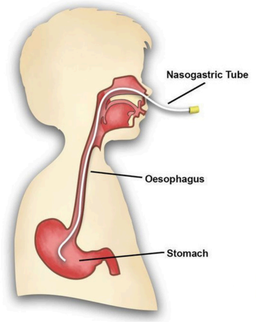
High risk of refeeding syndrome (according to 2006 NICE guidelines):

1 of:

BMI < 16
Unintentional weight loss >15% in the past 3-6 months
Little or no nutritional intake for >10 days
Low levels of potassium, phosphate, or magnesium (medical instability)

Or 2 of:

BMI < 18.5
Unintentional weight loss >10% in the past 3 to 6 months
Little or no nutritional intake for >5 days
History of alcohol misuse or drugs (e.g. insulin, chemotherapy, antacids, or diuretics)



- Over the course of an extended hospital stay (>1 month) it is likely that a patient who requires refeeding and monitoring on admission will no longer meet these criteria by the end.
- Using these criteria, it is possible to differentiate between those who need NG tube feeds for medical vs for psychiatric reasons.

Minimizing NG Tube Burden on Psych Floors

- NG tube placement should be recorded on transfer and assessed at every feeding.
- Syringe bolus feeding avoids pump use and is not associated with increased risk of instability.
- Intranasal portion of tube should be minimized. Extension tubing should be used at feeding and removed from patient area immediately after feed.

DISCUSSION / CONCLUSION

Obstacles going forward:

- The largest obstacle to implementation is finding the most appropriate hospital(s) in which this can be implemented.
- Ideally, eligible hospitals will need to have (1) pediatric psych care, (2) voluntary and involuntary units, (3) facilities designed for long-term stay, (4) easy access to medical facility in case of acute decompensation.

Conclusion:

- As of now, NG tubes are an automatic disqualification from acceptance by most psychiatric facilities.
- This has caused an inadvertent burden on medical floors of some patients who need NG tubes for psychiatric, and not medical, reasons.
- With proper care, etiquette, and training, NG tube use and maintenance on psychiatric floors is possible.

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Thank you to Dr. Noor Al-Husayni and Dr. Harshasu Barot for sharing their experience and expertise in these fields. Thank you to Dr. Jennifer Knight for her guidance through this process!

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Learning How To Build Trust with Communities: The First Step To Reducing Health Disparities

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Background

- The Human Dimension (HD) program at Hackensack Meridian School of Medicine (HMSOM) provides a curriculum that:
  - Emphasizes the social determinants of health
  - **Builds trust** between the health care system and local community
- Through the HD Program students develop important knowledge, skills, and attitudes while building **longitudinal trusting relationships** between the health care system and the community.
- Examples of curricular these activities include:
  - Community Health Projects
  - Stakeholder interviews
  - The Voices Program
  - The COVID SOS Initiative

Community Health Projects:

- Groups of students are matched to community health partners to work together to design and implement a project that responds to an unmet need
- Physicians meeting with community leaders has been shown **to build trust** between communities and healthcare institutions3, so this program helps **facilitate trust**

21 Community Health Project Partners

Community Stakeholder Interviews

- First-year HMSOM students meet with community stakeholders as part of a community assessment
  - Includes 8 communities across 4 counties and 59 different community stakeholders
- Stakeholder meetings help students to:
  - Understand the stakeholders' perspectives about the community and its needs
  - Understand what the stakeholders' organizations provide to the community
  - Give students an understanding of how they can help address the community's social needs
  - Support institutional relationship building and **trust**

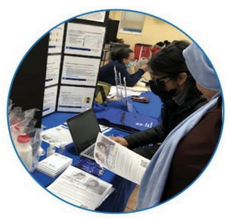
59 Community Stakeholder Interviews by Students

The Voices Program

- Pairs of students are assigned to families from historically underserved communities around the school
- Families are identified by:
  - Referrals from outreach events
  - Community based organizations
- Students work with the same family over the course of three years to improve their health literacy and connect to resources
- Visits occur every one to two months, with topics ranging from COVID vaccine concerns, digital literacy, nutrition, exercise, health maintenance, and racial health disparities
- **Builds trust** with medically underserved communities over time by fostering longitudinal, intentional relationships and working to maintain them2

40 HDVP Referral Sources

140 HDVP Referrals from Outreach Events



Support Our Schools (SOS) K-12 Initiative

- Developed during the COVID-19 pandemic, HMSOM partners with resources-limited school districts throughout New Jersey to support their needs
- SOS program includes
  - Physician advisory board
  - Medical student task forces
  - Networking platform for school leaders
- Virtual and In-person sessions to:
  - Answer questions
  - Address community needs
  - Carry out new initiatives

Community Feedback

- Program evaluation and impact on students is forthcoming. Examples of preliminary qualitative data includes comments such as:

"Each group of students that we have had the opportunity to work with have helped us as a community. They are always willing to listen to our ideas and work collaboratively alongside us in the work. We look forward to the continued partnership."

"We appreciate the time and effort the students took to interact, engage, faciliate groups and work with our clients both in program and in the community."

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Bridging Gaps: Empowering uninsured patients through a student-drive charity care assistance program

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1 M3, Hackensack Meridian School of Medicine, 2 Faculty, Hackensack Meridian School of Medicine

BACKGROUND

Access to healthcare services significantly impacts healthcare outcomes. Patients with limited to no accessibility may lead to delayed medical care, resulting in worsening health conditions and avoidable complications.

Charity care programs aim to bridge healthcare access gaps by offering essential coverage for medical services to individuals unable to afford them. Despite available charity care programs, a substantial gap exists in ensuring uninsured patient obtaining such services. Many individual may lack the awareness of available programs, or encounter difficulties in completing required documentation for such assistance. The gap inhibits the effectiveness of charity care and contributes to ongoing disparities in healthcare access and outcomes.

While there is a lack of public available data on the ratio of patients requiring charity care compared to those who apply, our observations at the BVMI clinic revealed numerous patients in need of such assistance who did not apply, often citing challenges in navigating the application process

Overcoming barriers

An information session was conducted at the HUMC charity care office to address the obstacles patients encounter, in addition to alternative options patients may submit. This information will enable the program to offer assistance to patients in need, even if they do not possess all the necessary documentation.

INTERVENTION DESIGN & EXPECTED IMPACT

Intervention Design

- The Charity Care Assistance Program will be accessible to all patients visiting both the BVMI and BVMI-PLUS clinics. An office QR code will be provided for easy sign-up, and office staff will be on hand to assist with form completion should any difficulties arise.
- Medical students undergo training using the Athena platform and open an staff account through the BVMI coordinator. Subsequently, they acquaint themselves with the HMH Charity Care application and receive virtual training via a video presentation.
- BVMI's patient coordinator and on-site staff will sign-up patients that desire assistance to the program via a google form. A student assistant will then be paired up with a patient charity care case.
- Students will follow the Charity Care Assistant program tracking sheet to track patients supporting documents, application progress and submission.
- The student will conduct follow-ups with patients to confirm their attendance at the Charity Care interview and to address any additional documentation needs, if necessary.

Step 1: Sign up!

Charity Care Assistance Program
Sign up!

Programa de asistencia de atención benéfica
¡Inscribirse!

SCAN ME

Step 2: Pairing with program assistant (medical student)

The student leader will take charge of monitoring the sign-up sheet and matching students with patients accordingly

Timestamp	Full name Nombre completo	Preferred contact number Número de contacto preferido	Alternative contact number Número de contacto alternati	Best contact time	Email Address
3/25/2024 11:49:49	John Doe	555-555-555		After 2pm	john.doe@gmail.com

Step 3: Application completion, submission and tracking

Charity Care Assistance Program	
Contact information	
Patient Name	John Doe
Contact #	555-555-555
alternative #	
Case #	1
Assistant	Student A
Documentation	
Hospital bill date or scheduled service	CT scan 4/15/24
Personal ID	☑
Insurance card	N/A
Banking statements	N/A
Proof of income	☑
Proof of residence	☑
Patient attestation	☑
letter of support (if needed)	☐
All signatures obtained	☑
Documents submitted in Athena	☑
Application submitted	☐
Scheduled In-person Interview date	

Expected outcomes:

- **Improved Access to Healthcare and reduce burden of medical debt**: By facilitating charity care applications and providing support to uninsured patients, the program successfully improved access to essential medical services for vulnerable populations and cost can be substantially reduced.
- **Empower through Education:** Engaging medical students in the process not only to provide valuable assistance to patients but also empowered future healthcare professionals with firsthand experience in addressing healthcare disparities and exposing themselves to vulnerable populations.
- **Strengthened Community Partnerships:** Collaborating with BVMI leaders and other stakeholders to strengthen community partnerships and fostered a sense of collective responsibility towards addressing healthcare inequities and improving healthcare outcomes.

DISCUSSION / CONCLUSION

Limited access to healthcare can worsen health outcomes; however, the successful facilitation of required documentation for the first trial patient highlights the crucial role of assistance programs in improving access to essential medical care.

The implementation of the Charity Care Assistance Program is expected to lead to improved access to healthcare and a reduction in medical debt among vulnerable populations. By engaging medical students in this process, the program not only provides valuable assistance to patients but also empowers future healthcare professionals with experience in addressing healthcare disparities.

Furthermore, the program strengthens community partnerships and fosters a sense of collective responsibility towards addressing healthcare inequities. The successful submission of completed documentation by the first trial patient highlights the importance of having an assistance program to navigate the hurdles of charity care applications, ultimately benefiting both patients and the healthcare system as a whole.

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A special thank you to Blanca Vidal, BVMI's patient coordinator and HUMC Charity Care Staff

Prescriptions & Subscriptions: An Initiative to Improve Awareness of Affordable Prescription Drug Programs

Jovan Bertrand, Dr. Bridget Tracy, & Dr. Joshua Josephs

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BACKGROUND

▪Prescription drug prices remain one of the most expensive part of healthcare for patients. Per the US Census Bureau, **92.1%** of people (304 million) had health insurance at some point in **2022**, which is more than the **91.7%** (300.9 million) of people who had health insurance at some point in 2021. ▪With this project I plan to address

access to care as a determinant of health. To accomplish this I am proposing an initiative to implement a physical resource that will provide information on prescription drug programs.

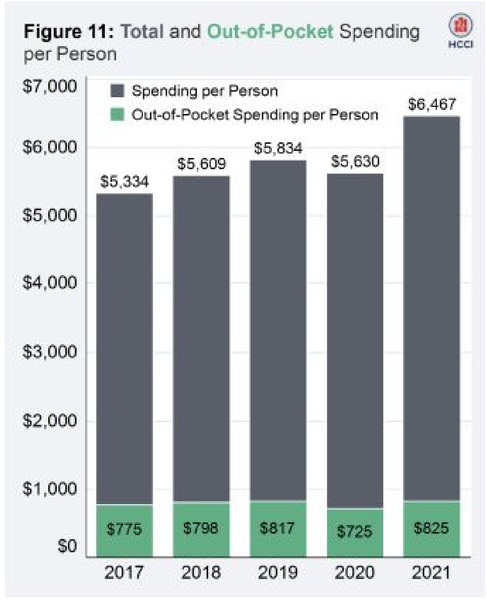

Figure 1. Total and Out-of-Pocket Spending per Person in the United States
Source: Health Care Cost Institute

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- I created a trifold brochure that contains information on seven different, verified, prescription drug programs via QR codes that can be used to obtain discounts on medication.
- ▪Much of the literature suggests that prescription drug programs like GoodRx can be used to decrease cost of prescription medications.
- ▪As an initial step of this initiative, I have distributed this resource to the Internal Medicine Residency Clinic at HUMC, in order to determine if intervention is helpful for patients and the clinic.

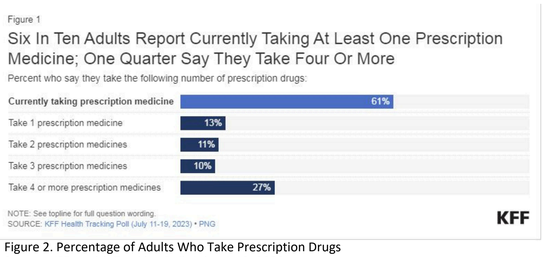

Figure 2. Percentage of Adults Who Take Prescription Drugs
Source: KFF Health Tracking Poll (July 11-19, 2023)

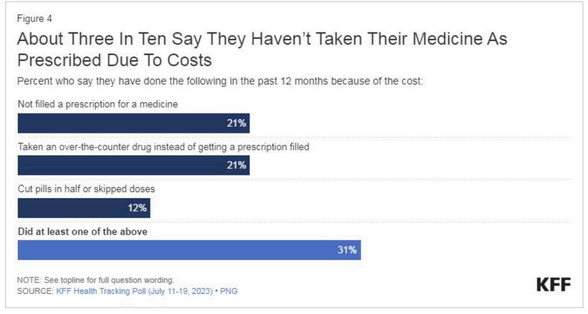

Figure 4. Percentage of Adults Who Have Done The Following Due To Cost
Source: KFF Health Tracking Poll (July 11-19, 2023)

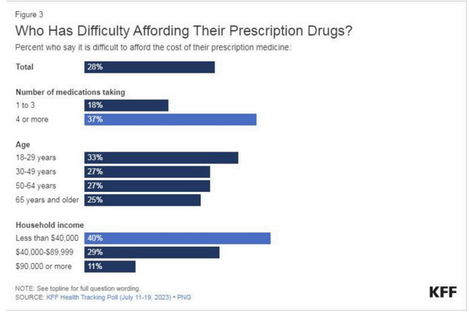

Figure 3. Percentage of Adults Who Have Difficulty Affording Their Prescription Drugs
Source: KFF Health Tracking Poll (July 11-19, 2023)

DISCUSSION / CONCLUSION

- ▪To date this project has not been formerly implemented in other primary care offices, and the IM clinic at HUMC has not determined if the intervention has been beneficial to patients.
- ▪Following its introduction, next steps for this project include a determination of efficacy at the IM clinic by way of surveying patients and clinicians at the clinic.
- ▪The target outcome for this project is that this intervention helps patients have greater access to their medications, allowing them to be able to follow healthcare plans, ultimately improving outcomes.
- If successful, this project could potentially be implemented in other primary care offices.

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Special Acknowledgments: Dr. Jonathan Shammash

A Social Ecological Model for Understanding Barriers and Solutions to Quality Healthcare for LGBTQ+ Youth

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INTRO

- In the US, there are approximately 4.7 million young that identify as LGBTQ, and this population is rapidly growing1,2.
- LGBTQ youth are at increased risk of adverse health outcomes, including suicide, cardiovascular diseases, obesity, sexually transmitted diseases, and certain cancers3.
- The social ecological model (SEM) is a well-established tool for examination and improvement of public health4.
- This project surveys the existing literature to categorize barriers to high quality LGBTQ healthcare within the SEM and propose high-impact solutions.

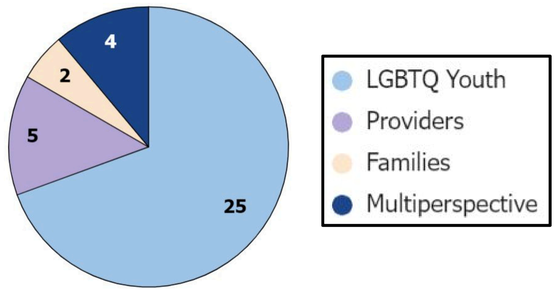
METHODS

Example key words: “LGBTQ youth healthcare”, “LGBTQ young adult health”, “transgender health”
Databases: PubMed, Google Scholar
Criteria: published since 2015; focused on health barriers of LGBTQ youth (< 28 years) from patient, family, or provider perspective

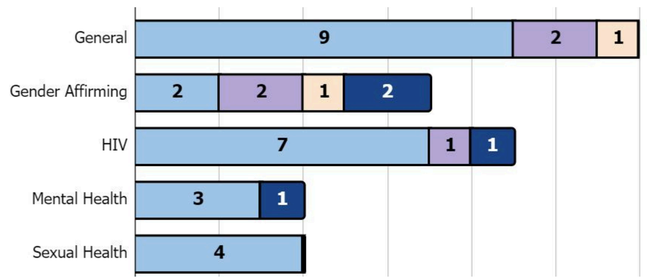
RESULTS

36 primary articles total met the inclusion criteria.

Study Characteristics By Perspective



Study Characteristics By Environment



SOCIAL ECOLOGICAL MODEL: BARRIERS

42 total barriers to quality healthcare were identified.

Bolded text denotes a priority barrier (identified by >33% of studies).

Asterisk indicates emphasis:*Y >25% youth, *P >25% provider, *F = >50% family

Indiv idual	**Interpersonal** Patient-provider	**Organization**	**Community**	**Policy**	**Societal** General
Beliefs of individuals	interactions	Provider and office practices	Knowledge and access to care	Legislation and insurance	population
n = 8	**n = 12**	**n = 11**	**n = 6**	**n = 3**	**n = 2**
Top Barriers to Quality Healthcare					
Cost (*YPF) Fear of Reaction (*Y) Provider Discomfort (*YPF)	**Discrimination** (*YF) **Judgement** (*Y) Microaggression (*Y) Negative Response (*Y)	**Poor LGBTQ Care Knowledge** (*YP) Poor LGBTQ Knowledge (*Y) Confidentiality (*Y)	**Don’t Know Where to Go for Care** (*P) No Close Care (*F)	**Insurance Doesn’t Cover Desired Services** (*YP) **No Insurance** (*Y)	**Anti-LGBTQ Stigma** (*YP) Intersectional Stigma

HIGHLIGHTED SOLUTIONS

Microsystem:

- Always ask about patients’ pronouns and preferred names from the start.
- Be open, accepting, and kind with all patients.

Mesosystem:

- Promote reformation of medical school and residency education with increased exposure to LGBTQ populations and care.
- Compile local resource lists to increase awareness of LGBTQ friendly and gender affirming healthcare resources.

Macrosystem:

- Advocate for mandatory insurance coverage of gender affirming care.
- Publicly voice support for LGBTQ youth and adult populations.
- Lobby against anti-LGBTQ legislation.

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Reduction of Inflammatory Bowel Disease readmission rates among Medicaid insured patients presenting to Jersey Shore University Medical Center

Karolina Kaczmarczyk BA, Swapnil Patel MD, David Kountz MD, MBA

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Hackensack Meridian School of Medicine

BACKGROUND

- Inflammatory Bowel Disease (**IBD**) has been diagnosed in **2.39 million** Americans.
- As many as **24%** of hospitalized patients have been readmitted within **90 days** of discharge.
- IBD related hospital readmissions costed the US healthcare system **$576 million** so far.
- This capstone project focuses on **Medicaid patient population** with IBD treated at the Jersey Shore University Medical Center (**JSUMC**).
- The objective of this project is to develop a post-discharge intervention bundle for IBD patients at JSUMC. It aims to enhance overall patient quality of care, reduce risk factors predisposing patients to readmission, reduce healthcare costs and enhance the hospital effectivity.
- This project directly addresses the Health Care Access and Quality of Care Determinant of Health.

INTERVENTION DESIGN & EXPECTED IMPACT

The initial step involved a thorough literature review to identify risk factors, contributing issues, and developed interventions successfully addressing readmission rates.

RISK FACTORS		CONTRIBUTING ISSUES
Male sex	Comorbidities: → smoking → anxiety → opioid dependency → depression → chronic pain	→ Medication non-adherence → Difficult access to medications → Non-timely refills → Poor dietary choices → Insufficient physical activity → Loss to follow up
Diagnosis of Crohn's disease		

Based on performed research a "post-discharge intervention bundle" addressing all facets of post-discharge care of IBD patients was created.

Medications	• JSUMC pharmacy • HOPE Tower pharmacy
Follow up	• Family Health Center 1 week later • FHC gastroenterologist and residents
Social work	• Individual care coordinator • Phone call follow up weekly for the first month, and monthly afterwards
Diet	• Dietician counseling, educational brochure • Fresh Match Program • Medically Tailored Meals
Physical activity	• Patient education prior to discharge • Partnership with local gym - free memberships and classes

DISCUSSION / CONCLUSION

- The development of a post-discharge bundle for IBD patients at JSUMC is a novel idea meant to reduce patient readmission rates.
- The proposed intervention bundle is a promising solution that can decrease healthcare costs and improve health outcomes among IBD patients.
- A form of case management similar to one proposed in this project showed effective quality improvement in care and lowered costs for individuals with chronic illnesses (Joo et al.).
- Possible barriers to project implementation include poor knowledge, time and resources management, lack of emotional support and lack of progress measures.

REFERENCES / ACKNOWLEDGEMENTS

- Barnes et al, 2017
- Joo et al, 2018
- Lewis et al, 2023
- Micic et al, 2017

Thank you to Dr. Swapnil Patel for excellent mentorship and advice.

The WITNESS Project: Extension to Heritable Breast and Ovarian Cancer

Katherine T. Leopold
Lisa Carter-Bawa, PhD, MPH, APRN, ANP-C, FAAN Gary R. Weine, MD, FACP Facilitator

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BACKGROUND

Background:

- Certain inherited genes increase risk for breast and ovarian cancer; genetic testing allows patients to make healthcare decisions based on their personal cancer risk.1

- Many patients are not aware of the potential impact of genetics on cancer risk and the availability of genetic testing to determine risk.
  - The Health Information National Trends Survey (HINTS) 2020 (n=3874) found that old age, income <$20,000, and having high school education or less were independently associated with not being aware of cancer genetic testing.1
  - Non-Hispanic Asian, Non-Hispanic Black, and Hispanic participants were less likely to be aware of cancer genetic testing and were less likely to believe that genetics plays some role in cancer development than White participants.1,2

- Community-based interventions and interventions led by community health workers developed to increase awareness have demonstrated increased knowledge of testing and uptake of testing.3-7

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- We plan to pilot an adaptation of The Witness Project to increase knowledge and potentially uptake of genetic screening for heritable breast and ovarian cancer genes among faith-based organizations in New Jersey.

- The Witness Project was initially developed by a group of researchers and leaders of Black churches in Little Rock, Arkansas.8 Role models from the church community described their experience with breast self-examination (BSE) and mammography resulting in a significant increase in BSE and mammogram completion.8

- Since the first iteration of The Witness Project in 1992, the model has been successfully adapted for different types of cancer including cervical and colon cancer and diverse populations including the Filipino-American immigrant population, the Haitian immigrant population, and the Latino population.9,10,11

- We have designed the intended intervention with feedback from community members and other key stakeholders:
  - Step 1: Drafted intervention based on review of past WITNESS project materials, literature regarding cancer genetic testing education, & input from experts in the field.
  - Step 2: Review materials with Community Action Council comprised of community stakeholders. Begin search for role models.
  - Step 3: Update materials based on community feedback.
  - Step 4: Initiate IRB amendment to WITNESS Project protocol.
  - Step 5: Identify role models.
  - Step 6: Plan and complete pilot sessions using updated pilot materials.

THE WITNESS PROJECT®

Figure 1. Witness Project Logo.

True or **False** about heritable breast and ovarian cancer?

- All cancer is caused by genes that we inherit **FALSE**
- A positive test for BRCA1 mutation means that you currently have cancer **FALSE**
- If you test positive for a heritable cancer gene, there are steps you can take to reduce cancer risk **TRUE**
- Everyone should get genetic testing to learn more about their risk for heritable breast and ovarian cancer **FALSE**
- Patients with cancer can get tested for heritable cancer mutations **TRUE**
- Genetic testing for heritable cancer is never covered by health insurance **FALSE**

Figure 2. Sample slide from powerpoint materials.

NEXT STEPS

- An initial slide deck has been designed based on previous interactions of the Witness Project, meeting with experts from the field, and literature review of community beliefs regarding hereditary breast cancer screening.

- Next steps include review of materials with Community Action Council (meeting scheduling in progress) and testing of intervention with community members.

- This project will be completed as part of a Phase 3 Student-Proposed Research Course between August and October of 2024.

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Special thanks to my HD group, Dr. Gary Weine, for his support of this project.

Enhancing Naloxone Education in the Emergency Room

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BACKGROUND

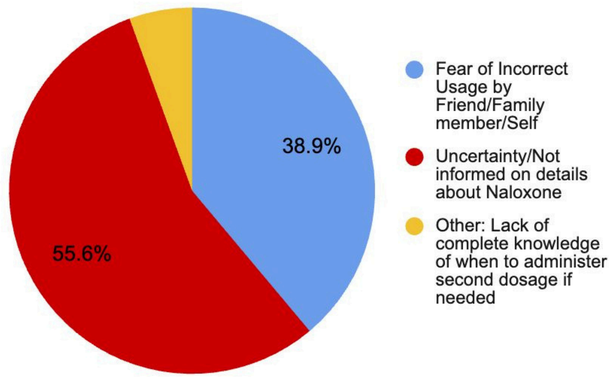
This project aims to address healthcare access and quality, focusing on improving health literacy related to naloxone usage in emergency room patients, specifically patients using opioids. Encouraging and educating patients on how to respond effectively to opioid emergencies may potentially help reduce fears, fatalities, and stigma associated with opioid and naloxone use.

Many patients are unaware of how or why naloxone is used. It may be helpful to address lack of knowledge, understanding, and comfort in case of emergency in patients using opioids. Resources and informed discussion with patients as well as education about its usage may potentially allow for this. This may also be helpful in reducing stigma and overcoming barriers to access.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Naloxone resources were given to 18 patients at HUMC ED including purpose of naloxone use, general mechanism, administration techniques, and limitations
- Discussion of online and in-person training sessions
- Information about therapy, community resources
- access to free kits offered by organizations such as "End Overdose Together", The New Jersey Harm Reduction Coalition, and SAMHSA - Substance Abuse and Mental Health Service Administration Naloxone Distribution Program.

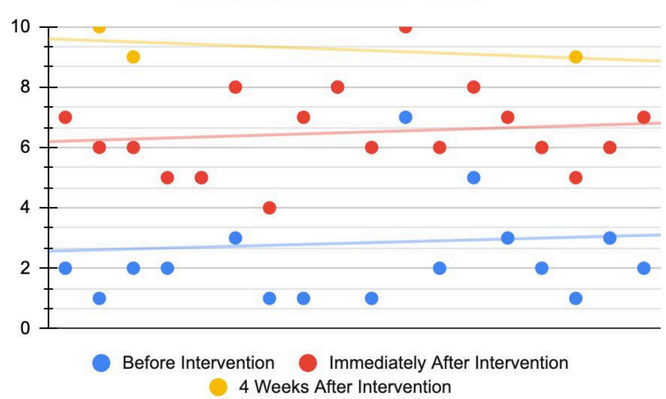
REASONS FOR PATIENT CONCERN REGARDING NALOXONE USE



Overall Impact:

- Enhancement of health literacy regarding naloxone use and role of friends/family in overdose response.
- Reduction of fears or uncertainty surrounding naloxone in patients

PATIENT COMFORT LEVELS BEFORE AND AFTER NALOXONE EDUCATION INTERVENTION



- **94.4%** patient concerns about naloxone use were related to **uncertainty**, **fear** of incorrect use, or **lack of information**.
- Patient **comfort levels increased** an average of 2.8 to 6.5 **after education intervention** to 9.3 at 4 week follow up and after attending naloxone training

DISCUSSION / CONCLUSION

The intervention aimed to address overdose prevention strategies and the opioid epidemic by enhancing naloxone education among ED patients. Evaluation through surveys before and after revealed promising outcomes, including a decrease in improvement in comfort levels of naloxone usage.

For future interventions, it may be helpful to use patient suggestions such as having a physical inactive naloxone kit in the ED for education and practice. Collaborating with with community organizations and stakeholders may help expand reach and sustainability. By continuing to work on similar interventions, it may reduce stigmatization and improve response to the opioid crisis, as well as patient outcomes and safety.

REFERENCES / ACKNOWLEDGEMENTS

- Centers for Disease Control and Prevention
- Refer to separate list for full list of references & acknowledgements

References:

A Multi-Network Provider Perspective on Transgender Healthcare within Obstetrics and Gynecology

Kelly Budge, MRes, Marianna Shimelfarb, MD, and Antonia Oladipo, MD, MSCI

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Hackensack Meridian School of Medicine

BACKGROUND

ObGyns play a unique role in providing quality transgender healthcare, based on their expertise in hormone therapy, gender-affirming surgeries, pelvic screenings, and routine well-visits. ACOG has recognized the important role ObGyns play in gender-affirming care and has called on ObGyns to be prepared to assist or refer transgender individuals for both routine and specialized aspects of gender-affirming care. However, there is a lack of longitudinally integrated, clinical-skills-based pedagogy for transgender medicine within current medical education. As such, ObGyns have limited guidelines with which transgender patients, if at all, potentially causing a significant impact on the quality of healthcare that transgender patients receive.

OBJECTIVE

To understand the accessibility of care for transgender and nonbinary patients within the New Jersey and New York

SDoH Factor

Healthcare access and equity

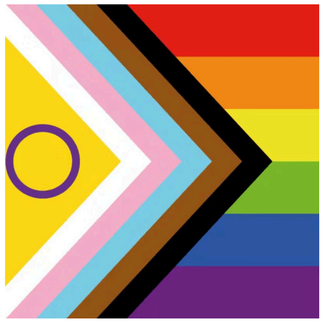
METHODS

Providers across 3 healthcare networks were sent a RedCap survey between January-March 2024:

- Hackensack Meridian Health
- Northwell Health
- Rutgers/Barnabas Health

IRB approval Pro2022-0458

RESULTS



- **163** total participants (**Table 1**)
- **70.7%** (n=116) of providers reported treating a transgender patient
  - **80.7%** (n=36) of those who had not treated a transgener patient before would be willing to if provided the appropriate training
    - 2 (4.3%) would not and 7 (15.2%) were unsure
  - Only **half** of providers received training on clinical considerations for transgender patients

Table 1. Participant Characteristics		n (%)
Provider Degree	Physician	127 (77)
	Nurse Practitioner	15 (9.1) 9
	Physician Assistant	(5.5) 14
	Certified Nurse Midwife	(8.5) 115
Specialty	ObGyn	(70.1) 4
	Urogynecology	(2.4) 4
	Family Planning	(2.4) 3
	Gynecology Oncology	(1.8) 15
	MFM	(9.1) 12
	MIGS	(7.3) 8
	REI	(4.9) 3
	Other	(1.8) 41
Experience (yrs)	0-5	(25.3) 58
	5-20	(35.8) 63
	20+	(38.9) 64
Practice	Inpatient	(39.3) 92
	Outpatient	(56.4) 73
	Academic Hospital	(44.8) 26
	Community Hospital	(16) 15
	Multi-specialty Group	(9.2) 34
	Single-specialty Group	(20.9) 14
	Private Practice	(8.6) 7
Setting	Rural	(4.3) 37
	Small City	(22.7) 59
	Large City	(36.2) 69
	Highly Urban Area	(42.3)

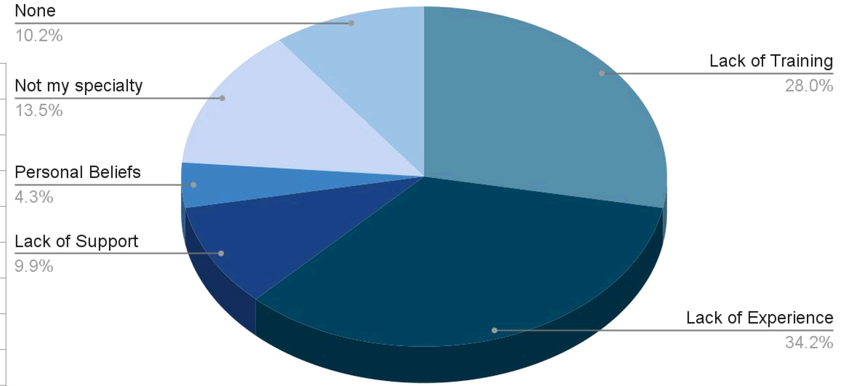


Figure 1. Provider barriers to treating transgender patients.

Table 2. Provider actions and comfort managing transgender patients.

Terminology & Resources	Hormone Therapy	Gender-affirming Surgery	Screening	Contraception & Family Planning	Fertility	Pregnancy
Pronouns: Always (18.2%) Occasionally (29.7%) Seldom (26.7%) Never (25.5%)	Comfort treating patients on GA hormone therapy: Yes (28.7%) No (56.7%) Unsure (14.6%)	Perform: Yes (15.8%) No (83.0%) Unsure (1.2%)	Reproductive cancer: Yes (63.0%) No (30.9%) Unsure (6.1%)	Pregnancy prevention counseling: Yes (68.3%) No (18.3%) Unsure (13.4%)	Resources for fertility preservation: Yes (59.8%) No (23.8%) Unsure (16.5%)	Comfort: Yes (63.4%) No (18.3%) Unsure (18.3%)
Gender-neutral language: Always (24.4%) Occasionally (44.5%) Seldom (20.7%) Never (10.4%)	Prescribe GA hormone therapy: Yes (26.8%) No (73.2%)	Types: Hysterectomy (92.6%) Oophorectomy (81.5%) Vaginectomy (18.5%) Other (11.1%)	Mammogram: Yes (76.4%) No (12.1%) Unsure (11.5%)	Provide contraceptive prescriptions or devices: Yes (64.2%) No (19.8%) Unsure (16.0%)	Understand impact of hormones on fertility: Yes (50.3%) No (21.5%), Unsure (28.2%)	Consider high-risk: Yes (33.3%) No (43.0%) Unsure (23.6%)
Resources: Yes (38.2%) No (32.7%) Unsure (29.1%)	Types: Feminizing: (14, 93.3%) Masculinizing: (3, 20.0%)	Comfort treating patients with masculinizing [Yes (27.9%), No (42.4%), Unsure (29.7%)] & feminizing [Yes (38.2%), No (34.5%), Unsure (27.3%)] surgeries	STI: Yes (51.5%) No (35.2%) Unsure (13.3%)	Abortion: Yes (7.3%) No (87.3%) Unsure (5.5%)		Managed: Yes (20.7%) No (75.6%) Unsure (3.7%)

DEFINITIONS

Transgender is a term that includes both transmasculine, transfeminine, and gender-nonconforming individuals.

Transmasculine is a term used to describe transgender people who generally were assigned female at birth and identify with masculine gender identity to a greater extent than with feminine. **Transfeminine** describes transgender people who were assigned male at birth but identify more with feminine identity. These terms are inclusive to a myriad of different identities.

Nonbinary is an umbrella term for people whose gender identity doesn't align with 'male' or 'female'.

DISCUSSION

ObGyn providers within NJ and NY actively provide care to the transgender and nonbinary population despite many receiving no formalized training. Providers are willing to learn, but many reported that these patients would be best served in specialty centers and not in general private practice settings.

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3. ACOG Committee Opinion, Number 823. Obstet Gynecol. 2021;137(3):e75-e88. doi:10.1097/AOG.0000000000004294

Improving Availability of Eye Care in a Tertiary Care Setting

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Hackensack Meridian School of Medicine

BACKGROUND

Ophthalmology is a small field nestled in the broader scope of medicine. As knowledge base in medicine inevitably expands, there will be a greater need for subspecialists that specialize in their niche. Unfortunately, this has led to a widening gap in both clinical knowledge and terminology between subspecialties. In our rapidly evolving healthcare system, providing tertiary eye care, specifically inpatient and Emergency Department (ED) consults, has become increasingly difficult. In a recent survey in 2020, only fifty percent of ED physicians stated that they felt comfortable with their eye exam.1 Incongruent or missing physical exam findings could also cause delay in treatment or unnecessary expenses to the patient.2 Our study was initiated to quantify the current need and see if simple photographs can improve access to care.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

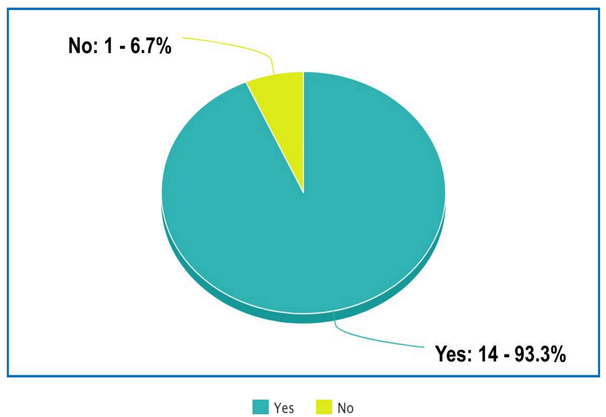
All consults via medical record numbers from Dr Lauer starting from November 27nd 2023 until Dec 12th 2023 were documented.Each case was documented as to whether there was a photo of the eye pathology available on Epic.These cases were then documented on whether these photos would have been useful for the covering ophthalmologist.The view of the value of uploading photos was improved.

Further studies- portable fundoscope that can further improve clinical care

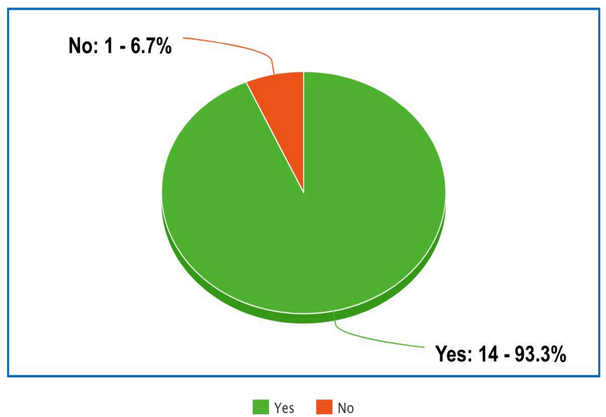
RESULTS

Results

ER Photo Available?



Would Imaging Have Been Useful?



DISCUSSION / CONCLUSION

- The level of eye care that can be provided in a tertiary care center is defined by the availability of onsite specialized equipment and personnel
- Second, at centers with offsite eye departments, with the increasing popularity of ”hospitals without walls” and realities imposed by physical and financial constraints, it is particularly difficult to meet tertiary eye care needs.
- Third, consults may be requested by providers who limited exposure to ophthalmology, who lack appreciation for the limited scope of tertiary eye care, creating frustration and possibly unrealistic expectations due to lack of available onsite equipment.
- These imaging studies including external and ocular motility photos, slit lamp and retinal photography, and optical coherence tomography which can be interpreted by onsite or offsite ophthalmologists.
- In this study, we show that even basic eye photography would be useful in the vast majority of the eye-related consults despite only being available for one case .
- A simple photograph could reduce the burden on the consulted physician by potentially allowing ophthalmologist to interpret results remotely
- This would also reduce the discrepancies in physical exam findings by having photographic evidence that can be easily referred to.

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Financial Constraints Prevent Access to Necessary Specialized Car Seats for Spica Cast Patients: A Call for Car Seat Lending Programs

Kevin M. Posner, BS1, Amit Y. Merchant, DO2

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BACKGROUND

- Hip spica casts are a casting method used to immobilize the lower part of the body often in patients with femur fractures or hip dysplasia
- Transportation is often a challenge for post-surgery children in hip spica casts due to the need for special car seats.
- Specialized car seats cost up to $2,000, possibly placing financial strain on families.
- Access to proper car restraints is crucial for safety and health outcomes.
- Over half of families use hospital loaner programs as they are often unable to adapt their regular car seats.1
- Lack of suitable restraints leads to increased ambulance use for routine medical visits.2

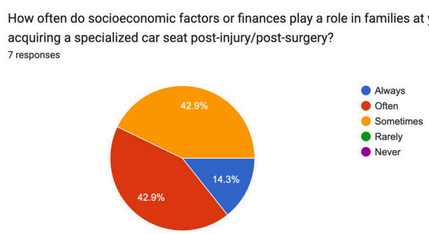
- Objective: Assess the challenges faced by families of children in hip spica casts, advocating for actionable solutions like a car seat lending program. By addressing these barriers within the HMH network, we seek to improve transportation safety and access to care for pediatric spica cast patients, thereby enhancing their overall health outcomes.

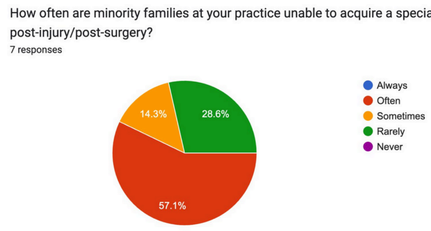
Project Design

- Survey: An IRB exempt survey was designed and distributed to local orthopaedic surgeons querying their experience regarding:
  - Spica casts
  - Specialized car seats
  - The economic impact on families obtaining specialized seats
- Data was then collected and analyzed using Google Forms

Results

- Preliminary results and data were collected from 7 orthopaedic surgeons representing three NJ counties





Expected Impact of Car Seat Lending Program

- Safety and Mobility: Improve the safety and mobility of children in spica casts, reducing the risk associated with car transportation.
- Financial Strain Reduction: Alleviate the financial burden on families by providing an affordable alternative to purchasing expensive specialized car seats.

Image 1: Example of a child in a spica cast

https://abcnews.go.com/GMA/Family/boy-wanted-doll-baby-sis-looked/story?id=61024013

Image 2: Example of a child in a spica cast with a specialized car seat (approximate cost of around $1,800)

https://www.merrittcarseat.com/wallenbergcarseat/

DISCUSSION / CONCLUSION

- Most of the surveyed orthopaedic surgeons observe difficulties in patients acquiring needed car seats.

- Financial barriers may hinder access to specialized car seats for children
- Minority families are disproportionately impacted, exacerbating health disparities.
- There is an urgent need for cost-effective solutions like car seat lending programs to ensure safe patient transport.
- Implementing lending programs could improve access and reduce financial strain on affected families.

Future Directions

- Future work will continue to evaluate the impact on families as more surgeons are surveyed
- Develop and implement a pilot program for car seat lending at Hackensack University Medical center to address these crucial patient needs

ACKNOWLEDGEMENTS

Special acknowledgements and thanks to my mentor, Dr. Amit Y. Merchant, for his help and guidance in carrying out this project, as well as my HD facilitator Dr. Anjali Gupta.

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Stop the Bleed: Bringing Safety to Schools

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BACKGROUND

Background:

- The unfortunate reality that the United States faces is that school violence and mass shootings is rampant. Compared to other first world countries, the USA had 57 times as many school shootings, with children and adolescents being 21 and 23 times more likely, respectively, to be killed by guns related violence (Katsiyannis et al.1, 2023). While the issue of gun violence is something that we as healthcare workers can advocate for to our politicians, the immediate threat to environmental safety is something that we can address now.

Knowledge/Action Gap:

- ~~Uncontrolled hemorrhage~~ is leading cause of preventable deaths following major trauma.
- Schools have little to no education for faculty and students if such injuries are to occur
- Lack of first aid or bleeding kits that are suitable for control of blood loss

Objective:

- ~~Faculty are~~ first responders during bleeding emergencies. It is imperative they are trained on situational awareness, safety precautions, and first aid administration
- Implement Stop the Bleed (STB) into faculty training and school curriculum
- Equip schools with bleeding kits in case of emergencies

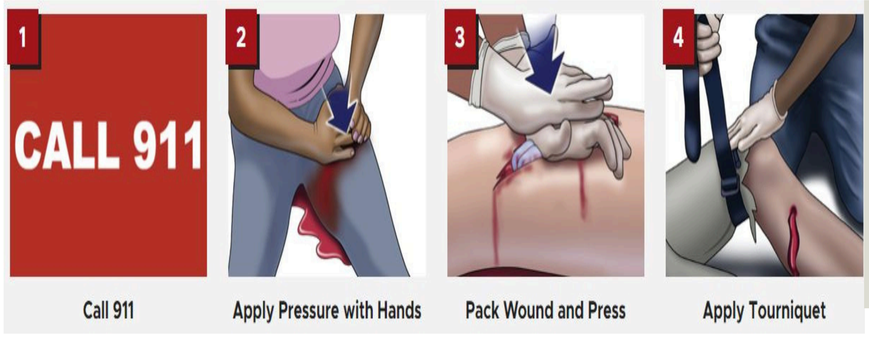
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

Methods/Design

- Become a certified STB instructor to have more control over course teaching methodology. This will involve attending 1 course as a student and 2 courses as an assistant instructor
- Collaborate with nearby high schools to assess willingness to integrate STB into their faculty training
- Determine district budgetary allowances necessary to permanently integrate training annually
- Pilot a course to faculty (particularly medical staff) at a nearby high school
- Assess effectiveness with questionnaire on preparedness and training before, immediately and several months after course.

Expected Impact:

- Establishment of STB training annually for faculty in some schools. The ideal outcome is that this will eventually trend to other high schools to become district/state wide.
- Provide schools with the knowledge and necessary equipment to respond in case of crisis
- Determine length of time for which a single training session is effective for



DISCUSSION / CONCLUSION

Limitations:

- STB currently limits who can be certified to teach their course. This of course makes it difficult to implement this long term without a dedicated instructor annually.
- Current surveys provided by STB are inadequate to determine long-term effectiveness of training. Created surveys for this project require further evaluation to determine effectiveness

Conclusion:

- Stop the Bleed addresses a fundamental deficit in current school emergency response training
- Correct establishment of this program can serve as prototype for statewide adoption
- This program can instill a more secure environment to teach and learn

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Contraception Content on Social Media: Trends, Gaps, and Opportunities for Education

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BACKGROUND

Appropriate contraceptive counseling and utilization is necessary for preventing unintended pregnancies. However, many individual's perspective and knowledge about contraception is influenced by their social network which in recent years has been dominated by social media. 84% of adults aged 18 to 29 report using social media Given the prominence of social media on contraception awareness and decision making, this paper aims to review the content topics and creator attributes of social media posts contributing to the online discussion of contraception on TikTok, Twitter, and Youtube.

OBJECTIVE

To better understand and characterize the discussion of contraception on social media platforms by examining popular content topics, tones, health quality, and user demographics

METHODS

- Literature search was conducted on PubMed using the keywords (ex. contraception and social media)
- Identified studies specifically collected social media posts and sought to characterize the content based on tone, accuracy, and topic. Studies were limited to English-language social media posts.

RESULTS

Table 1: Study Design and Sample Size of Selected Articles

		Platform	Sample Size
1	Wu 2023	TikTok	100
2	Stoddard 2023	TikTok	700
3	Sutcuoglu 2024	TikTok & YouTube	100
4	Pfender 2023	YouTub	50
5	Nguyen 2018	e	62
6	Merz 2021	YTwitter	160,713
7	Huang 2024	eTwitter	4,434

Table 2: Findings

	Negative Tone	Mention of Side Effects	Mention of Pain	% of posts from Healthcare professionals	Health Quality (DISCERN scale out of 5)
Wu	37.8%	66.3	34.7%	36.7%	1.2
Stoddard		%		19.3%	
Sutcuoglu		35.4 %		44%	TikTok: 1 YouTube: 3
Pfender		53.18%			
Nguyen	27- 32%	66%	24%		
Merz	40.6%				
Huang		20.5%	1.8 - 21.4%	<6%	

DISCUSSION

- The online contraception discussion is characterized by largely negative posts with low health quality and a mix of misinformation and educational content that can be difficult for users to distinguish between
- Most posts come from white, young, female-identifying contraception users with a small percentage coming from healthcare professionals
- Healthcare professionals can bridge this gap by posting reliable medical information that can dispel misinformation and guide clinical decision making
- Clinicians must be prepared to address potential preconceived fears, opinions, and inaccuracies to ensure patient-centered contraception counseling.

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Examining Primary Care Follow-Up Rates Post-Discharge

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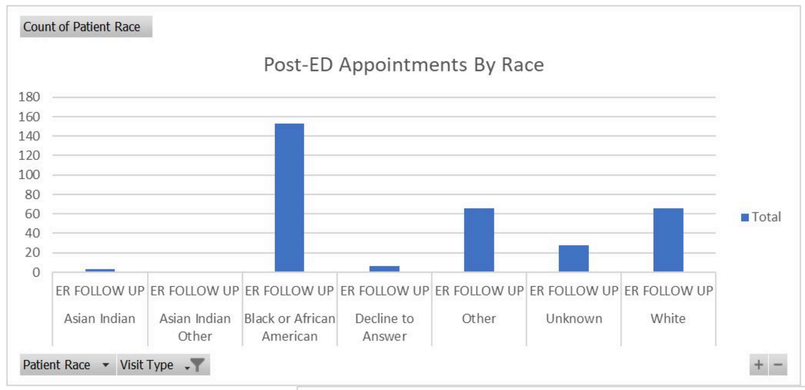
BACKGROUND

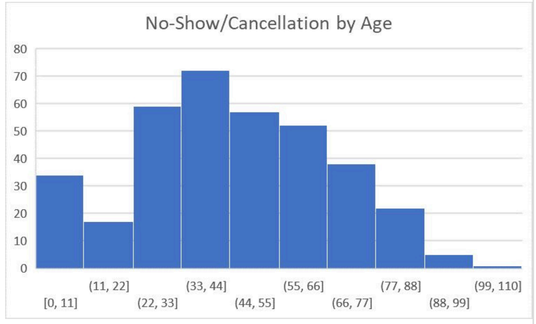
- DOH: Healthcare
- Patients' health is influenced by their access to quality care on a longitudinal basis. Regular follow-up with a primary care providers has been shown to lead to better health outcomes.
- One health outcome of particular importance is 30-day readmission rates
  - The US has spent an average of **17.4 billion dollars annually** on hospital readmissions
  - The CMS tracks readmission rates for the following conditions:
    - COPD exacerbation
    - Heart failure
    - Pneumonia
    - Acute MI
    - Total knee arthroplasty
    - CABG
  - Numerous studies have shown timely primary care follow-up after discharge from the hospital decreases readmission risk for a variety of surgical and medical conditions.
- The goals of this project were:
  - Analyze the impact of timely primary care follow-up on readmission risk through a literature review
  - Compare and contrast national post discharge follow-up rates through CMS data to that of a primary care office in the HMH network.
  - Determine if differences exist in follow-up rates based on patients' race or age.

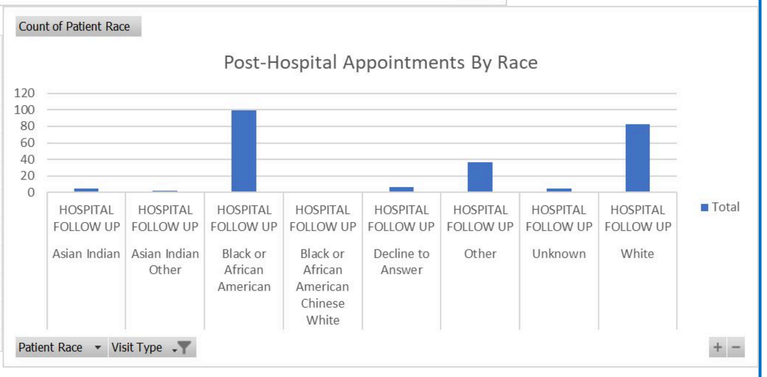
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Methods
  - EMR data was obtained from Verona Family Practice
  - Codes for post-hospital, post-ED appointments, no-shows, and cancellations were acquired from 2022-2023
  - Each data point contained the visit type, as well as the patient's age, race, and ethnicity
  - Follow-up rates were then calculated for each race
  - Rates were then compared to national average, **which is roughly 49%**
  - **Overall clinic follow-up rate was 61.2%**

Race	Total Visits Scheduled	Completed Visits	Percentage
Asian	17	11	64.70%
Black/African American	428	252	58.90%
American Indian or Alaska Native	3	0	0%
White	255	149	58.40%







DISCUSSION / CONCLUSION

- Overall clinic follow-up rate was above the national average
- Follow-up rates among African American and white patients were above the national average
- **Average no-show/cancellation age: 42**
  - Could be explained by scheduling conflicts-more likely in younger, non retired patients
- Other factors could explain the follow-up rate
  - Ex. Socioeconomic status (SES)
    - Median Income in Verona: $153,236
    - Median Income in East Orange: $58,659
- Limitations:
  - No way to determine if no-show/cancelled visits were rescheduled and completed later
  - No-show/Cancelled visits could not be split into post-ED or post-hospitalization visits
- Recommendations:
  - Further investigation to determine if differences exist based on SES
    - Geographic location
    - Insurance status, etc.
  - Evaluate the role of virtual visits in follow-up rate

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Understanding Disparities in Breast Cancer Diagnosis and Treatment

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BACKGROUND

- My project focuses on healthcare access as a DOH.
- Breast cancer outcomes vary among women of different socioeconomic and racial backgrounds. This may be due to factors relating access to healthcare which hinder the treatment, appropriate follow up and, testing after diagnosis.
- Between 2007 and 2017, increasing use of BRCA testing for cancer risk assessment occurred, correlating to the observed decreasing documented positive test rate. However, the utilization of testing and corresponding test results differed significantly across races/ethnicities, which is suggestive of a divergent application of the same testing criteria.
- The focus of the project is to use an internal survey to understand biases that may influence the care of patients from different backgrounds. The goal was to explore whether there is a discrepancy in offering testing and treatment to African American women which may lead to increased mortality in African American women diagnosed with breast cancer.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Thank you for participating in this survey.
The purpose of this survey is to improve patient experience when they receive a diagnosis of breast cancer and receive feedback to better improve provider education about the diagnosis.

Section 1: Demographics

How old are you?

What is your ethnic background? Please circle all that apply.
White/Caucasian
Asian
Native Hawaiian or Pacific Islander
Hispanic or Latino
African-American
Native American

How long ago were you diagnosed with breast cancer? Please circle your answer.

Less than 3 months	3-6 months	7-12 months	Over 12 months

What insurance plan do you have? Please circle your answer.

Private	Medicaid	Medicare	Charity Care	No Insurance	Not sure

Section 2: General Understanding
Were you informed about the stage of your breast cancer at the time of diagnosis?

Yes	No	Not Sure

How would you rate your overall understanding of your breast cancer diagnosis?

Very Poor	Poor	Fair	Good	Very Good

Section 3: Treatment
- Have you undergone any treatments for your breast cancer? YES/NO
- If YES, were you given options/choices? (What did you choose? Choose all that apply)
  - Surgery
  - Radiation
  - Chemotherapy
  - Hormone therapy
  - Immunotherapy
  - Other: please specify _____
  - None
- Do you know the purpose of the treatments you have undergone?(Choose all that apply)
  - Cure the cancer/prevent recurrence
  - Shrink tumors prior to a surgery
  - Slow the spread of the cancer
  - Relieve symptoms
  - Other
  - I'm not sure
- Were you offered genetic testing at the time of diagnosis?

Yes	No	I'm not sure

- Have you been made aware of the recommended follow-up and monitoring schedule after breast cancer treatments?

Yes	No	I'm not sure

- Do you know the signs and symptoms of breast cancer recurrence?

Yes	No	I'm not sure

- How satisfied are you with the information and support you have received in terms of **treatment?**

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

- How satisfied are you with the information and support you have received in terms of **follow-up care?**

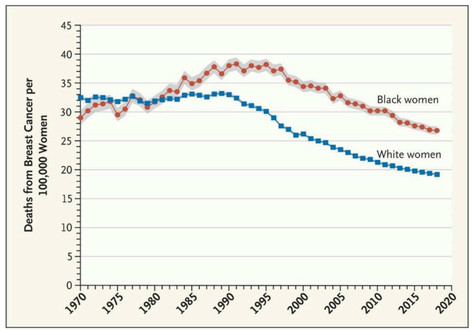
Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

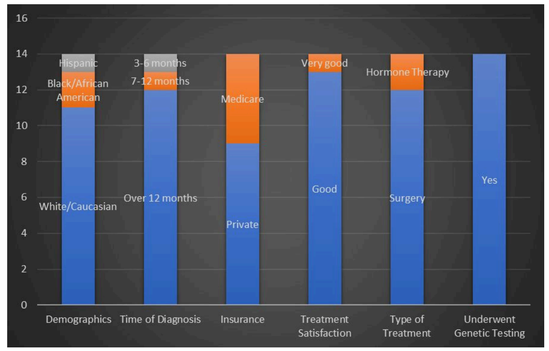
Section 4: Family and Medical history
- Do you have a family history of breast cancer? Circle all that apply. (YES/NO)
  - Parent
  - Sister/Brother
  - Cousin
  - Aunts/Uncles
  - Grandparents
- If you have a family history of breast cancer, have you ever discussed your family history prior to your diagnosis?

Yes	No	I'm not sure

- Have you ever undergone genetic screening for breast cancer risk prior to a diagnosis of breast cancer?

Yes	No	I'm not sure





- This survey, designed for HMH offices, focuses on obtaining patient demographics, timeline of breast cancer diagnosis, and treatment (if any) received.
- The goal of the survey is to bring awareness to possible differences in care among patient with different backgrounds in HMH offices.
- A study in 2022 shows that death from breast cancer has been increasing in African American women since 1990.
- The expected impact is to close the gap between death in African American women compared to Caucasian women

DISCUSSION / CONCLUSION

- Working with the residents was the most beneficial part of this study. They were very eager to begin handing out the surveys to eligible patients.
- Data collection was difficult and we were able to gather data on 14 patients.
- The patient demographics were 11 Caucasian, 2 African American, and 1 Asian with a mean age 58.6.
- All patients had private insurance or Medicare. All patients were satisfied with their breast cancer management which included genetic testing.
- Although I was expecting variability in the data, this was not evident from the survey results. This could result from the sample size or the demographics in the area. This study would benefit from having more responses to better gauge the discrepancy in patient treatment among different demographics.

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Mobile Healthcare Clinics in Northern New Jersey

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BACKGROUND

The Need for Mobile Health Clinics (MHC's)

Access to care is the potential ease with which a patient can interact, either face-to-face or digitally, with a healthcare provider1

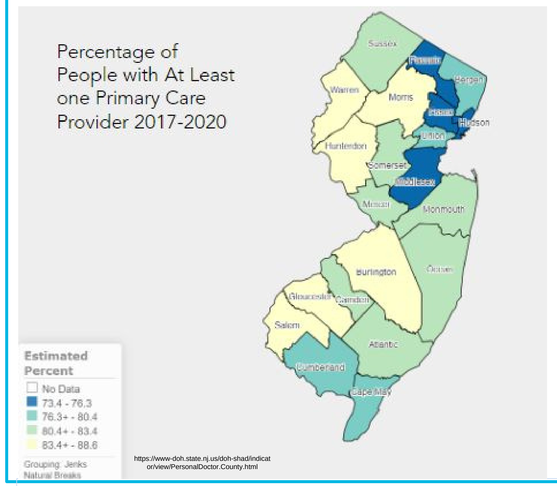
Perceived access is at least as valid as actual access

On average, 1 out of every 5 people in the state of New Jersey do not have a primary care physician (PCP)

This is despite the fact that New Jersey ranks around average in PCP's per capita

Objective:

To investigate the effectiveness of mobile health clinics (MHC's) as a method to increase access to care through a literature search and to investigate the applicability of this method to communities in New Jersey



https://www-doh.state.nj.us/doh-shad/indicator/view/PersonalDoctor.County.html

INTERVENTION DESIGN & EXPECTED IMPACT

Benefits:

Mobile health clinics are vehicles that contain examination rooms and the equipment necessary for an encounter with patients. MHC's deliver healthcare in a targeted fashion directly to communities that have low access to healthcare providers. They are able to respond dynamically to a community's needs and build trust with the populations they serve. MHC's also connect patients with other medical resources, integrate them into preexisting, traditional healthcare systems, and serve individuals who are restricted by time, resources, or motivation regarding travel to a traditional clinic

Compared to traditional clinics, some MHC's have better metrics regarding:

- ○ Screenings
- ○Initiating preventative care
- ○Relative risk with certain chronic diseases

MHC's are also particularly effective at improving delivery of care to undocumented immigrants and migrant workers. A study by Diaz-Perez et al.3 examined the impact of a MHC on Mexican immigrants in Colorado:

1,533 Mexican immigrants seen over 6 months, 62.5% of whom were new patients. Only 35% of this group had seen a doctor when they developed health problems.

Essex County Mobile Health Clinic:

Essex county has a MHC operating within the county since the summer of 2023, which provides mainly free vaccinations, including flu and covid, but also provides various other services including blood pressure screenings, referrals, etc.

This MHC has a regular schedule week-week, but also accommodates events with local community groups when scheduled and sees much success this way. This clinic operates as a public-private partnership between the county and RWJ Barnabas health. The vehicle itself has two mobile exam rooms, but community centers throughout Essex county are utilized for regular visits. Finally, patients are able to schedule appointments online, and community organizers are able to contact the clinic to attend events.

https://www.tapinto.net/towns/east-orange-slash-orange/sections/essex-county-news/articles/essex-county-and-rwjbarnabas-health-team-up-to-provide-residents-mobile-health-clinic

DISCUSSION / CONCLUSION

Mobile health clinics are powerful tools to increase access to care in populations using a different method than traditional brick and mortar clinics. MHC's are able to access a certain niche of patients that would otherwise not enter the healthcare system by engaging them in their communities, building trust with them, and connecting them with resources that they otherwise would not have access to. Although common in rural areas, MHC's are applicable to northern New Jersey, with Essex county operating its own MHC since 2023

Future Directions:

- ●Increased awareness of the role/niche MHC's fill and their utility across the country
- ●Possible increased collaboration between the Essex county MHC and HMSOM on community events

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Professional Language Interpreter Services: Evaluating its Use and Impact on Quality of Care from the Patient Perspective

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BACKGROUND

- **DOH Identified:** Healthcare Access and Quality (Language barriers)
- Language barriers result in increased medical errors, decreased patient safety, poorer quality of care, and less interactions with patients. This results in unmet patient needs, worse outcomes, and a worse understanding of health situations.
- Professional interpreter services are vital tools in helping to reduce language disparities; however, interpreters may not always be used when necessary.
- **Objective:**
  - Assess patients' knowledge about the interpreter services available at HUMC.
  - Analyze the relationship between interpreter use and patient experience at HUMC.
  - Identify existing gaps that impact the use of interpreters from the patients' point of view.

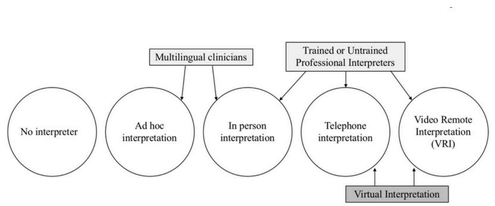


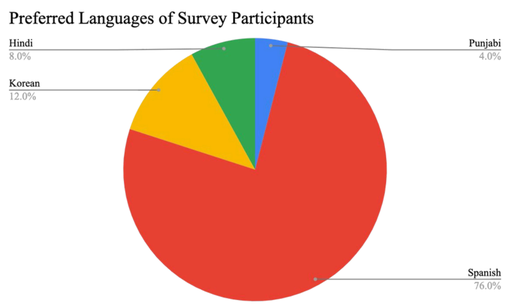
Figure 1. Modes of interpretation utilized in clinical settings.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- A survey was created with questions that assess patients' language needs, their knowledge about the availability of the interpreter services at HUMC, and any experiences they had with interpreters at HUMC
- The survey was administered by LN to 50 patients in-person to limited English proficiency (LEP) patients in the HUMC Emergency Department.

Survey Question	Yes (%)	No (%)
Asked about language preference?	100	0
Aware that there are free interpreter services available?	64	36
Offered interpreter services during current visit?	68	32
Used any of the interpreter services available at HUMC?	76	24
Did the interpreter service help you to communicate with your care team?	100	0
Did you understand the information about your diagnosis and care plan provided by the care team?	89	11

Table 1. Responses from the survey (n=50)



Methods of Interpretation used in the HUMC ED (%)	
Telephone	73.7
In-Person (professional)	0
Ad-hoc	42.1
Video	31.6

DISCUSSION / CONCLUSION

Analysis of Survey Data

- All patients were asked about language preference but some were not aware of or offered interpreter services.
- Professional interpreter usage is associated with improved communication and understanding in LEP patients.

Challenges and Limitations

- Identifying LEP patients: the preferred language input into Epic was not always correct or was sometimes not filled out.
- The small sample size limits the generalizability of the data.

Future directions

- Collect data from a larger population.
- Conduct similar interviews in different hospital departments to identify similarities and differences in interpreter use.
- Investigate interpreter usage from the provider's perspective.

REFERENCES / ACKNOWLEDGEMENTS

SCAN ME

Donor Conceived Persons and Social Media

Lauren Wiener

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BACKGROUND

- Background: The DOH that I focused on is social and community context.
- Donor conceived people (DCP) is a growing group that is just now getting attention from researchers.
- Many DCP have turned to social media, Facebook specifically, to find others who they share this commonality.
- This commentary intends to highlight a gap in research pertaining to this community and explore potential solutions using social media such as YouTube, Instagram and TikTok in addition to Facebook

Meme showing that DCP feel more connected and open with other DCP, while having to explain themselves to their recipient parents. Used as a way to create connection by forming an "in-group" who can understand one another.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Donor Conceived People

Connection to other DCP is important to this population as they explore their unknown genetic identity.

+

Mental Wellbeing

Requires self confidence, positive outlook, clear thinking, feeling close to others, being relaxed, and having the energy to do all of the above

+

Social Media Platforms

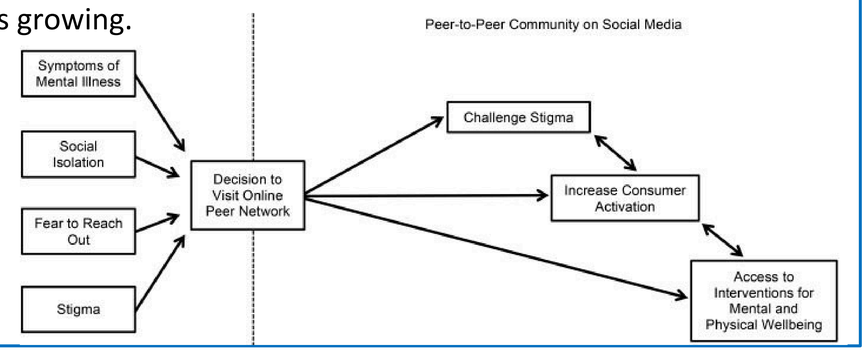
Shown to allow for storytelling as a way to share information as well as community formation that may not be possible otherwise.

DCP and Social Media- Forming Connections

DCP have expressed a lack of support and a desire for peer connection. Social media as a way to share information, tell stories and create a sense of community can be leveraged to allow for connection between DCP as well as improved mental well being.

Goal: To demonstrate how social media can be used to improve mental wellbeing in the population that is DCP. By finding out what is important to DCP, we can then find resources that support these factors. Connectivity and combating stigma can be achieved via social media outlets. Similar populations have already found success with these measures. Applying this model can improve mental wellbeing in those who identify as donor conceived, a population that is growing.

Model for the use of social media that can be applied to DCP.



DISCUSSION / CONCLUSION

- Some DCP have expressed difficulty coping with their identity and find comfort in sharing with others that understand what they are going through. Facebook is one platform that has been used which has already fostered a positive effect of bonding with fellow DCPs.
- One study using breast cancer patients on Instagram showed that a platform for storytelling allowed patients to share information that was helpful to those who might be going through a similar experience and gave a reference for what to expect.
- A study using Youtube and the LGBTQ communtiy showed that a sense of communty can be created around videos from members of the same group and these connections positively affect mental health.
- By extrapolating this model for use with DCP, mental wellbeing can be addressed and improved.

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Thank you to Dr. Oladipo and Dr. Feigenblum for your support on this project!
And thank you to HD group 11 and Dr. Kriegel!

Student Burnout and Its Effects on Specialty Interest

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BACKGROUND

With the issues of mental health coming to light in the media, it is no surprise that medical personnel have been scrutinized the most. With increasing demand and advances in medicine, both the mental health crisis and physician shortage continues to rise. This unfortunately has led to mental health crises that have led many to face burnout or even depression. While the idea of burnout has been well studied, there is no real data that shows there is a correlation between the amount of burnout the medical student experiences and the specialty they decide to go into. The purpose of this study is to assess whether the amount of burnout experienced by medical students correlates with the specialty choices they decide to pursue throughout their course of schooling.

METHODS

To assess burnout amongst students, a redcap survey incorporating the verified 23-Question Burnout Assessment Tool (BAT) was created. The survey recorded school attended, school year, interested specialty, activity level, sleep, and 23 BAT questions. Competitiveness was defined as any specialty with a match rate lower than or equal to 83.9% based off of the National Matching Residency Program (NMRP) data. 108 US medical students from LCME accredited medical schools were recruited and enrolled electronically via a Redcap link. Once data was collected, average BAT scores and standard deviations were calculated for competitive versus non-competitive groups and the four different years of medical school, with a 95% confidence interval and p-value of 0.05.

RESULTS

Figure 1: Average BAT Score by Competitiveness

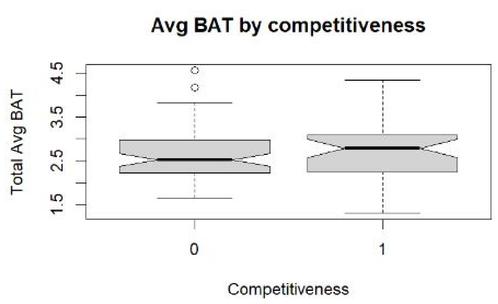

Figure 2: Average BAT by Cohort Year

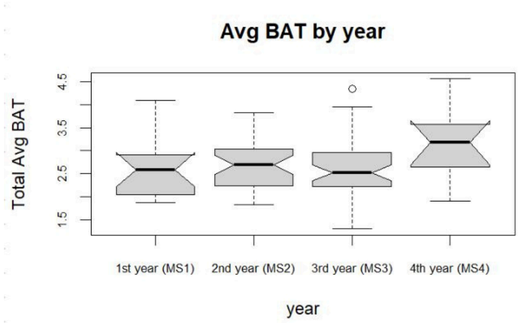

Table 1: Average BAT of Competitiveness and Year

Characteristic	Beta	95% CI1	p-value
competitiveness			
0	—	—	
1	0.14	-0.11, 0.39	0.3
year			
4th year (MS4)	—	—	
1st year (MS1)	-0.66	-1.2, -0.14	0.013
2nd year (MS2)	-0.59	-1.0, -0.13	0.012
3rd year (MS3)	-0.68	-1.1, -0.23	0.004

Of the 108 participants, those in the competitive category (n=39) scored a 2.72 (SD = 0.689) while the non-competitive category (n=68) scored 2.63 (SD 0.594) (p = 0.3). First year medical students (n=14) scored 2.57 (SD=0.617), second years (n=40) scored 2.68 (SD=0.539), third years (n=45) scored 2.57 (SD=0.624), and fourth years (n=9) scored 3.21 (SD=0.825) (p=0.013, 0.012, 0.004). Of the fourth-year students, 1 student was pursuing a “competitive” specialty while the remaining 8 were “non-competitive.” Overall, the average score for all medical students was 2.66 (SD=0.627).

CONCLUSIONS

1. The data reveals that there is no statistical correlation between the amount of burnout a student experiences and their specialty of interest.
2. Fourth-year medical students were experiencing a much higher level of burnout (3.21) than the 3 previous years, categorizing them as “burnout most likely”
3. This study highlights the importance of early intervention in combating the effects of burnout at the level of medical school, prior to students entering the workforce as residents.
4. We have created an anonymous clerkship support forum that allows students to ask their questions and receive answers in a safe space. Our goal is to create a pool of advice and resources to help students smoothly transition to clinical work.

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Empowerment Through Education: Proposing a Social Media Workshop to Combat Negative Body Image

Livia Seymour, Dr. Al-Husayni

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BACKGROUND

DETERMINANT OF HEALTH AND OUTCOMES:

- Addressing the determinant of mental and social well-being
- Promoting psychological resilience and positive self-perception among participants

BACKGROUND:

- Social media use has been shown to contribute to the development of negative body image
- Body dissatisfaction is strong predictor that precedes development of eating disorders, depression, and suicidality
- Brain areas creating desire for attention, feedback, and peer reinforcement are very sensitive in early adolescence

KNOWLEDGE/ACTION GAP:

- Other countries are ahead of the US in terms of implementing this topic into school lessons such as the UK, Canada, and Australia

INTERVENTION DESIGN & EXPECTED IMPACT

GOAL:

- To empower adolescents by educating them about the dangers of social media and equipping them with the knowledge and skills to cultivate positive body image in the digital age

METHODS:

- Conducted a review of academic literature, psychological studies, and social media trends to identify key factors contributing to negative body image and the impact of social media on self-esteem
- Identified a specific at risk population, a local all-girls high school, to propose implementing this 5 session after-school program
- Collaborated with the Dove Self-Esteem Project to access their wealth of educational materials, expert guidance, and established community networks, enhancing the effectiveness and reach of our workshops
- Pre- and post-workshop surveys to be employed to assess participants' knowledge, attitudes, and behaviors

EXPECTED IMPACT:

- Enhanced Awareness: Develop insight into social media's impact on body image, leading to informed consumption
- Positive Body Image: Improve self esteem and self worth post-workshop
- Empowerment: Equip with skills to navigate social media, increasing resilience

DISCUSSION / CONCLUSION

- Proposed workshop model shows promise in raising awareness and fostering positive body image attitudes among participants
- Interactive educational interventions could be valuable in addressing social media's influence on self-esteem

FUTHER RESEARCH:

- Explore the scalability of the workshop for diverse populations and settings, as well as integration of digital interventions to extend reach and accessibility

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Special thank you to Dr. Al-Husayni and Dr. Park for their assistance with this project!

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Importance of Patient Education on Analgesics during Labor and Delivery in Third-Trimester Patients

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Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

- Patient education is an important part of the healthcare and quality of care Social Determinant of Health, especially during the labor and delivery process.
- A systematic review in 2019 showed that women who fear childbirth have prolonged labor, longer labor, and an increased risk of obstetric complications (Denker).
- Additionally, many patients stated that their prenatal appointments were insufficient and wished that they had more time to discuss pain relief with their healthcare providers (Cheung).

OBJECTIVE

To assess the knowledge of analgesic options during delivery, and to test the impact of a analgesic-centered information video in third trimester patients.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Methods/Project proposal:

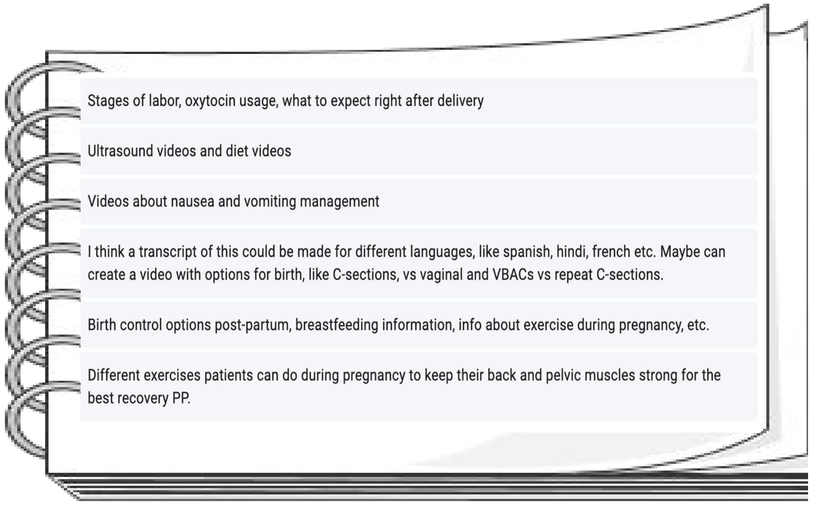
A ~3 minute video was shown to healthcare providers at the Jane H Booker Family Center. This video gave information in non-medical terms regarding various pain relief options available to patients during the labor process. The information included in the informational video was based on my literature reviews, feedback from healthcare providers, as well as information provided on the American College of Obstetrics and Gynecology website (Petruska). The video was followed by a survey asking the providers if the video would be helpful for patients using a 5-point Likert scale. The providers were also asked for input regarding topics for future videos.

Goal:

1) Elucidate to third trimester-patients the following pain relief options available to them during delivery:
   - epidural/spinal block
   - opioids
   - nitrous oxide
   - pudendal blocks
   - alternative pain relief options
2) Assess helpfulness of video via post video survey
3) Identify other areas to create educational videos in future

Results:

The video was well received by the healthcare providers, with 83% of providers rating the helpfulness of the video as a 5, and about 17% rating the video as a 4. Some of the comments for future videos are listed here:



DISCUSSION / CONCLUSION

The video was very well received by the healthcare providers at the Jane H Booker Family Health Clinic, and the feedback provided will be used to shape future videos for obstetric patients.

FUTURE DIRECTIONS

- Use feedback from questionnaire to
- create other informational videos
- Disseminate the video among patients
- with a pre- and post video survey
  Implement in other trimesters
  Compare the information retention in English v non-English speakers

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ACKNOWLEDGEMENTS

Thank you to Dr. Morreale, Sofia Sanchez, Jane H Booker Family Health Center, and Dr. Anne Park for their support and mentorship with this project.

Assessing Awareness and Clinical Utility of Digital Mental Health Apps in Clinical Settings

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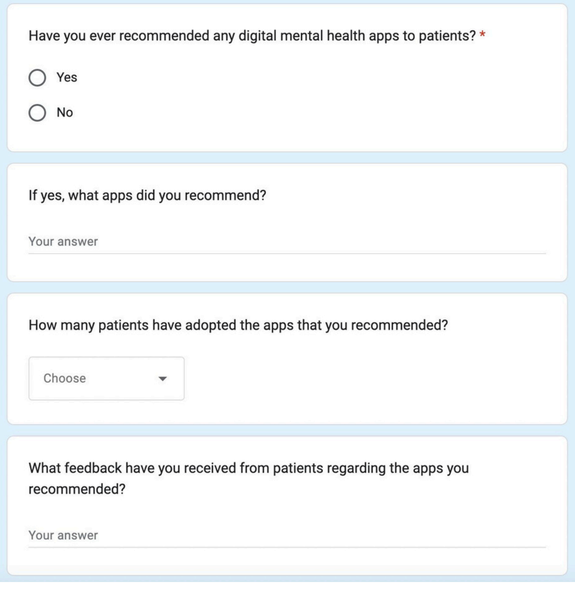
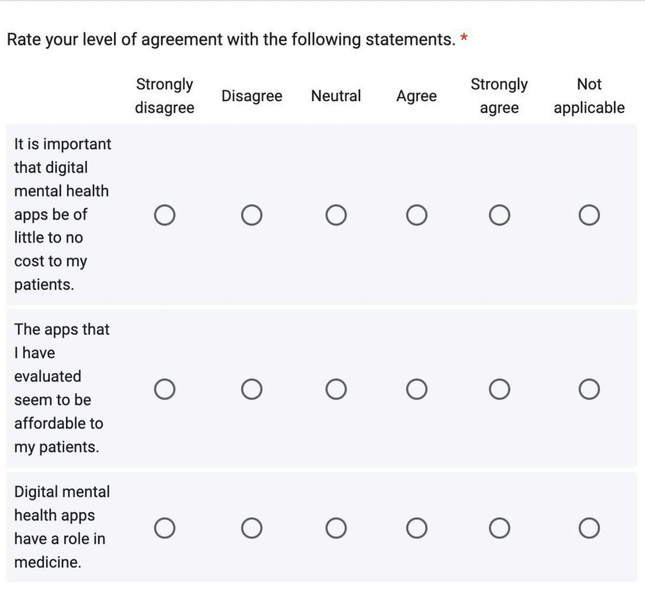
BACKGROUND

- This project focuses on Mental health and well-being, an important DOH that has become increasingly prevalent in our society. Our thoughts, emotions, and feelings can greatly impact our health.
- Many adults have a device which allows them to download apps.This allows individuals 24-hour access to wellness strategies, guided meditations, and a world of digital mental health apps (DMHA) at the touch of their fingers.
- There are over 10,000 digital mental health apps in existence to date1. Most clinicians do not have the time to assess the safety, efficacy, and potential benefit of each app. The digital mental health app framework (DHAF) is one way in which organizations such as ORCHA (Organisation for the Review of Care and Health Apps) scrutinize the validity and safety of DMHA2.
- The objective of this project was to gather feedback from clinicians on their use of DMHA. I worked with a team from the HMH network to assess physician awareness and comfort level with a list of apps (vetted by ORCHA and the HMHN team). The overall goal was to increase clinician awareness of DMHA and the complexity of assessing privacy, safety, and efficacy of any apps they may recommend.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Created a Google Forms survey to assess physician understanding and attitudes regarding digital mental health apps.
- Sent to selected psychiatrists who agreed to participate to gather initial feedback on DMHA.
- Allowed clinicians to test up to four DMHA selected by HMH and ORCHA.
- Future steps - Create a Google Forms post-survey to allow the pilot group to provide additional feedback after testing some of the DMHA.
- Analyze concerns regarding DMHA and their use in clinical practice.
- Starting with a group of psychiatrists is a stepping stone to rolling out these apps to the primary care setting.
- The long term goal would be to allow patients to use vouchers or prescriptions from HMH clinicians to download and sign up for DMHA to provide easy access to additional resources to support one's mental health.





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DISCUSSION / CONCLUSION

- Distributed pre-survey to clinicians in the field of Psychiatry. The data may be skewed, however, the team decided that clinical psychiatrists would afford us the best opportunity to receive technical feedback about the DMHA.
- There is limited data to date but some interesting findings include minimal clinician experience evaluating DMHA, lack of patient use despite recommendations, and importance of low cost or free apps and resources.
- A post-survey will be distributed to the same clinicians to gain feedback after completion of the DMHA trails.
- Future goal: Refine the list of recommended DMHA and initiate a program that allows patients to sign up for DMHA using vouchers or "prescriptions" from their HMH provider

Thank you to the team - Dr. Weiner, Ms. Risotti, and Dr. Carroll. Thank you to my mentors - Dr. Kei and Dr. Clouser.

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A Reproductive Health Resource Guide for Uninsured Patients in Bergen County

Madeline Breda, MS-3, Melissa Figueroa, MD FACOG

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Background According to the American College of Obstetricians and Gynecologists, 99% of US women who have been sexually active report having used some form of contraception (1). Contraceptive access and utilization reduces unintended pregnancy and abortion rates, and additional noncontraceptive benefits may include decreased bleeding and pain with menstrual periods and reduced risk of gynecologic disorders, including a decreased risk of endometrial and ovarian cancer. However, among sexually active women not seeking pregnancy, 81% of those with no insurance coverage used contraceptives, whereas 87% of those covered by Medicaid and 90% of those covered by private health insurance used contraceptives (2). Lack of insurance is a significant barrier to accessing contraceptives.

Determinant of Health: Healthcare Access and Utilization

Objectives

- To bridge the gap between uninsured patients and access to affordable and comprehensive contraceptive options.
- Offer easy-to-understand quick reference materials to help patients decide between contraceptive options.
- Provide guidance for patients whose contraception fails and who decide to use emergency contraception.

INTERVENTION DESIGN & EXPECTED IMPACT

Intervention Design

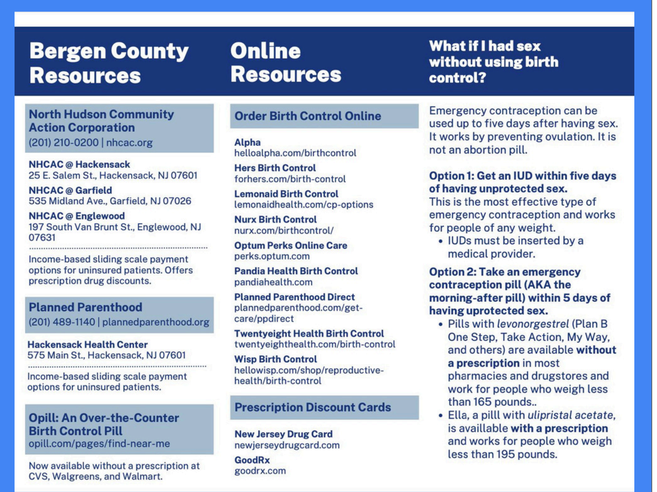
- Create pamphlets outlining resources for accessing free and cheap contraceptives, subdivided into local resources specific to Bergen County and online resources.
  - Pamphlet is written in plain english, accessible to laypeople who may not have good health literacy.
  - Some basic information about contraception efficacy as well as websites which aim to educate patients in accessible language (eg, bedsider.org) is included to guide patients who may not yet know which method of contraception best meets their needs.
  - A QR code linking to an anonymous google form will prompt patients who use the pamphlet to share feedback, helping to better tailor future editions to the population being served.
  - Contact information for the HUMC clinic is prominently listed.

Setting

- HUMC OB/Gyn academic practice, lising resources specific to Bergen county.
- Pamphlets will be printed and displayed prominently in the practice, as well as offered to patients who express a need for lower cost contraceptives.

Long Term Intervention

- If reception is positive at the HUMC clinic, pamphlets can be edited to meet the needs of other local HUMC-affiliated OB-GYN practices and clinics and disseminated there.
- Translation into Spanish for greater reach.



DISCUSSION / CONCLUSION

Next Steps

The intended outcome of the project was printing and distributing completed pamphlets to the HUMC OB-GYN academic practice. However, the process for editing and creating a final product exceeded time constraints and disseminating the pamphlet will occur later this spring.

Once the pamphlet is printed and distributed, the google form will be monitored for feedback from patients and providers at the clinic. Feedback will be implemented when revising the resource for other clinic locations and when establishing an online presence on the UniteUs database.

Future research on the utility of this intervention could include creating a more robust usage survey capturing demographic information and preference between in-person local resources and online resources.

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Thank you to my Capstone mentor, Dr. Figueroa, and to my HD group leader, Dr. Roth.

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The Importance of Food Insecurity Screening in Pediatric Emergency Rooms: Addressing a Key Social Determinant of Health

Mark Schoenike, MS3

Gary R. Weine, MD, FACP Mentor/Facilitator

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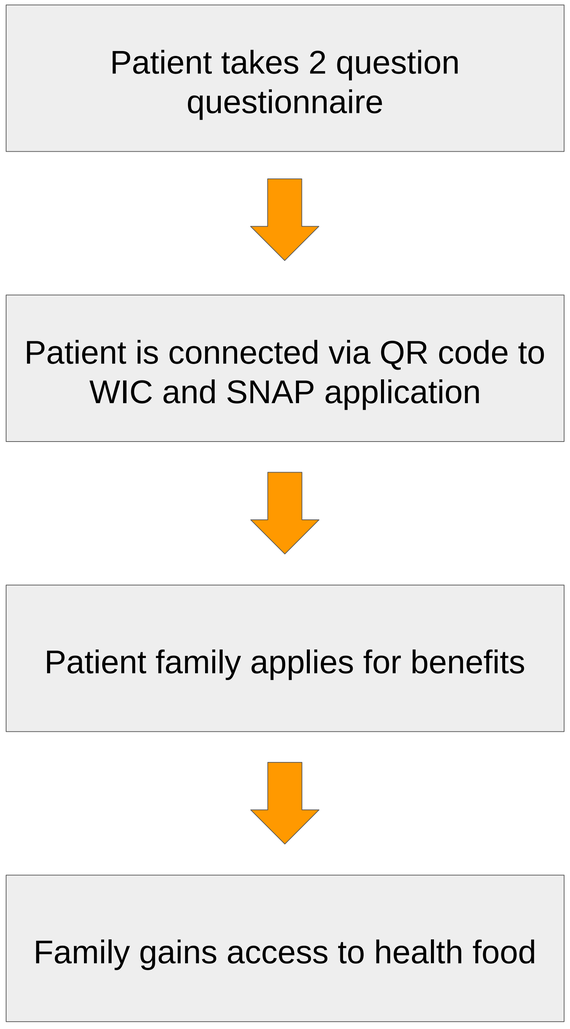
BACKGROUND

- SDH: Environmental
- Definition: Food insecurity refers to the lack of consistent access to enough food for an active, healthy life.
- Statistics: In the United States, approximately 1 in 6 children may live in households that experience food insecurity.
- Impact: Food insecurity in children can lead to developmental impairments, increased risk of chronic diseases, and mental health issues.
- Pediatric ERs are often the first point of contact for healthcare for many families, especially in underprivileged communities.
- Screening in ERs can identify children at risk of food insecurity who might otherwise go unnoticed.
- Early identification can lead to timely intervention, improving long-term health and developmental outcomes.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Deployment of a 2 question screening tool in the Pediatric ER system
- Allows us to identify at-risk families and target our social support teams
- Once identified, can be linked with social services like SNAP and WIC
- Access to these service will ensure adequate access to nutrition, a key component of overall long term health



DISCUSSION / CONCLUSION

This project, aiming to incorporate a food insecurity screening in a pediatric emergency department, has been a profound learning experience. It has underscored the importance of addressing social determinants of health in pediatric care and highlighted the complexities involved in implementing systemic change. Currently the experience has been a blend of successes and challenges, each offering invaluable lessons. As the project progresses, it continues to be a powerful reminder of the impact that dedicated, informed efforts can have in shaping healthcare practices for the betterment of society.

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Utilization of machine learning to inform efficient discharge planning processes: a systematic review

Martin Malik BS, Jasneet Kaur MD, Sameh S. Girgis MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Describe which DOH you focused on and how it impacts health outcomes?

- Hospital readmissions have imposed a substantial financial burden and cost Medicare $26 Billion annually
- Reducing the 30-day readmission rate has been set as a national reform goal standardized by the centers for Medicare and Medicaid Services.
- Under the program, hospitals have been financially penalized if their 30-day readmission rates across certain departments were higher than the expected risk standards.

What is the knowledge/action gap?

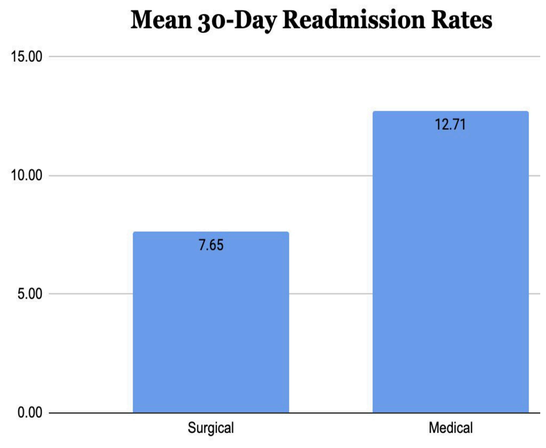
- The advent of machine learning (ML) in the last decade has introduced several technologies that have been utilized across an array of disciplines in the medical field.
- Previous studies have examined which hospital departments have the highest readmission rates and the underlying factors associated with them.
- However, there are limited systematic reviews examining the efficacy of ML as a tool to predict readmissions and identify key risk factors.

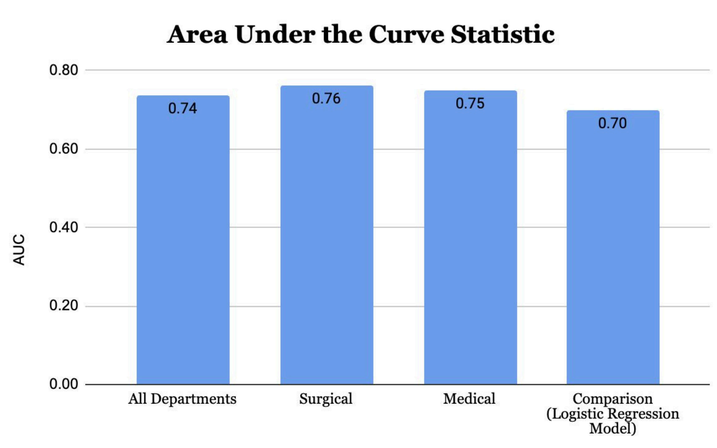
Objective of the project/study

- We sought to synthesize a system-wide systematic review of studies utilizing current ML models to predict 30-day readmissions.

INTERVENTION DESIGN & EXPECTED IMPACT

- Studies were selected through a comprehensive search using PubMed and Cochrane Library published until Jan 20, 2024. Specific search criteria including the terms machine learning, artificial intelligence, and readmission rate were used to select articles.
- Eligibility criteria were clearly defined and included studies that: were published in 2012 or later, utilized a defined machine learning algorithm, specifically predicted 30-day readmission data, and evaluated algorithm performance using the area under the curve(AUC) metric. Studies were excluded if they did not report original research or were systematic reviews.
- Through our search criteria, we identified 23 eligible studies across a wide range of medical specialties including cardiology, neurology, general surgery, and neurosurgery.
- Median sample size was 9421.5 with a minimum and maximum of 616 and 439,650, respectively. Average age of all patients was 63.82(17.04). The average readmission rate was recorded at 11.32% and the AUC was 0.74 across all studies.
- Most studies found a significant improvement in accuracy when using ML models over traditional prognostic models such as linear regression.





DISCUSSION / CONCLUSION

- Hospital readmissions on a system-wide scale are a major event that accelerate the likelihood of developing new complications and/or death. Previous reviews have focused on identifying medical departments with the highest 30-day readmission rates and their underlying causes. We aimed to analyze a series of studies utilizing novel ML models to predict readmission events across all possible hospital departments.
- This study lays the groundwork for future projects by informing the utility of machine learning in identifying patients at high risk of readmission.
- Future projects may focus on identifying a target department within the HMH network and determine how these established ML models can be implemented into the hospital workflow.

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Addressing Imaging Disparities Through Medical Education

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Mentor: Tovah Tripp, MD
Facilitator: Tade Ayeni, EdD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- Background: While Radiological Imaging may not seem like an area that can be susceptible to bias, recent literature has time and again found there to be disparities between the quality, frequency, and access of imaging available to people of color, those with lower levels of socioeconomic status, and those from rural areas (1,2). This problem extends beyond just Radiology as a field - disparities can exist in the imaging guidelines recommended by professional societies in other fields as well. An example of this is our guidelines for screening for breast cancer. Studies have seen an increasing number of Black women who have a finding of breast cancer on their initial screening mammography, leading to increasing calls to establish separate screening criteria incorporating our knowledge of earlier incidence and increased aggressiveness of breast cancer in Black women (3).

- Because of the variety of specialties that impact the subject, imaging disparities may be best addressed through interventions aimed at future physicians before they go into their chosen fields. The current project, focused on the Healthcare Determinant of Health, aims to help provide medical students at the Hackensack Meridian School of Medicine with vital knowledge and skills to help combat these disparities.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- The intervention will be composed of an hour long didactic session given during the PreClinical Curriculum. This session will aim to develop a general understanding of the concept of imaging disparities, and will provide some tools that students can use in the future to help address these issues. The session will ideally be synchronous to allow for engagement with the material, though it can work in an asynchronous, remote setting. The session is best given by a Radiologist or someone with detailed knowledge of the concepts being taught, although the developed materials should serve as a primer for the session leader. The expected impact of this project is to reduce imaging disparities over time by providing future physicians with the tools to fight these disparities in their chosen fields. This will help to promote equitable access and quality of care for patients, regardless of their race or socioeconomic background.

- When surveyed, a majority of a small cohort (25) of current students responded that familiarity with imaging disparities was “Extremely” or “Very” important to them. When asked about familiarity with these concepts, 48% were “Not at all” or “Not so” familiar. The full survey results are listed below.

	Extremely	Very	Somewhat	Not so	Not at all
How familiar are you with the concept of disparities in medical imaging?	8%	16%	28%	40%	8%	12%
How interested are you in learning about imaging disparities?	36%	36%	16%	0%	16%	52%
How important is it for you to be familiar with imaging disparities?	20%	12%	0%			
How important is it for you that the SOM curriculum address health disparities?	52%	28%	8%	12%	0%	

DISCUSSION / CONCLUSION

Disparities in healthcare are often insidious and difficult to address. Providing specific education on topics like implicit bias and determinants of health helps to raise student’s awareness of these topics, and allows them to work during their careers to help reduce or eliminate these sources of bias in care. The current project aims to extend and further these conversations to include imaging disparities. Instruction in this area will uniquely prepare Hackensack Meridian School of Medicine students to work toward addressing a source of bias that is drawing significant attention.

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Application of Chat-Bot Artificial Intelligence in Education of Traumatic Brain Injury: A Comparative Readability Analysis of ChatGPT and MSKTC Fact Sheets

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Objective

To compare readability metrics of responses from ChatGPT-3.5, ChatGPT-4 and traumatic brain injury (TBI) fact sheets from the Model Systems Knowledge Translation Center (MSKTC)

Background

- TBI is a complex injury affecting millions worldwide each year.1 Access to
- comprehensible information for management and rehabilitation of TBI is crucial for patients and caregivers2 MSKTC is a key provider of
- factual resources and fact sheets for TBI information Artificial intelligence (AI) has become prevalent as sources of instant information, including health education and support.3,4 Readability metrics can measure
- how easy texts are read and understood AI educational tools can address gaps in access
- and behavior as determinants of health through greater guidance on TBI recovery at broad levels of health literacy and understanding.

ChatGPT App

OpenAI ChatGPT

Methods

- Five TBI fact sheets were chosen from the MSKTC based on total views from 12/1/22-5/31/2023.
- Subheadings from the fact sheets were formatted into questions to simulate real-world queries. These questions were posed to both ChatGPT-3.5 and ChatGPT-4.
- Six scales — Flesch Kincaid Reading Ease, Flesch Kincaid Grade Level, Gunning Fog Score, Smog Index, Coleman Liau Index, and Automated Readability Index — were used to determine readability scores

Top 5 Most-Viewed MSKTC TBI Fact Sheets (12/1/22-5/31/2023)

1. *Facts About the Vegetative and Minimally Conscious States After Severe Brain Injury*
2. *Memory and Traumatic Brain Injury*
3. *Headaches After TBI*
4. *Changes in Emotions After TBI*
5. *Irritability, Anger, Aggression After TBI*

MSKTC Fact Sheet vs. ChatGPT-3.5

Readability Scale	Fact Sheet Mean Score	ChatGPT-3.5 Mean Score	Standardized Mean Difference (95% CI)
Flesch Kincaid Reading Ease	56.9 ± 14.0	28.2 ± 11.6	2.21 [1.64, 2.79]
Flesch Kincaid Grade Level	9.0 ± 2.5	13.1 ± 2.1	-1.78 [-2.31, -1.24]
Gunning Fog	11.2 ± 2.6	15.9 ± 2.7	-1.77 [-2.30, -1.23]
Smog Index	8.3 ± 1.7	11.8 ± 1.8	-2.02 [-2.58, -1.46]
Coleman-Liau Index	12.4 ± 2.5	17.5 ± 1.6	-2.42 [-3.01, -1.82]
Automated Readability Index	8.8 ± 3.3	12.8 ± 2.2	-1.42 [-1.93, -0.91]

- Analysis of 38 prompts demonstrated that the MSKTC fact sheets significantly outperformed ChatGPT-3.5 responses across all readability metrics ($p < 0.0001$)

MSKTC Fact Sheet vs. ChatGPT-4.0

Readability Scale	Fact Sheet Mean Score	ChatGPT-4.0 Mean Score	Standardized Mean Difference with 95% CI
Flesch Kincaid Reading Ease	56.9 ± 14.0	33.8 ± 7.5	2.03 [1.47, 2.59]
Flesch Kincaid Grade Level	9.0 ± 2.5	12.0 ± 1.4	-1.48 [-1.99, -0.97]
Gunning Fog	11.2 ± 2.6	14.6 ± 1.8	-1.52 [-2.04, -1.01]
Smog Index	8.3 ± 1.7	11.0 ± 1.2	-1.80 [-2.34, -1.26]
Coleman-Liau Index	12.4 ± 2.5	16.6 ± 1.1	-2.14 [-2.71, -1.57]
Automated Readability Index	8.8 ± 3.3	11.4 ± 1.5	-1.98 [-1.47, -0.51]

- MSKTC fact sheets demonstrated significantly better mean readability metrics across all scales compared to ChatGPT-4.0 responses

ChatGPT-3.5 vs. ChatGPT 4.0

Readability Scale	ChatGPT-3.5 Mean Score	ChatGPT-4.0 Mean Score	Standardized Mean Difference (95% CI)
Flesch Kincaid Reading Ease	28.2 ± 11.6	33.8 ± 7.5	-0.57 [-1.03, -0.11]
Flesch Kincaid Grade Level	13.1 ± 2.1	12.0 ± 1.4	0.61 [0.15, 1.07]
Gunning Fog	15.9 ± 2.7	14.6 ± 1.8	0.56 [0.10, 1.02]
Smog Index	11.8 ± 1.8	11.0 ± 1.2	0.56 [0.10, 1.02]
Coleman-Liau Index	17.5 ± 1.6	16.6 ± 1.1	0.69 [0.23, 1.16]
Automated Readability Index	12.8 ± 2.2	11.4 ± 1.5	0.75 [0.28, 1.22]

- ChatGPT-4.0 exhibited modest yet significant improvements in readability metrics compared to ChatGPT-3.5, with SMDs ranging from 0.56-0.75.
- ChatGPT-4.0 demonstrated a significantly lower Coleman-Liau mean score, indicating prompts are easier to read and understand, with the score corresponding to the U.S. grade level.
- Flesch Kincaid Reading Ease mean score was significantly lower in ChatGPT-3.5 responses compared to ChatGPT-4.0, considered easily readable by an average 11-year-old student. considered easily readable by an average 11-year-old student.

Discussion

What are the clinical implications?

- Findings suggest that while ChatGPT-generated information shows promise, MSKTC fact sheets currently provide a more readable level for TBI education.
- Clinicians should be mindful of the readability of the materials they recommend
- Highlights need for further evaluation and improvement of AI integration into clinical information dissemination

What are the public health implications?

- Advanced AI such as ChatGPT-4 could significantly expand the reach of health education by providing instant, scalable access to TBI information
- Evolving capabilities of AI chatbots for generating readable content highlight an opportunity for public health agencies to collaborate with technologists

Conclusion

- While ChatGPT offers potential as an alternative information source, MSKTC fact sheets remain superior in readability. ChatGPT-4, while significantly outperforms ChatGPT-3.5, still does not match the clarity of specialized TBI fact sheets.
- ChatGPT can prioritize integration of social determinants of Health to better serve the diverse needs of TBI patients.

Acknowledgments

Special thanks to my HD facilitator, Dr. Bridget Tracy, my Capstone mentor Dr. Brian D. Greenwald and Dr. Dan Zhou for all the guidance throughout this capstone process.

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ADDRESSING THE GAP IN MENTAL HEALTH RESOURCE AWARENESS

Matthew Pecoraro, Dr. Karen Eigen, Dr. Leonidas Pritsiolas

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

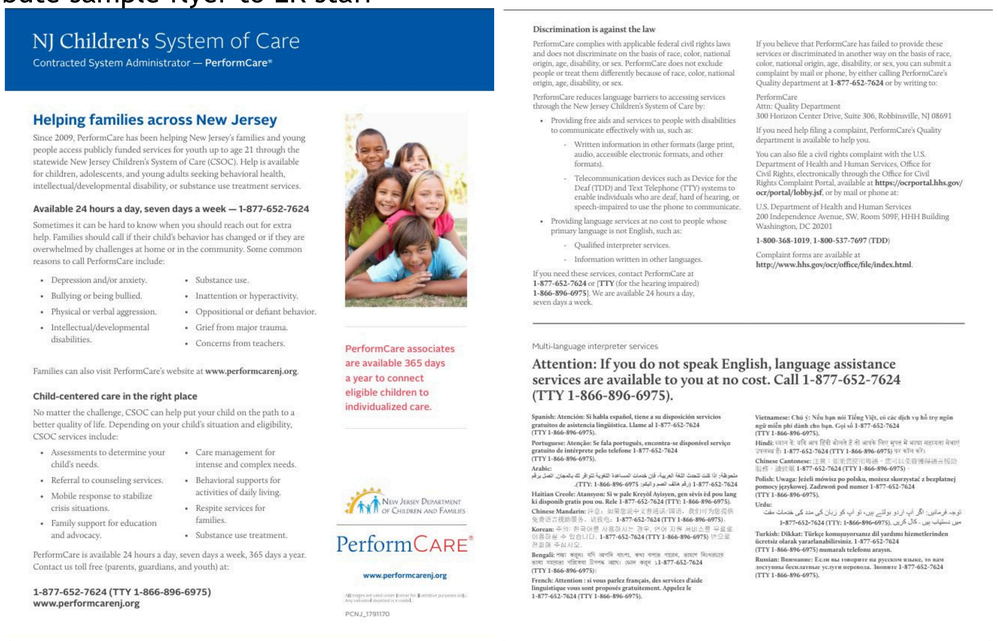
- Mental health issues are becoming increasingly prevalent in young patients.
- The National Alliance on Mental Illness reports that 1 in 6 people ages 6-17 experience a mental health disorder each year and 50% of all lifetime mental illness begins by age 14.
- A retrospective study showed in the United States between 2012 and 2018 there was a 34% increase in prevalence of childhood mental illness.
- A cohort study in Germany demonstrated that untreated mental illness in childhood correlated with lower life satisfaction and psychosocial protective factors in adolescence can mitigate this effect.
- In New Jersey, there have been several attempts at policies to address this issue. Most recently, Gov. Murphy made a presentation for the National Governors Association that outlined his plan for "Strengthening Youth Mental Health."
  - In this plan, he developed 4 pillars that deal with various aspects of the youth mental health crisis, one of which is ensuring access and affordability of quality treatment and care

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- My planned intervention is aimed at increasing awareness of an established program (Children's System of Care) run by the NJ Department of Family Services
- These services are very effective when utilized
  - Quality improvement data from CSoC showed that 93% of families are better able to understand their youth's challenges and 94% of families are better able to manage their youth's services and support
- However, these services are not used or known about by many families it is targeted at
  - 62% of participants in survey reports a lack of awareness of services
- The goal is to bridge the gap between these services and patients
  - Target is a community hospital emergency room

INTERVENTION

- Present information about the program to ER physicians so they that can give information to patients/families who would benefit from it
- Distribute sample flyer to ER staff



NJ Children's System of Care

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Since 2009, PerformCare has been helping New Jersey's families and young people access publicly funded services for youth up to age 21 through the statewide New Jersey Children's System of Care (CSOC). Help is available for children, adolescents, and young adults seeking behavioral health, intellectual/developmental disability, or substance use treatment services.

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Sometimes it can be hard to know when you should reach out for extra help. Families should call if their child's behavior has changed or if they are overwhelmed by challenges at home or in the community. Some common reasons to call PerformCare include:

- Depression and/or anxiety.
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- Intellectual/developmental disabilities.
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Families can also visit PerformCare's website at **www.performcarenj.org**.

Child-centered care in the right place

No matter the challenge, CSOC can help put your child on the path to a better quality of life. Depending on your child's situation and eligibility, CSOC services include:

- Assessments to determine your child's needs.
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New Jersey Department of Children and Families

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PerformCare reduces language barriers to accessing services through the New Jersey Children's System of Care by:

- Providing free aids and services to people with disabilities to communicate effectively with us, such as:
  - Written information in other formats (large print, audio, accessible electronic formats, and other formats).
  - Telecommunication devices such as Device for the Deaf (TDD) and Text Telephone (TTY) systems to enable individuals who are deaf, hard of hearing, or speech-impaired to use the phone to communicate.
- Providing language services at no cost to people whose primary language is not English, such as:
  - Qualified interpreter services.
  - Information written in other languages.

If you need these services, contact PerformCare at **1-877-652-7624** or (**TTY** (for the hearing impaired) **1-866-896-6975**). We are available 24 hours a day, seven days a week.

If you believe that PerformCare has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability, or sex, you can submit a complaint by mail or phone, by either calling PerformCare's Quality department at **1-877-652-7624** or by writing to:

PerformCare
Attn: Quality Department
300 Horizon Center Drive, Suite 306, Robbinsville, NJ 08691

If you need help filing a complaint, PerformCare's Quality department is available to help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at **https://ocrportal.hhs.gov/ocr/portal/lobby.jsf**, or by mail or phone at:

U.S. Department of Health and Human Services
200 Independence Avenue, SW, Room 509F, HHH Building
Washington, DC 20201

1-800-368-1019, **1-800-537-7697** (TDD)

Complaint forms are available at **http://www.hhs.gov/ocr/office/file/index.html**.

Multi-language interpreter services

Attention: If you do not speak English, language assistance services are available to you at no cost. Call 1-877-652-7624 (TTY 1-866-896-6975).

Spanish: Atención: Si habla español, tiene a su disposición servicios gratuitos de asistencia lingüística. Llame al 1-877-652-7624 (TTY 1-866-896-6975).

Portuguese: Atenção: Se fala português, encontra-se disponível serviço gratuito de intérprete pelo telefone 1-877-652-7624 (TTY 1-866-896-6975).

Arabic: ملحوظة: إذا كنت تتحدث اللغة العربية، فإن خدمات المساعدة اللغوية تتوافر لك بالمجان. اتصل برقم 1-877-652-7624 (TTY: 1-866-896-6975).

Haitian Creole: Atansyon: Si w pale Kreyòl Ayisyen, gen sèvis èd pou lang ki disponib gratis pou ou. Rele 1-877-652-7624 (TTY: 1-866-896-6975).

Chinese Mandarin: 注意：如果您说中文普通话（简体），我们可为您提供免费语言援助服务。请致电：**1-877-652-7624 (TTY 1-866-896-6975)**。

Korean: 주의: 한국어를 사용하시는 경우, 언어 도움 서비스를 무료로 이용하실 수 있습니다. **1-877-652-7624 (TTY 1-866-896-6975)** 번으로 전화해 주십시오.

Bengali: গুরুত্ব দিন: আপনি বাংলা, কথা বলতে পারেন, তাহলে নিঃখরচায় ভাষা সহায়তা পরিষেবা উপলব্ধ আছে। ফোন করুন **1-877-652-7624 (TTY 1-866-896-6975)**।

French: Attention : si vous parlez français, des services d'aide linguistique vous sont proposés gratuitement. Appelez le 1-877-652-7624 (TTY 1-866-896-6975).

Vietnamese: Chú ý: Nếu bạn nói Tiếng Việt, có các dịch vụ hỗ trợ ngôn ngữ miễn phí dành cho bạn. Gọi số 1-877-652-7624 (TTY 1-866-896-6975).

Hindi: ध्यान दें: यदि आप हिंदी बोलते हैं तो आपके लिए भाषा सहायता सेवाएं उपलब्ध हैं। **1-877-652-7624 (TTY 1-866-896-6975)** पर कॉल करें।

Chinese Cantonese: 注意：如果您使用粵語，您可以免費獲得語言援助服務。請致電 **1-877-652-7624 (TTY 1-866-896-6975)**。

Polish: Uwaga: Jeżeli mówisz po polsku, możesz skorzystać z bezpłatnej pomocy językowej. Zadzwoń pod numer 1-877-652-7624 (TTY 1-866-896-6975).

Urdu: توجہ فرمائیں: اگر آپ اردو بولتے ہیں، تو آپ کو زبان کی مدد کی خدمات مفت **1-877-652-7624 (TTY: 1-866-896-6975)** میسر ہیں۔ کال کریں۔

Turkish: Dikkat: Türkçe konuşuyorsanız dil yardımı hizmetlerinden ücretsiz olarak yararlanabilirsiniz. 1-877-652-7624 (TTY 1-866-896-6975) numaralı telefonu arayın.

Russian: Внимание: Если вы говорите на русском языке, то вам доступны бесплатные услуги перевода. Звоните 1-877-652-7624 (TTY 1-866-896-6975).

EXPECTED IMPACT

- More patients will have access to more personalized care
- Families will have more assistance in managing their children's needs

DISCUSSION / CONCLUSION

- The evidence is clear that mental health issues are increasingly more common in pediatric populations and one of the significant barriers to properly addressing these issues are lack of awareness to programs and resources designed to help these patients
- A simple solution is to shrink the gap between these programs and patients who can use them
- Some facilities like HUMC already have standard protocols to connect families to CSoC
  - Other hospitals serving different populations can benefit from similar programs
    - Prototype spreading the protocol in community hospital in Belleville/Newark
      - Similar programs can be pitched at other hospitals that do not already have a similar protocol

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Probiotic Stewardship: Understanding the Current Landscape of Probiotic Use/Misuse

Max Edeson, Dr. Eliana Shaul HD facilitator: Dr. Jose Contreras

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Determinants of Health and Health Outcomes

- Social/societal: advertisements indiscriminately encouraging people to purchase; market-driven increased costs; no insurance coverage or federal regulation for OTC products
- Healthcare: lack of consensus on best use among the medical community
- Behavioral: individuals take OTC probiotics despite lack of indication and risk of harm

Background

- Most probiotics are not FDA approved since they are sold as dietary supplements (1)
- The AGA has released a set of guidances for *possible* uses of probiotics. (2) However, there is limited evidence regarding which probiotic strains may be most helpful for specific conditions (3)
- Furthermore, probiotic usage can hinder the ability of individuals' gut microbiomes to return to normal following any form of insult (4)

Knowledge/Action Gap

- Insufficient information regarding effects of probiotic use; few comprehensive studies or physician-generated case reports
- Limited regulatory interest in supporting research since supplements fall outside the FDA purview

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

Goal

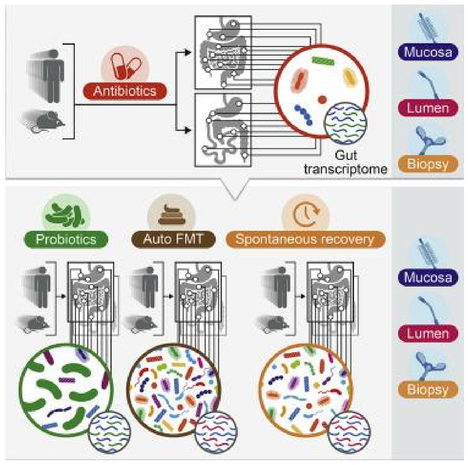
- Primary objective is to highlight how SDOH contribute to the current landscape of probiotic use in the community to foster stewardship by physicians and patients
- We aim to show how: (1) lack of government regulation affects the products themselves, (2) lack of insurance coverage leads to prohibitive costs for some individuals who could benefit from them, (3) patient misuse may make them less effective, and (4) lack of physician consensus contributes to misuse

Method

- Reviewed the AGA guidelines for probiotic use and current academic literature (including case reports, controlled trials, and systematic reviews) discussing probiotics and their effects on the microbiome, as well as the marketing claims and ingredient lists of several popular OTC probiotics – demonstrating inconsistencies in use recommendations
- Survey patients and physicians about use. Survey questions include:
  - For patients: demographics, insurance coverage, type of probiotic, how they heard about it, relevant diagnosis, indication, change of symptoms as perceived by patient/family, where purchased/acquired, length of use, other barriers to access
  - For physicians: indications for probiotic prescriptions, recommended brands, observed patient improvement, observed insurance coverage, barriers to patient access
- Compile the survey data and:
  - Assess possible trends between and within physician and patient responsa, and
  - Analyze reporting results quantitatively for central tendency and spread of data

Expected Impact

- Generate better understandings of probiotics' effects on individuals, as well as how the current landscape fosters misuse of probiotics
- Encourage future studies to determine true indications for correct probiotic use
- Create materials for the education of the public regarding the current uncertainties and areas of true benefit
- development interventions at regulatory level (e.g., FDA) and physician-patient level; more specifically, generate more rigorous guidelines



Suez J, Zmora N, Zilberman-Schapira G, … Halpern Z, Segal E, Elinav E. Post-Antibiotic Gut Mucosal Microbiome Reconstitution Is Impaired by Probiotics and Improved by Autologous FMT. Cell. 2018 Sept 6;174(6): 1406-23.E16. doi: 10.1016/j.cell.2018.08.047

DISCUSSION / CONCLUSION

- This survey is an initial foray into an area of medicine with many unclear findings and inconsistencies
- We hope that these results will guide conversation to be more critical and thoughtful about proper probiotic use, similar to dialogue around antibiotic stewardship, and ultimately lead to increased oversight and clear guidelines for use

Further Research

- RCTs/Prospective studies to determine any objective measures of benefit in probiotic use beyond subjective accounts from patients talking retrospectively
- The aforementioned effort could entail market analyses on currently available probiotic products, stool studies to assess for dysbiosis caused by probiotic use, or prospective RCT efficacy studies to determine risk/benefit

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(3)

(4)

References:

Increasing the Availability of Breast Reconstruction for Uninsured Individuals: a Proposal

Maxwell Godek
Christopher P. Godek, MD, FACS Mentor
Gary R. Weine, MD, FACP Facilitator

Hackensack Meridian Health
Hackensack Meridian School of Medicine

BACKGROUND

- **Social determinant of health**: healthcare quality and access
- This proposal directly impacts health outcomes by providing in variety of ways:
  - Connecting providers with uninsured patients
  - Creating access to cost-prohibitive care both from the perspectives of physicians and patients
  - Increasing the availability of a procedure that can be overlooked in breast cancer treatment

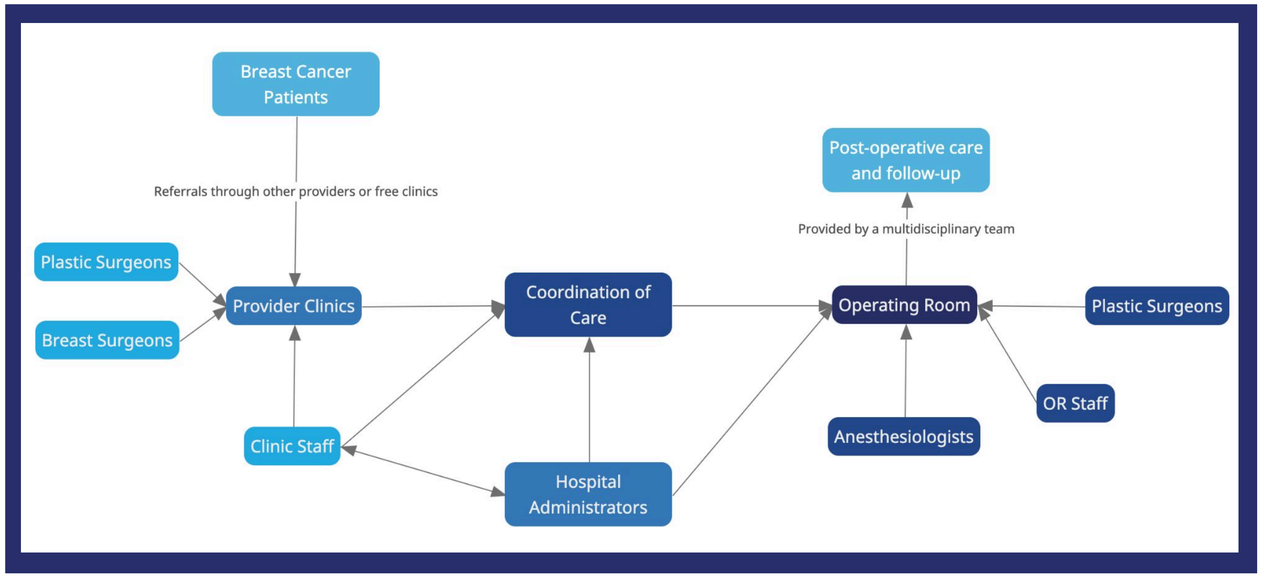
The gaps that this proposal targets include:

- Relative lack in domestic plastic surgery volunteerism
- The various barriers to attaining breast reconstruction as an uninsured patient

- **Proposal objective**:
  - Begin discussions about a program that provides breast reconstruction to patients at no-cost
  - Establish a protocol to provide high quality treatment and a seamless treatment process for these patients
  - Create systems and controls that allow for this project to function at a consistent level for the foreseeable future
  - Improve availability of this vital aspect of breast cancer care that would otherwise be inaccessible to these patients

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- **Stakeholders and their roles:**
  - Patients: will receive no cost breast reconstruction surgery
  - Physicians: provide care and conduct surgery at no cost
  - Physician office staff: coordinate patient care
  - Hospital administrators: schedule OR time and provide guidance about hospital logistics
  - Hospital system: allocate OR time and equipment at no cost



- **Methodology for completion of this proposal:**
  - Recruit plastic/breast surgeons and anesthesiologists who are currently providing volunteer care
  - Establish a group of hospital administrators who will facilitate scheduling OR time and allocating resources
- **Patient recruiting:**
  - Recruit and work with breast/plastic surgeons who are providing volunteer care in the local community
  - Inform both breast and plastic surgeons about this program and set-up a referral network
- **Expected impact:**
  - Increase the quality of healthcare for some uninsured individuals who represent 500 of the approximate 7300 newly diagnosed patients with breast cancer in New Jersey8

DISCUSSION / CONCLUSION

- There is an unmet need for plastic surgery domestic volunteerism
- Breast cancer reconstruction post mastectomy is cost prohibitive for the underinsured
  - The typical cost for all of the care that is required to complete this procedure is approximately $40,0006
- This proposal could provide access to breast reconstruction surgery for approximately 500 patients in New Jersey per year
- This proposal targets an aspect of care that can be commonly overlooked for many patients, included those with significant barriers to care

- **Conclusion:**
  - As this proposal evolves, it can be adopted by other hospitals to increase outreach
  - The price of this care could be zero through physician and hospital charity
  - Breast reconstruction is a vital aspect of breast cancer care and should be made as available as possible to patients

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Screening for SNAP Eligibility in the HUMC Emergency Department: Feasibility and Pitfalls

Maya J. Sorini, MS; Herman Morchel, MD; Anil Desai, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

-Food insecurity has been linked to poorer cardiovascular health1, worse mental health2, and worse measures of child development and growth3.

-NJ SNAP, and other resources, aim to reduce or eliminate food insecurity in our community.

-Nationally, 82% of those eligible for federal SNAP are receiving benefits vs. 81% in New Jersey.

-Nationally, 74% of working poor receive SNAP, vs 72% in NJ.

-63% of eligible elderly persons in NJ access SNAP, which is significantly better than the national rate of 42%4.

-While NJ's rates are comparable or better than national rates, we are still "missing" a large number of citizens who meet criteria to get supplemental nutrition but do not know to access this resource.

-The emergency department (ED) is a major point of contact between the public and our healthcare system.

-We already have screening in place for the SDOH.

-My proposed intervention adds screening questions to the social determinants of health questionnaire already in EPIC to capture which patients qualify for SNAP benefits so that we may direct them the NJ SNAP program.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

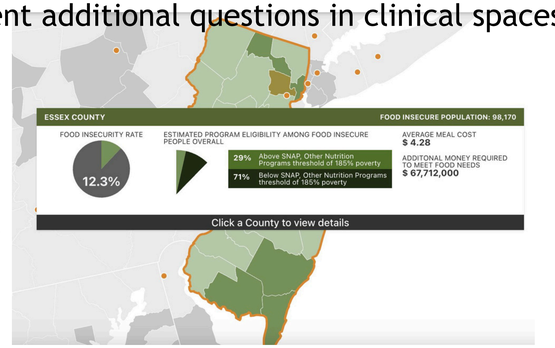
Proposed Screening questions via NJHelps.gov

1. Do you live in New Jersey and plan on staying?
2. Are you homeless or in danger of becoming homeless?
3. Including yourself, how many people live with you?
4. Are any children 18 or younger living with you?
5. Is anyone living with you age 65 or older, or do you or someone living with you have a disability?
6. Are you, or is anyone living with you, pregnant?
7. Are you, or is anyone living with you, receiving monthly payments of Supplemental Security Income (SSI)?
8. What is your estimated household monthly income before taxes and deductions, for you and everyone living with you (including alimony, pensions, unemployment, child support)?
9. If you or anyone living with you pays court ordered child support, how much do you pay per month?

https://www.nj.gov/humanservices/njsnap/apply/eligibility/

Barriers to screening:

- Staffing/Time- clinicians do not have time to add questions to their patient interviews. The best option would be to train EM research volunteers already in the ED
- Institutional Approval-required to implement additional questions in clinical spaces
- Technological considerations- integration into Epic is time consuming, and requires more approvals
- Research approval- IRB approval necessary for investigational intervention/data collection



https://map.feedingamerica.org/county/2020/overall/new-jersey

DISCUSSION / CONCLUSION

- I met with ED leaders to discuss methods of implementation of this program and barriers to success.
- The proposed implementation strategy would recruit existing pre-med volunteers involved in ED research and have them administer the screening questions to patients.
- We would need IRB approval to add these questions and to include the data in analysis of ED patterns and future directions.
- Launching this research is beyond my scope at present, but I am excited to try and hand this research down to younger medical student cohorts to help connect patients with resources to decrease food insecurity in our community.

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With special thanks to Dr. Herman Morchel and Dr. Michael Ullo for their guidance, expertise, and time.

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Durao S, Visser ME, Ramokolo V, et al. Community-level interventions for improving access to food in low- and middle-income countries. Cochrane Database Syst Rev. 2020;(8). doi:10.1002/14651858.CD011504.pub3
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Educating Medical Students on Screening and Intervention Tools for Reproductive Coercion during Phase I

Meghana Singh, BA; Ginja Morreale, MD; Nora Doty, MD; Martin Pelavin, MD

Special acknowledgements to Sameeha Shaikh and Sabrina LaRosa

Hackensack Meridian *Health*

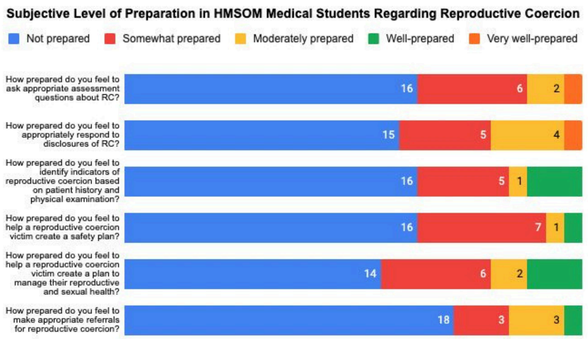
Hackensack Meridian School of Medicine

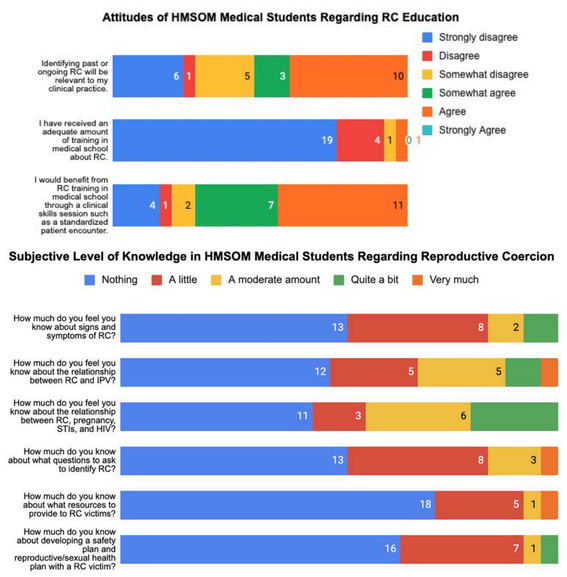
BACKGROUND

- Reproductive Coercion (RC) is defined as behavior that interferes with the autonomic decision making of an individual, with regards to reproductive health
- RC encompasses birth control sabotage, pregnancy pressure, and pregnancy outcome control
- A 2019 study showed that in the US, 8.4% of women (~10.1 million) and 9.7% of men (~11.1 million) experienced RC during their life
- Physicians play a major role in providing interventions to address RC such as safety planning, offering harm reduction, providing discrete methods of contraception, etc.
- A 2011 study showed that clinic-based interventions that focused on awareness of RC and provided harm-reduction strategies reduced RC by 71% among women
- At the moment, there is a clinical skills session during the OBGYN clerkship designed to educate students about IPV but this session does not discuss RC
- There was recently a session for Phase I students regarding IPV but this session did not include assessment/intervention tools and also did not cover RC
- Considering the prevalence of RC and its profound consequences, training in screening for, identifying, and providing tools for RC is important in better preparing students for clerkships and creating physicians that can properly care for victims

INTERVENTION DESIGN & EXPECTED IMPACT

- Goal: to create a Phase I curriculum session on reproductive coercion in efforts to raise awareness regarding the issue prior to students beginning their clerkship year, as well as providing students with the appropriate assessment and intervention tools if necessary
- Methods:
  - Created a lecture with the assistance of Dr. Morreale and Dr. Doty covering reproductive coercion, assessment tools, and intervention tools
  - Collaborated with two other students who covered IPV and sex trafficking to create a "Social Factors in Women's Health" lecture series
  - Performed a thorough literature review on what information was available on reproductive coercion (prevalence, subtypes, statistics, assessment tools, intervention tools)
  - Created a pre- and post-session survey to assess the baseline knowledge and attitudes of medical students prior to the lecture and then knowledge they learned after the session
  - Session was recorded for the purposes of sharing with the Clinical Skills team and proposing it as an optional session for future cohorts
- Results:
  - 10 students from the 2022 Cohort and 15 students from the 2021 Cohort responded to the pre-session survey
  - A majority of students felt inadequately prepared to identify and address RC, and had little to no knowledge regarding RC
  - 19 of 25 respondents strongly disagreed that the present curriculum had adequate focus on RC; 11 of 25 responded stating that they would benefit from an RC SP encounter
  - All students reported that they found the session helpful in increasing their readiness to address RC, as well as screen for and provide resources to victims of RC





DISCUSSION / CONCLUSION

- Medical students agree that they do not feel prepared to identify RC, create safety/health plans with their patient, and provide referrals; they also endorse having little to no knowledge regarding assessment and intervention tools and RC's relationship with other health issues
- All medical students unanimously agreed that more education regarding RC would we welcome in the curriculum
- Reproductive coercion is a specific form of IPV that relates to any behavior that interferes with contraception use and pregnancy; it describes a range of behaviors that restrict reproductive autonomy including pregnancy coercion, birth control sabotage, and controlling the outcome of a pregnancy
- It is essential that we educate medical students, our future physicians, to be able to screen for RC and provide appropriate interventions and tools when it is encountered in their academic and professional careers
- Limitations: small sample size of medical students

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Vaping Health Literacy in New Jersey

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BACKGROUND

- Given growing e-cigarette usage, the health literacy of the public surrounding vaping is increasingly important.
- Vaping places patients at increased risk for various complications, from lung injury to addiction. Increased cancer risk is being assessed but considered likely.
- The objective of this project will be to narrow the knowledge gap regarding the health literacy surrounding vaping and e-cigarette usage in New Jersey.

Figure 1 E-cigarette Device Variety

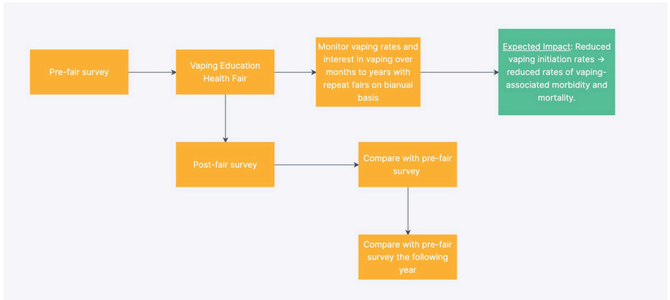
There is a vast array of technologies for e-cigarette use, providing a number of choices for those who vape.

- Educational programs aimed at increasing vaping health literacy in schools (Ex: CATCH My Breath) and those targeting adults have been shown effective in increasing vaping health literacy and in some studies reduced interest in starting tobacco use.
- Hence, the available data suggest that increased educational efforts may assist in reducing vaping use in NJ and subsequently reduce rates of vaping-associated complications.

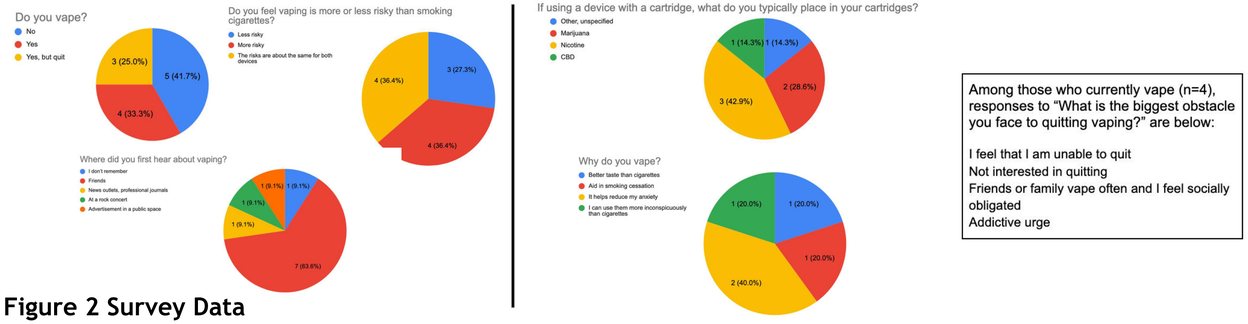
INTERVENTION DESIGN & EXPECTED IMPACT

Intervention Design:

Community organizations could host routine health fairs to provide information on vaping and then track the progress of the program over the coming years by surveying the population of interest via post-session surveys and following trends in vaping use across the age groups. Flow chart of this intervention below:



Tailoring the Approach to New Jersey: An anonymous survey on vaping attitudes and trends in use was distributed to residents of New Jersey including students at the medical school. Data was limited (n=12) but is summarized below. All respondents (left) and those who have or currently vape (right):



Among those who currently vape (n=4), responses to "What is the biggest obstacle you face to quitting vaping?" are below:

I feel that I am unable to quit
Not interested in quitting
Friends or family vape often and I feel socially obligated
Addictive urge

Figure 2 Survey Data

Median age was 26. Majority of respondents identified as female and multiracial or biracial.The majority of respondents first heard about vaping from their friends. There was variability in terms of perceived risk of smoking cigarettes versus vaping. Tobacco was the most common substance used in cartridges. Marijuana and CBD were also noted. Reasons for vaping included better taste than cigarettes, aid in reducing anxiety, aid in smoking cessation, and ability for more inconspicuous use than cigarettes. Obstacles to quitting are noted individually above. The pie chart data displayed above suggest, similar to prior work, that there is a social component to vaping, that there are a variety of substances used in cartridges, and that there is a varied perception on the dangers of vaping relative to smoking cigarettes.

Expected Impact:

By increasing health literacy in regards to vaping, the expected impact is a decrease in the rates of vaping initiation and as a result a decrease in the rate of vaping-associated morbidity and mortality over several years.

DISCUSSION / CONCLUSION

- Health literacy with regards to vaping has increased over recent years though there are still needed efforts to close the gap and to decrease the risk of initiation.
- Available data suggests educational programs result in decreased interest in starting.
- Therefore, focusing on vaping education may be a good investment in the future health of our NJ communities.
- One potential intervention is a routine educational health fair. By reducing the knowledge gap, we may reduce the rate of vaping initiation and hence, associated morbidity and mortality.
- Data collected from specific areas and townships may guide educational efforts. Greater amounts of data from the survey done here are needed.
- This proposal was presented to the Clifton Health Department along with potential alternatives, including an educational app.

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Utility vs. Equity: Assessing Kidney Distribution under the new UNOS Allocation Policy

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BACKGROUND

- Prior to 2021, kidney allocation was directed by an organization-based distribution policy, where donation service areas (DSAs) would determine which patients were candidates to receive a kidney, creating the match-run
- Due to limited transparency, many transplant centers would distribute kidneys at their own discretion
- For 65-75% of kidneys, transplant centers skipped the highest ranked candidate1
- More than 25% of kidneys transplanted outside their local region2
- New UNOS policy in 2021 removed DSAs, and kidneys were then offered to patients within 250 nautical miles of where the kidney was recovered in an effort to increase equity across all organ transplantation
- Overall non-use rate for deceased donor kidneys increased from 21 percent pre-policy to 26 percent post-policy era3

OBJECTIVE

- To assess equity of deceased donor kidney distribution under the new UNOS policy

METHODS AND RESULTS

- A dataset consisting of all deceased donor kidney transplants (DDKT) from January 1, 2021 to October 31, 2023 was requested from the Organ Procurement and Transplantation Network
- The data was sorted by DDKT type (match run or open offer), transplant year, transplant region, age group, recipient ethnicity, and recipient birth sex)
- Equity was assessed by comparing kidney distribution between match run DDKTs and open offer DDKTs across various demographics

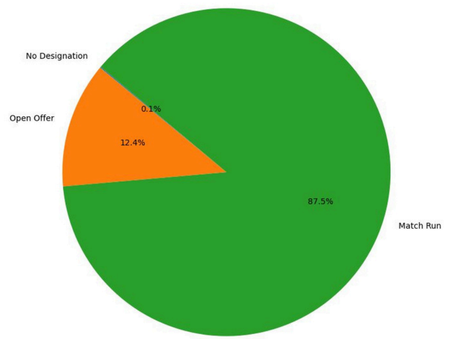

Figure 1. Distribution of DDKTs (2021-2023)

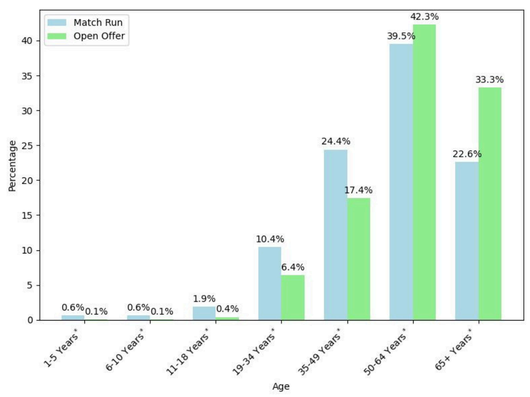

Figure 3. Distribution of Total DDKTs by Age

* = p<0.05

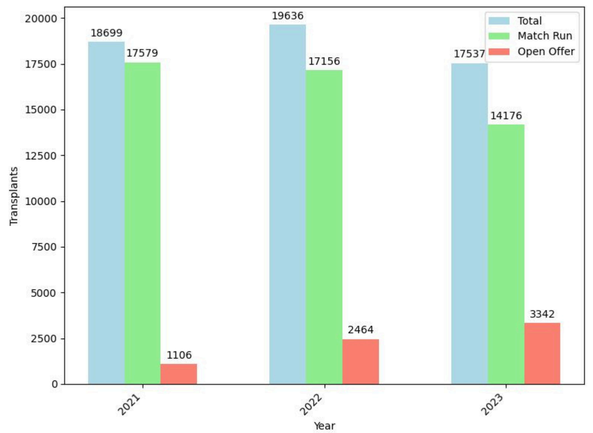

Figure 2. Total DDKTs between January, 2021 and October, 2023

Table 1. Distribution of Total DDKTs by Ethnicity

	Match Run	Open Offer	p-value
White, non-Hispanic	34.8% 34.5% 21.0%	35.9% 33.1% 19.2%	0.075 0.017 <0.001
Black, non-Hispanic	7.4% 2.3%	10.5% 1.3%	<0.001 <0.001
Hispanic/Latino			
Asian			
Other			

Table 2. Distribution of Total DDKTs by Birth Sex

	Match Run	Open Offer	p-value
			<0.001
Female	40%	36.9%	<0.001
Male	60%	63.1%	

DISCUSSION / CONCLUSION

- Proportion of open offer DDKTs are increasing on a yearly basis allowing physicians to distribute more kidneys at their discretion
- Distribution of kidneys differs between match run and open offer DDKTs across all ethnicities with Black, non-Hispanic and Hispanic/Latino patients receiving significantly fewer open offer DDKTs
- Differences in kidney distribution across age brackets suggests older patients may be preferred surgical candidates for open offer DDKTs
- Open offer DDKTs typically have longer cold ischemia time, leading to shorter expected function in these kidneys and avoidance of placement in younger patients
- Distribution of kidneys differs between match and open offer DDKTs across birth sex

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Closing the Gap in Surgery for Drug Resistant Epilepsy

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BACKGROUND

- **Background: What is Drug Resistant Epilepsy (DRE)?**
  - "Failure of adequate trials of two tolerated and appropriately chosen and used AED schedules (whether as monotherapies or in combination) to achieve sustained seizure freedom." (ILAE) Adequate trials Appropriately chosen Framework of Classification
  -
  -
    - Level I
    - Level II
- **What is the role of surgery in DRE treatment?**
  - ◯Higher chance of seizure freedom or lower seizure frequency
  - ◯Cost effective within 9-10 years, even earlier if factor indirect costs
  - ◯Reduced mortality rate and seizure complications
- **The discrepancy:**
  - ◯"A national survey revealed only 3000–4000 epilepsy surgeries occur annually among 100,000–200,000 surgical candidates in the United States"
- **Objective**: Provide quantitative data about why the discrepancy exists and suggest practical interventions to mitigate it.

INTERVENTION DESIGN & EXPECTED IMPACT

- Our Project:
  - ◯Survey neurologists and neurosurgeons in the network
  - ◯Gather quantitative data about status of discrepancy within the network
  - ◯Assess SDOH factors contributing to discrepancies in surgery rates for DRE in the network
  - ◯Assess physician perspective on discrepancy in surgery rates for DRE
  - ◯Design succinct informational pamphlet to report on the state of this information in the network

DISCUSSION / CONCLUSION

- Expected effects of our study:
  - ◯provide quantitative, site specific data on SDOH factors of DRE patient population
  - ◯suggest strategies to mitigate obstacles in surgical intervention for DRE
  - ◯suggest strategies to guide conversation between physicians and patients pre- and post-surgical intervention
- **Significance of this study:**
  - ◯Advertise benefits of surgery for DRE
  - ◯standardize care in the network
  - ◯advance treatment for DRE to be in line with most up to date recommendations
- Conclusion:
  - ◯Benefits of surgery for DRE can greatly and quickly outweigh costs/fears. This study will provide insight into where our network stands in this issue

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WOMEN'S BREAST HEALTH: WOMEN'S HEALTH FAIR

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BACKGROUND

- Background: To address a disparity in **healthcare access** as a determinant of health leading to **higher rates of breast cancer** in women of **lower socioeconomic status** in New Jersey.
- **23.2%** of New Jersey women aged 40-74 are **not up-to-date** with **screening mammograms** (2014-2018 New Jersey Behavioral Risk Factor Survey).
- **Significantly higher** rates of breast cancer in **Bergen County** compared to the rest of NJ.
- **Socioeconomic status** contributes to cases of breast cancer!
  - ◯ **Lower %** of up-to-date **screening**
  - ◯ **Higher** rates of **risk factors** (physical inactivity, obesity)

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

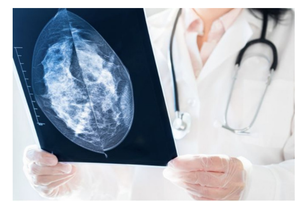
- **Objective: Host a Women's Health Fair to…**
  - ◯ **educate women** on appropriate screening intervals
  - ◯ identify **high risk** patients
  - ◯ provide referrals for **free mammograms!**

NJCEED Cancer Education & Early Detection	**free mammograms** to eligible **women without insurance!**
	sponsorship & funding and **BRCA Panel testing** to high-risk women
John Theurer Cancer Center	**follow-up treatment** for screened women with **concerning mammogram findings**

- **Expectations:**
  - **Increased %** of women **up-to-date with screening** mammograms in NJ
  - Incidence of breast cancer in NJ may rise slightly due to **more diagnosed cases**

DISCUSSION / CONCLUSION

- Potential to become an **annual event**
- Opportunity for **expansion to additional sites** throughout NJ
- **Education is paramount to appropriate screening,** dependent on personal risk factors
- **Lack of access to screening mammography** contributes to cases of breast cancer in women of **lower socioeconomic status**



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- Thank you to Dr. Tracy, Lisa Marie Bronson, and Dr. McGreevy for their ongoing support in this project!

Pharmacogenomics and Major Depressive Disorder: TIme to Take a Stance?

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BACKGROUND

- Major depressive disorder (MDD) is one of the most common medical conditions in the United States, with a prevalence of over 18% in 2020 [1]. There are a number of medication classes that can be used for depression. Unfortunately, it is estimated that the first medication a patient is prescribed for MDD may only be effective in 50-60% of cases [2].

- Pharmacogenomics involves doing genetic testing of a patient's pharmacokinetic profile with the goal of finding a treatment that will be the most effective with the fewest side effects.

- Currently, pharmacogenetic testing is not widely talked about. The purpose of this project is to evaluate current data available for change in patient health outcomes who undergo pharmacogenomic testing prior to treatment for MDD. Findings were then compared to recommendations made by clinical support tools, namely Dynamed and UptoDate.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Literature review was mixed but mostly favoring pharmacogenomic testing. A meta-analysis published in 2019 reviewed five randomized controlled trials and concluded that patients with MDD who utilized pharmacogenomic testing were 1.71 times more likely to have symptom remission than those who did not [3]. However, a systematic review published that same year analyzed 16 studies concerning MDD and the benefits of pharmacogenomics and found mixed results. A more recent systematic review published in 2023 that looked at 14 studies concluded that patients with MDD who have pharmacogenomic guided treatment are more likely to undergo remission than standard of care [4]. There is also evidence that pharmacogenomic guided treatment is cost effective when being used for antidepressant treatment choice [5].

- Both clinical support tools, UptoDate and Dynamed, have limited discussion on pharmacogenomics. Much of what they discuss is a background on what pharmacogenomic testing is, however they provide little information on when the testing should be done. There is also little discussion on its impact in helping patients with MDD.

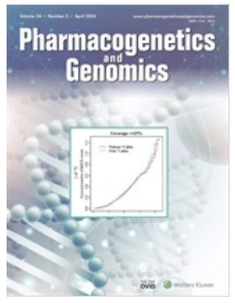
- Once all literature was gathered and clinical support tools were reviewed a write up was done to summarize the findings. It was concluded that although pharmacogenomic testing for all patients with MDD is probably excessive at this point, it may have benefit in patients with severe or refractory MDD. Clinical support tools should make mention of the availability of pharmacogenomic testing on their MDD overview and treatment pages so providers are away of this option.

- The paper was written as an opinion piece and submitted to *Pharmacogenetics and Genomics*. It was approved for publication. Scan the QR code below for a link to the paper.

DISCUSSION / CONCLUSION

- Although currently clinical support tools have little information about pharmacogenomic testing there is enough evidence, at least in regards to MDD treatment selection, that it should be mentioned as a possible intervention in select patients

- As pharmacogenomic testing becomes cheaper and faster it will likely become more popularized and cost-efficient



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Nutley High School Exercise Program Pilot

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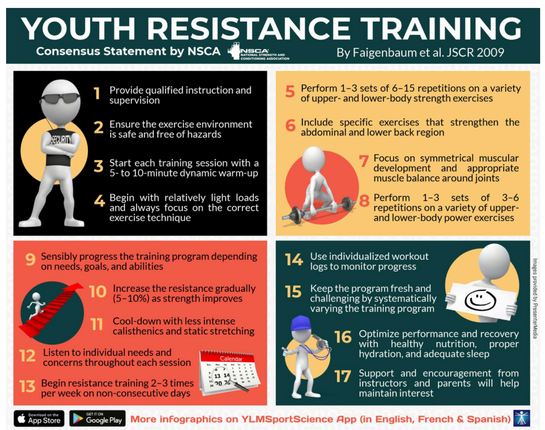
BACKGROUND

- Goal: To create an opportunity for students who are not involved in sports to have an opportunity to exercise
- Focus on the behavioral determinant of health
- Addressing the challenge of children not involved in organized sports being unaware what exercises may be best in helping them accomplish their fitness goals
- Group training outside of school programs can cost as much as $595 for a 2 day/week 2 month program
- The Nutley High School Exercise Program seeks to provide an educational foundation for those who wish to learn exercises which can help them in achieving their fitness goal

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- A thorough literature review was performed to determine which exercises are of the greatest benefit to the pediatric patient population with a focus placed on safety
- Literature review revealed exercise provides benefits for obesity, hyperactivity in children with ADHD, cognitive function and brain health, as well as reduced risk of cardiovascular disease later in life
- Utilizing the resistance training roadmap guidelines from the American Academy of Pediatrics, a general framework of resistance training exercises was developed
- The framework of the project was presented to the principal of Nutley High School, Denis Williams
- After discussion with Mr. Williams, we agreed to have a pilot day based around the training routine created
- Volunteers were gathered from HMSOM to help conduct the future pilot day
- Feedback on the program will be gathered to further improve participants' experience



DISCUSSION / CONCLUSION

- Creating an exercise program with a focus on students not involved with athletic teams provides an outlet for more children to develop healthy exercise habits
- A framework was successfully developed with input from faculty of Nutley High School
- A pilot will soon be conducted by myself and volunteers from the school of medicine
- To continue having an impact on the community, this program will be handed off the volunteers from various HMSOM clubs including SOM Lifts

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Method to Improve Rates of Preventable Injury in Pediatric Populations with Limited-English Proficiency

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BACKGROUND

- As of 2022, about *940,000 people* living in NJ have limited English proficiency, or LEP. About ⅔ of this population of LEP are Spanish-speaking.
- While translation services are available in the healthcare setting, often times these services are underutilized because of inconvenience, time constraints, and lack of available equipment (often one interpreting device per unit, for example.)
- A language barrier can negatively impact a patient's health and understanding of key health information.
- According to one study, hospitalized children from Spanish-speaking families had significantly longer hospital stays in association with an adverse event and may have increased odds of a serious or sentinel event. These findings suggest that an important component of patient safety may be to address communication barriers.
- According to the CDC, African American and Latino children have disproportionately higher rates of traumatic injury and suffer worse outcomes from those injuries.The greatest disparities have been reported for safe car seat use.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

- 12 minute video that includes easy-to-understand visuals and important basic information about the following topics:
  - Basic timeline of infant milestones 0-6 months
    - importance of proper formula measurements
    - when to introduce solid foods
    - importance of vaccines and making doctor appointments
    - common illnesses to be aware of in the first year of life
  - SIDS prevention
  - Drop and fall prevention, Car Seat Use
  - Shaken Baby Syndrome and Postpartum Depression
  - Toys and Choking Hazards
- The audio of this video is in Spanish and the video is available on Youtube.
- This intervention is designed to be versatile and can be implemented in a variety of settings including:
  - inpatient and outpatient settings, group patient education settings, reception areas/waiting rooms, and for general public viewing.
- The expected impacts:
  - families with LEP can refer to an easily accessible video for important information regarding their infant's health
  - opportunities for questions and improved communication between LEP families and their child's physicians
  - streamlining use of limited time in an outpatient setting for thorough patient education

images from the video project. Images owned and distributed by Canva.

DISCUSSION / CONCLUSION

- I encountered several patients in the ED/outpatient settings that were brought in due to preventable injuries/illnesses, and they also often had LEP or limited resources at home.
- Intended outcome is to have a more in-depth educational option for providers that have encounters with patients with LEP.
- New parents with LEP and/or limited experience with infant care can better understand SIDS and methods of injury prevention after watching this video at the OB/Pediatric clinics at JSUMC.
- The video is publically available and can reach a wide audience both within the community and beyond, where other Spanish-speaking communities exist in the US.

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- A special thank you to Dr. Janet Schairer and the Pediatric residents from JSUMC for their guidance!

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Mitigating the Adverse Effects of Loneliness on Youth Mental Health Outcomes

Om Panda

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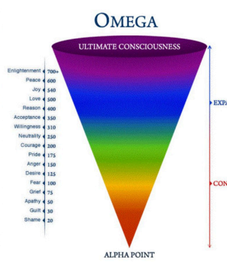
BACKGROUND

- **Background**: This project focuses on social determinants of health, particularly addressing the negative impacts of social isolation, loneliness, and excessive screen time usage on mental health. These are significant risk factors for various mental health issues, including depression, anxiety, and cognitive decline, and this projects offers a multifaceted novel solution.
- **Knowledge/action gap**: While there has been widespread recognition of technology's potential harm, there is a lack of actionable strategies that can address these issues comprehensively.
- **Objectives**: First, to explore the psychology of gamified digital tools and to consider the role of AI ethics; second, to develop the framework for a tool called *OpeN MinD*, which helps individuals analyze their social media usage and its impact on their well-being; third, to integrate this into an incentive structure called *KeyPoint*, which motivates users to engage in healthier behaviors, including more real-world interaction with peers.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- **Intervention Design**:
  - *OpeN MinD*: a metacognitive tool to actively understand and modify consumption/creation patterns to optimize personal states of well-being. This accessible portal allows individuals to link their current social media accounts into one place, analyzes these media feeds, generates a dashboard for each individual's "psychological diet," and allows individuals to rate their well-being on the Hawkins scale. Subsequently, this data is used to examine the link between each individual's wellbeing and their unique social media feeds (both content and time spent). Finally, this program recommends changes to social media usage habits to optimize each individual's wellbeing, tailored to each individual's self-identified goals, objectives, and distractions (in accordance with Maslow's hierarchy of needs)

	Level	Scale (Log of)	Emotion	Process	Life-View
POWER	Enlightenment	700-1,000	Ineffable	Pure Consciousness	Is
	Peace	600	Bliss	Illumination	Perfect
	Joy	540	Serenity	Transfiguration	Complete
	Love	500	Reverence	Revelation	Benign
	Reason	400	Understanding	Abstraction	Meaningful
	Acceptance	350	Forgiveness	Transcendence	Harmonious
	Willingness	310	Optimism	Intention	Hopeful
	Neutrality	250	Trust	Release	Satisfactory
	Courage	200	Affirmation	Empowerment	Feasible
FORCE	Pride	175	Dignity (Scorn)	Inflation	Demanding
	Anger	150	Hate	Aggression	Antagonistic
	Desire	125	Craving	Enslavement	Disappointing
	Fear	100	Anxiety	Withdrawal	Frightening
	Grief	75	Regret	Despondency	Tragic
	Apathy	50	Despire	Abdication	Hopeless
	Guilt	30	Blame	Destruction	Condemnation (Evil)
	Shame	20	Humiliation	Elimination	Miserable



  - *KeyPoint*: How would an app that makes us self-aware of our own unhealthy habits (OpeN MinD) ever be as engaging as an app specifically designed to maximize screen time (Instagram, X, Facebook, YouTube, etc.)? Thus, keypoint.app provides the novel incentive infrastructure to enable the widespread implementation of OpeN MinD itself by gamifying personal well-being and success while rewarding real-world social interactions. Partnering with KeyPoint, OpeN MinD users can earn points for reinforcing healthy behaviors and staying on track with wellness targets. Subsequently, these points can be funneled into real world businesses and creators to motivate them to produce products and services that contributes to perpetuating these positive feedback loops.
- **Expected Impact**: Through these innovative tools, individuals can reclaim self-control over their "psychological diets," which shape their thoughts and mood. In the process, they can start cultivating healthier real-world relationships with their friends, families, favorite creators, and themselves, leading to improved mental health outcomes across diverse populations.

DISCUSSION / CONCLUSION

- Loneliness poses health risks as deadly as smoking up to 15 cigarettes daily.
- This epidemic, fuelled by the advent of social media, disproportionately affects 15-24 years old individuals, who have experienced a 70% decline in time spent with peers over the past two decades.
- According to U.S. Surgeon General, Dr. Vivek Murthy, "Millions of people in America are struggling in the shadows…What's happening in social media is the equivalent of having children in cars that have no safety features and driving on roads with no speed limits. No traffic lights and no rules whatsoever. And we're telling them: 'you know what, do your best – figure out how to manage it.' It is insane if you think about it."
- OpeN MinD and KeyPoint offer a comprehensive roadmap to navigate the digital landscape to mitigate the effects of social isolation on mental health.

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- I extend my deepest gratitude for the guidance of Dr. Gary Small, Dr. Daniel Weiner, Dr. Kevin Lee, Dr. Charles Binkley, Dr. Marianna Shimelfarb, the HMSOM staff, my friends, and my parents throughout this process.

A Student Run Clinic Medical School Elective to Improve Adherence to Postoperative Follow Up

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HD Facilitator: David Kountz MD

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BACKGROUND

Lack of follow up is a common occurrence in medicine. This is more pronounced in the surgical field, where patients undergo an operation, and fail to participate in later scheduled clinic visits to monitor healing. This can have **profoundly negative consequences** in some instances like infection or impaired surgical site healing.

Medical students are primarily learners in the healthcare setting. However, most of the **learning in the clinical realm is through passive observation.** There are few opportunities for direct, active education on a busy ward service. Students are often viewed as "add ons" in the hospital setting with **little to no student-centered clinical experiences** in undergraduate medical curricula.

In an attempt to **address the lack of student focused clinical opportunities while aiming to improve patient nonadherence to follow up** in the surgical setting, a **student run surgical clinic elective** where students conduct virtual visits with patients postoperatively is presented.

INTERVENTION DESIGN & EXPECTED IMPACT

The elective will be split up into **two parts: a didactic/training phase**, which will be 1 week long, followed by the **predominant clinical portion**.

The first week, which will consist **mainly of didactics**, is focused on learning the knowledge and skills that will be utilized in the latter portion of the rotation. **Two broad topics** will be taught during this week: (1) How to run a **telemedicine visit**, and (2) **common surgical procedures**, their respective complications, and counseling topics. An example of a typical didactic week would look like is depicted below.

The rest of the time in the rotation will be spent in the **clinic**, under resident and attending supervision. The students will perform virtual patient evaluations which will consist of a **focused history and physical performed on camera by the patient**.

Expected Impact:

- Allow students more **in depth leadership** and clinical experiences
- **Increase** patient **follow up rates**
- **Decrease** post surgical **complication** rates

This proposal was written into a perspective piece and submitted to *Advances in Medical Education and Practice*. It is awaiting a final decision for publication.

Monday	Tuesday	Wednesday	Thursday	Friday
Orientation *Lecture:* Intro to Telehealth Student Practice *Lecture:* Common surgical procedures and indications	*Lecture:* Telehealth Best Practices Student Practice *Lecture:* Common Surgical Complications	*Lecture:* EMR walkthrough and Q&A session *Lecture:* Practice session with postoperative clinic patient vignettes	Study	OSCE Surgical procedures, complications, and focused H&P Written Exam

DISCUSSION / CONCLUSION

Through this proposed course, students will have the **opportunity to learn** about **surgical follow up and procedures** and **apply** this into clinical practice very soon after. Typical medical school electives and rotations rely on **passive interspersed learning** in the clinical setting and have **minor** student involvement in patient encounters, thus making this proposed course an opportunity for students to **provide students a higher quality, focused educational experience and more involved participation.** Through the virtual format, **many social factors**, such as lack of transportation and scheduling problems, **will be circumvented** and **patient adherence to following up will be increased**, thus r**educing complication rates and improving outcomes.** The telemedicine format would be more convenient for both practitioner and patient, and allow for a l**esser load on staff.**

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Decreasing Emergency Department Usage for School Psychiatric Clearances

Paul Kinard and Dr. Karen Eigen

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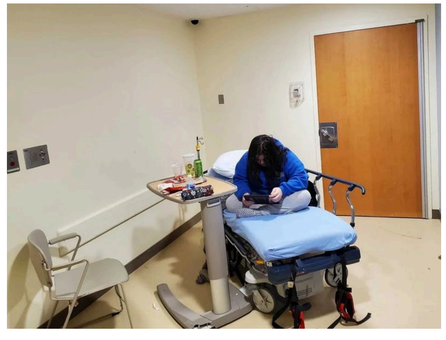
BACKGROUND

- A patient's environment affects the care that they receive. For children, their most impactful environment outside of the home is school.
- When a child has a crisis at school, it is the school's responsibility to address it and ensure the child gets the most appropriate care.
- Some children sent to the emergency department by their school may be better served by other healthcare sources (2).

The environment of the ED can be both overwhelming and isolating.



- This project sought to understand schools' protocols for sending children to the ED and to find realistic options for schools that could reduce the number of students spending hours in the ED for psychiatric clearance.

Image source:
https://www.npr.org/sections/health-shots/2021/06/23/1005530668/kids-mental-health-crisis-suicide-teens-er-treatment-boarding

INTERVENTION DESIGN & EXPECTED IMPACT

- While this problem had been identified from the healthcare side, the reason that the students were being sent to the ED was up to the schools. Therefore, a key step in any initiative would need to understand the school protocols and engage them in changes
- The varied protocols and resources of schools meant that a variety of options and improvement could be viable. However, some standards, like using the Columbia Suicide Severity Rating Scale, did exist.

Image source:
https://cssrs.columbia.edu/about-the-project/news-press/announcements/new-screener-with-suggested-language-for-youth-6-11/

Columbia Suicide Severity Rating Scale (C-SSRS) - Screener – Recent - Child

	PAST MONTH
Ask questions 1 and 2.	
1. Have you wished that you could go to sleep and never wake up or that you were dead?	
2. Have you thought about killing yourself?	
If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.	
3. Did you think about ways you could kill yourself?	
4. Some people think about killing themselves but know they would NEVER do it. Others think about killing themselves and think that they might do something. Was there a time when you thought about killing yourself and it was something you MIGHT do, even if you weren't completely sure?	
5. Did you make a plan for how you would kill yourself (things like when, how, and where) and, even if you weren't completely sure when you made this plan, was it something that you thought you MIGHT do?	
Always ask question 6	
6. Have you EVER tried to kill yourself, started to do something to kill yourself or done anything to get ready to kill yourself?	
If YES, was this in the past 3 months?	
Examples: took pills, tried to shoot yourself, cut yourself or hang yourself, took out pills but didn't swallow any, held a gun but changed your mind or it was grabbed from your hand, went to the roof but didn't jump, wrote, or sent a goodbye message, did research on the internet about killing yourself, or got what you needed to kill yourself, etc.	

- Multiple schools had outpatient resources that they contracted to care for their student's in an urgent care setting, some simply released the students to their parents, and others directly told the parents to take their child to the ED
- For those schools that had urgent care resources, communication to parents about these resources as well as reducing barriers such as cost were discussed to increase utilization.
- For schools without those resources, development of a pooled psychiatric urgent care center was an option that has shown modest improvement (1). In addition, increased utilization of resources such as NJ4S or PPC could reduce the need for these resources all together while still appropriately addressing the student's needs.
- The impact of all these interventions is designed to reduce admissions to the pediatric ED for non-emergent psychiatric clearance.
- With proper development of this network and communication of these resources to these parents, we can increase the amount of appropriate care students receive, reduce the amount of time young students spend in a stressful environment, and reduce the strain these visits place on the ED.

DISCUSSION / CONCLUSION

- While there has been a recent uptick in these resources that are available to students and schools, there is still a scarcity of resources for the needs of the massive student population of NJ.
- The Emergency Department remains the safety net for health issues, and it will remain that way until these urgent/outpatient resources are better understood by parents.
- There are still many opportunities to investigate barriers to outpatient care, different in-school protocols, urgent and outpatient services to understand how to create the best care for students.

ACKNOWLEDGEMENTS

Thank you to Dr. Eigen, Dr. Vieux, and Darius Pemberton for their insight into pediatric psychiatric crises and their guidance for developing this project.

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Priority Discharge Services (PDS) to Reduce Hospital Length of Stay

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BACKGROUND

- Current hospital policy indicates shorter length of stays results in better outcomes. However, this perspective has been narrowly focused on the cost of care from hospitals and hospital acquired complications (HAC). There is a lack of published data regarding the burden that increased length of stay causes patients in underserved populations.
- Discharges for patients admitted or observed are often contingent upon studies, labs, or consults. This can be especially apparent during high capacity surges (covid) or when services are maxed out due to personnel, equipment or other limitations.
- Delay in these services often holds up discharge until the afternoon or even the next day resulting in increased cost of care, hospital acquired conditions (HAC), and loss of patient income

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

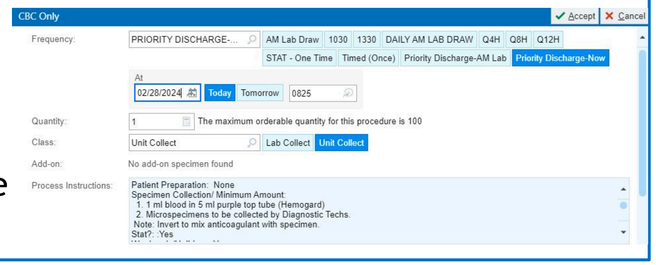
The idea was initially conceived during my internal medicine clerkship. A patient with newly diagnosed diabetes was discharged a day later than expected because he had to wait for a diabetes education consult. The patient was distraught that he would lose another day of wages due to his illness. Upon reaching out to the consult team, I was informed that aside from STAT labs, there was no further way to prioritize requests for consults.

The Idea:

- Prioritizing lab tests and ancillary services will allow for earlier completion of discharge summaries and relevant paperwork by hospital providers ⇒ earlier discharge
- If discharge requirements are completed prior to rounds, discharge may occur before noon.

The idea was submitted to the annual HMH Bear's Den Innovation Challenge and was one of five proposals to move to the northern region semifinal round. My colleague and I presented the proposal to a panel of hospital stakeholders, including Al Baker, HMH Corporate Director of Innovation, Life Sciences and Tech transfer; Sandra Elliott, VP of Research and Innovation, and multiple hospital physicians and administrators.

While our proposal was not chosen to move forward to the final round, shortly after the presentation, priority discharge options were added to EPIC.



DISCUSSION/CONCLUSION

- Patients on the cusp of discharge from the hospital routinely require final labs or imaging. Delay in these services can lead to postponement of discharge to late afternoon or even the next day.
- Patients with financial instability may be most affected by these delays, possibly losing a day or two in wages.
- Systematic measures should be implemented to expedite patients pending to discharge as this supports patient outcomes and reduces financial cost.

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- I would like to thank my colleague Sophia Naumova and our project mentor Dr. Ryan Moore for help on this project

EVALUATING THE CULTURAL SENSITIVITY OF NUTRITION EDUCATIONAL MATERIAL AT THE MOLLY CENTER FOR DIABETES EDUCATION

Hackensack Meridian *Health*

Pooja Shah, Dr. Colette Knight, Dr. Jasneet Kaur

BACKGROUND

Social Determinant of Health:

- Access to nutrition educational material that align with patients cultural preferences

Background:

There is a widespread understanding of the value that diabetes education has on health outcomes in those trying to manage their disease. However, newer research shows that patients who feel a greater cultural connection to the recommendations given to them are more likely to incorporate the advice into their daily routines1.

Molly Center for Diabetes Education:

- Provides a wide range of support services with a team consisting of endocrinologists, nurses, registered dietitians, social workers and certified diabetes educators
- Share resources that discuss different cultural foods and their nutrition

Objectives:

- To evaluate patient's responsiveness to the nutrition educational material they receive at the center.
- To determine how well different cultures are represented in the nutrition educational material.
- Analyze the ease with which patients are able to incorporate nutrition information into their daily lifestyle.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Target Population:

- Adult patients with any form of diabetes at the Molly Center of Diabetes Education at the 4th, 5th, or later visit.

Survey Creation Methods:

- Based on a literature review it was determined that a short survey would be the most effective method of collecting data.
- Nutrition educational material from the Molly Center for Diabetes Education was collected and reviewed.
- A survey was then created to assess how patients perceived the nutrition educational material based on the information the nutrition presented to patients as well as pertinent information the material was possibly lacking.

Survey:

Nutritional Educational Material and Information Patient Survey

Visit Number (Circle one):
Visit 4 Visit 5 (workshop) Other _____

Diabetes Type (Circle one):
Type I Type II Type II on Insulin

Ethnic Backgrounds (Circle one):
White (non-Hispanic) Hispanic Asian Black or African American Other _____

Please circle an answer choice that describes the nutritional educational material provided.

1. Were you provided with nutritional education material and information?
   Yes No
2. Were the nutritional education materials and information written in a language you could easily understand?
   Yes No
3. Were the nutritional education materials and information similar to your cultural background?
   Yes No Not applicable

Please rate the helpfulness of the nutritional education materials and information provided.

4. In the nutritional education materials and information how often did you see common ingredients used in your culture?
   Never 0 1 2 3 4 5 Very Often
5. In the nutritional education materials and information how often did you see foods normally eaten in your culture?
   Never 0 1 2 3 4 5 Very Often
6. How easily could you use information from the nutritional education material in your diet?
   Not Easily 0 1 2 3 4 5 Very Easily
7. Were you educated on how to use your cultural food preferences in your diet?
   Never 0 1 2 3 4 5 Very Often

Please write out your answers to the questions below.

7. How have the handouts changed your way of eating? Please give 1-2 examples.

_____

_____

_____

8. Is there anything you would change about or add to the handouts?

_____

_____

_____

Survey Distribution Methods:

- They survey was created as a anonymous google form with a corresponding QR code to ensure anonymity of each patient.
- The survey is designed to measure the receptiveness of patients to the nutrition educational material and is therefore meant to be given at visits 4 (within 4 months of first visit), visit 5 (within 5-6 months of first visit) and onward.

DISCUSSION / CONCLUSION

- The intended outcome of the project was to distribute the survey to patients visiting the Molly Center for Diabetes Education. However due to time constraints and important feedback and edits made to the survey, administration was not possible within the time frame.
- Next steps within the project would include distribution of the survey and collection of data to analyze. Analysis should be aimed at determining a baseline level of satisfaction that patients have with the nutrition educational material.
- Further analysis can be geared toward determining areas of nutrition education that may be lacking. These can include specific cultures that may be underrepresented by the nutrition educational material or specific food groups, or food preparation methods that may be lacking in the materials.

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Emergency Department - Primary Care Clinic Partnership Model

Author: Pranay Vissa, MS3 | Facilitator: Dr. Anil Desai | Mentor: Dr. Jasneet Kaur

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BACKGROUND

Determinant of Health
Access to Healthcare

Fast Facts

- 27.5 million non-elderly individuals uninsured in USA in 2021
- 1/5 skipped medical care due to cost
- Less likely to use preventative services
- Result = More usage of ED services for non-emergencies

Knowledge Gap

- Why do many uninsured patients seek primary care at Emergency Rooms?
  - Poor discharge follow-up with a Primary Care Provider (PCP)
- What interventions have been proposed to address this challenge?
  - ED-PCP Partnerships

Project Objective
Research & Propose an ED-PCP partnership between the JFK Medical Center & JFK Family Medicine Residency Clinic

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Intervention Design

1)Designate/Recruit staff to be Patient Care Advocates
2) Identify uninsured patients in the ED who present for a chronic health condition exacerbation
3)Ask patient if they have a PCP and if they live in the area
   a) If patient does not have PCP and they do live in the area, proceed to next step. Otherwise, stop
4)Collect Informed Consent from patient to send their health information to JFK FM clinic
5)Send all records from ED visit to JFK FM clinic social worker
6)JFK FM clinic social worker will reach out to patient within 7 days to make an appointment

Historic Impact

2005 Randomized Control Trial: Health Promotion Advocates assisted patients in choosing a PCP site and faxed all information to case worker at the selected site. Case managers at each site attempted to contact and schedule appointments for these patients.

- Intervention: 51.2% of patients established contact with PCP
- Control: 13.8% of patients established contact with PCP

2021 Retrospective Cohort Study: Patient navigator in ED and inpatient units identifies uninsured patients for referral to partner free clinic. Free clinic contacts patients to schedule a follow-up appointment after discharge and provides follow-up appointments within 14 days of referral.

- Odds Ratio of returning to ED if no referral = 1.8 (1.66 - 2.03)

Stakeholder Presentation & Expected Impact

- Presented Proposal to Lead Case Manager at JFK ED & JFK FM Clinic Social Worker.
- Proposal was well received by both parties due to the presence of similar interventions at each site for a different patient population & clear historical impact of this ED-PCP model.
  - JFK Medical Center connects patients with local PCP clinics on just the inpatient side
  - JFK FM clinic contacts their own panel of patients for prompt ED discharge follow-up

DISCUSSION / CONCLUSION

- There is a strong body of literature showing the efficacy of Emergency Department - Primary Care Clinic partnerships in reducing ED visits for uninsured patients.
- Per discussion with stakeholders, the primary limitation of this proposal, in terms of implementation, is increased labor allocation for the Patient Care Advocate role, which is greater than the current capacity of the JFK ED Case Management staff.
  - Stakeholder recommended coordinating with the VP of Social Determinants of Health at HMH to facilitate hiring Community Workers, which HMH uses in various capacities, to serve as Patient Care Advocates.
- Biggest lesson learned from this project is the challenge of enacting system wide policy change. Bringing together diverse ideas from stakeholders to form a cohesive intervention is especially challenging.

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Importance of CPR Training

Priscilla Kim, MS3 = Hackensack Meridian School of Medicine

Special Acknowledgments: Joanne Wendolowski

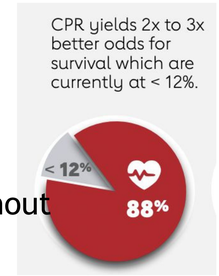
Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

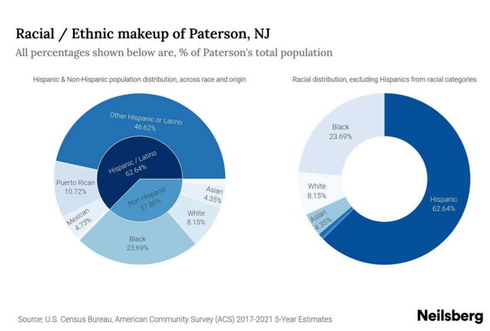
BACKGROUND

Objective: Promote understanding of the importance of CPR administration within the community of Paterson, NJ and increase number of community members who can provide adequate CPR by
1) hosting hands-on CPR training event
2) helping build relationships between organizations to encourage sustainable CPR training sessions

- Statistics per American Heart Association:
  - 360,000 people in USA per year experience out of hospital cardiac arrest
  - ◯Survival rates without CPR low (12%) but doubles/triples with administration of CPR



- Not a simple issue = some populations will have greater difficulty receiving CPR
  - Per AHA, people from primarily poor, Hispanic, or African American neighborhoods are more likely to need bystander CPR for OHCA but are less likely to receive it
- Importance of helping our neighboring communities = US Census in 2022 for Paterson:



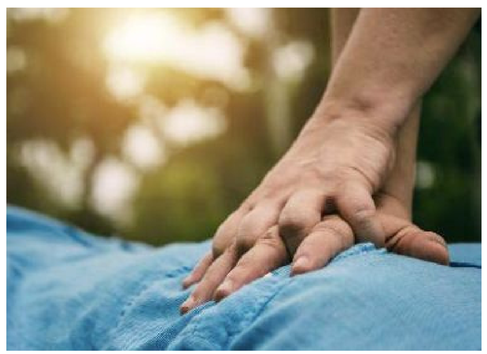
INTERVENTION DESIGN & EXPECTED IMPACT

Design:

- Proposal: Presentation to Calvary Baptist Church
- Setting:
  - ◯Calvary Baptist Church in Paterson, New Jersey as part of the HARP Health Fair
  - ◯Date: Saturday, April 20, 2024
- Plan:
  - ◯ Host 4 hourly sessions between 11am-3pm, consisting of CPR presentation and opportunity for community members to have hands-on CPR practice with instructor guidance
  - ◯Target Audience: Paterson community members - Advertisement of event to be done by church
  - ◯ Participants and Equipments needed: CPR instructors, partnership with HMSOM Community Medicine Club, Spanish medical interpreters, Rescue Mannequins, AEDs, Refreshments

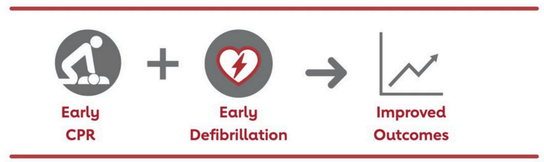
Expected Impact

- To increase community education on CPR training
- To reduce potential barriers to learning skills (ex. through Spanish medical interpreters)
- To encourage a partnership between the students of HMSOM and HARP so that these CPR events in our local communities become sustainable. HMSOM students will now be able to serve in these CPR training events through the Community Medicine Club



DISCUSSION / CONCLUSION

- Early CPR administration leads to improved outcomes and higher survival rates in those who suffer from out of hospital cardiac arrests. (Yan et al., 2020)



Reference: AHA

- However, there continues to be disparities in the recognition of cardiac arrest and administration of CPR (Moon, S., et al., 2014), (Bradley et al., 2011), (Becker, L.B., et al., 1993)
- CPR training should be geographically targeted and tailored to individual and neighborhood population characteristics - effective in reducing existing disparities in the provision of bystander CPR for out of hospital cardiac arrest (Root, E.D., et al., 2013)

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The Impact of a Decline in Childhood Education on the Practice of Pediatrics

Quinn McCormick, Jennifer Knight, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

INTRODUCTION

Trends in Schools Today

- A decline in reading and mathematics comprehension, particularly in public schools, has been observed by educators over the past decade but more acutely over the last 3 to 5 years, especially in grades 6-12
- It has been noted that some students struggle to use technology for educational purposes
- A decline in the prestige the teaching profession once held is drawing fewer skilled educators to teach, exacerbating the learning challenges American students are facing

The Nation's Report Card

- Long term trends (LTT) in 2023 in ages 9 and 13 for both reading and mathematics were lower among all percentiles (10th, 25th, 50th, 75th, and 90th) compared to 2020, with an overall downward trend over the past decade (Figures 1-4)

Health Trends Over Time

- Researchers have shown an increased risk of ADHD in children with >2h per day of screen time (OR 1.51, 95 % CI 1.20–1.90)
- Increased screen time has also been associated with diminished mental well-being, increased anxiety, poor sleep, and higher risk of depression, specifically in adolescent females
- Data categorized by the Child and Adolescent Health Measurement Initiative (CAHMI) from the National Survey of Children's Health (NSCH) shows an uptrend in ADHD diagnoses (Figure 5) and one or more functional difficulties (Figure 6) over the same period of recent, sharp learning decline (2019 to 2022)

Potential causes

- An exacerbation of already in-progress trends due to COVID-19 pandemic
- The rise of technology—advent of world wide web (late 1980s-early 1990s), birth of social media (early 2000s, maturing late 2000s), rise of personal communications devices (late 2000s, early 2010s)
- Classroom challenges, such as financial restraints, behavioral issues, large class sizes, increased absenteeism, and safety concerns

RESULTS

Figure 1

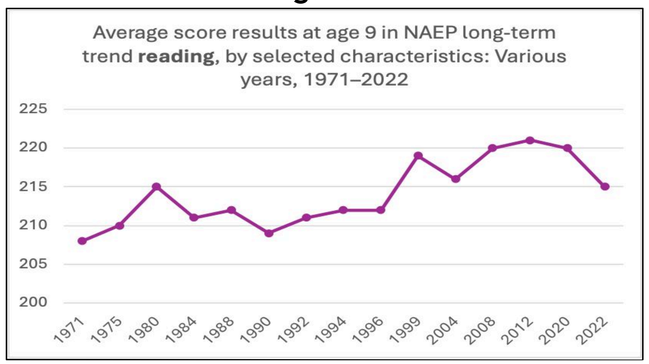
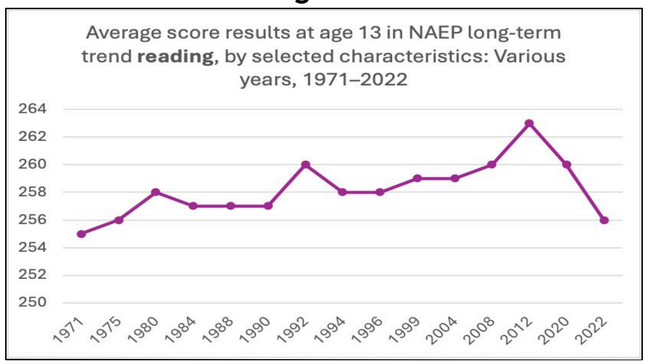


Figure 2



Figures 1-2: National average of reading scores at age 9 and 13 for U.S. students at various years, 1971-2022. Values are reported on standardized, long term trend (LTT) scales that range from 0 to 500. Scores in 2004 onwards utilized a revised assessment format. U.S. Department of Education National Assessment of Educational Progress (NAEP), various years, 1971–2022 Long-Term Trend Reading Assessments [1].

Figure 3

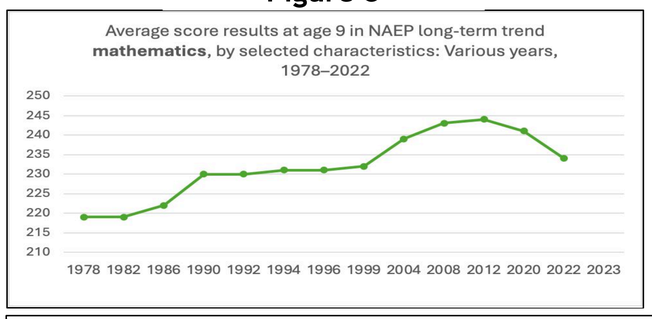
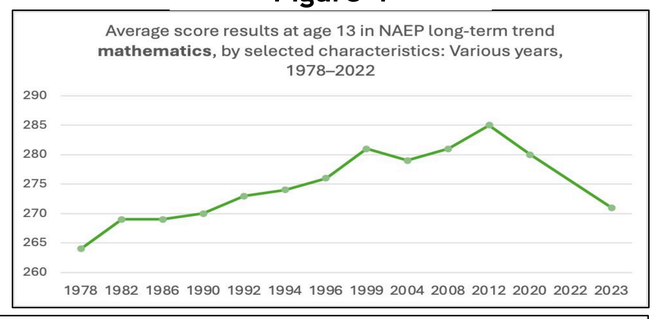


Figure 4



Figures 3-4: National average of mathematics scores at age 9 and 13 for U.S. students at various years, 1971-2022. Values are reported on standardized, long term trend (LTT) scales that range from 0 to 500. Scores in 2004 onwards utilized a revised assessment format. U.S. Department of Education National Assessment of Educational Progress (NAEP), various years, 1971–2022 Long-Term Trend Reading Assessments [ref].

Figure 5

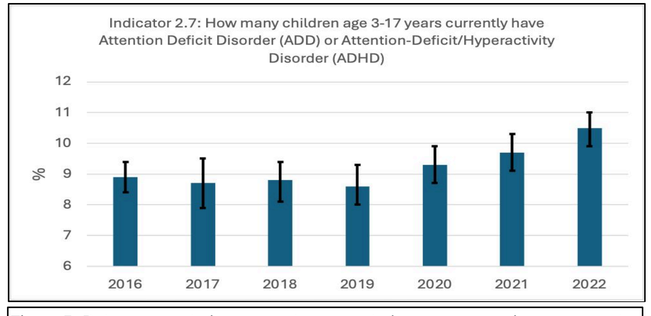


Figure 5: Data represented as percentage reported per year, error bars represent 95% C.I. Data is adapted from the NSCH survey data 2016-2022 for children age 0-17 years [ref]. Parents were surveyed if they were ever told by a health care provider that the child has Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder (ADD/ADHD) [ref].

Figure 6

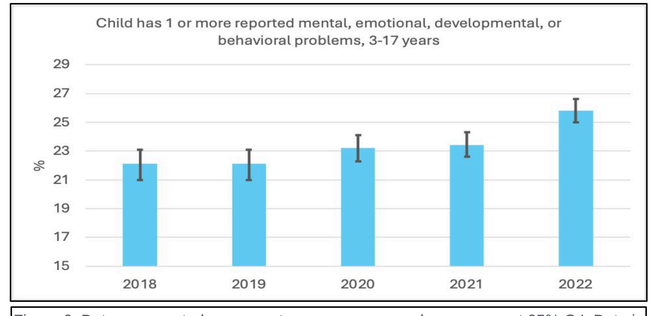


Figure 6: Data represented as percentage per year, error bars represent 95% C.I. Data is adapted from the NSCH survey data 2018-2022 for children age 0-17 years [ref]. Parents were surveyed Child has 1 or more reported mental, emotional, developmental, or behavioral problems and/or qualifies on National Survey of Children with Special Health Care Needs Screener for emotional, behavioral or developmental criteria [ref]

DISCUSSION

Observations from Practicing Pediatricians

- Clinicians consulted for this project reported:
  - -Increased reliance from patients and families on social media for health information
  - -Excessive screen time having negative effect on adolescents' perceptions of their own health
  - -Decline in a number of growth progress markers, such as fine motor skills, general developmental measures, and basic hygiene, all linked to excessive screen time
  - -Despite flagging its negative impacts, parental resistance to limiting screen time is common

The Future of Pediatric Care

- Declining trends in learning synchronous with increases in developmental challenges in children lead to an array of concerns for pediatric medicine:
  - -Adolescents who may experience greater challenges managing their own conditions
  - -Delaying the age of transition of care
  - -Longer-term reliance on parental intervention

CONCLUSIONS

- A less educated patient population means pediatricians may need to consider alternative methods to inform and treat their patients:
  - -Macro—adopt new standards and practices nationally (reading comprehension screener)
  - -Mezzo—practice-level educational changes
  - -Micro—clinical-level mindset shit and practical treatment changes

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Addressing Need for LGBTQ+ Identity-Concordant Care

Rachel Lozada

Mark Schlesinger, MD, Mentor

Gary R Weine, MD, FACP, Facilitator

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- It is estimated that over 4% of the adult population in NJ are LGBTQ+. It is estimated that over 340,000
- LGBTQ+ are over 13 years old in NJ. Many LGBTQ+ individuals share experiences of discrimination in
- healthcare settings.
  There is often a feeling of mistrust and discrimination, which makes receiving timely medical treatment
- harder, leading to poorer health outcomes.
  Transgender and gender-diverse individuals often face higher rates of mental health challenges like anxiety, depression, self-harm, and
- thoughts of suicide.
  LGBTQ+ patients tend to feel safer in healthcare environments that display equality signs and use gender-neutral language. However, many believe policy change and
- improved cultural understanding are needed.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

▪Objective: creation of Rainbow List
- ◯A comprehensive list of Hackensack providers that self-identify as part of the LGBTQ+ community.
- ◯Implement Rainbow List on HMH's "Find a Doctor" website.

▪Provider Surveys to assess feasibility
- ◯See QR code →
- ◯Sent to Dr. Daniel Varga, Chief Physician Executive
- ◯Sent to Clerkship directors
- ◯Networked with HMH Director of Digital Engagement

▪Expected Impact
- ◯Increase positive LGBTQ+ healthcare experiences by matching patients with LGBTQ+ health care providers.
- ◯Increase LGBTQ+ retention with healthcare providers.
- ◯Increase LGBTQ+ compliance with healthcare provider instruction / medical advice.
- ◯Decrease poor healthcare outcomes in LGBTQ+ community.

BARRIERS

▪Minimal data available due to low response rate.
▪Similar project underway with a focus on allyship rather than self identification.
▪HMH policy does authorize surveys from employees that request staff to reveal gender identity or sexual orientation.

▪These surveys CAN be sent by students since we are not employed within the network.
▪However, at this time, the data cannot be implemented unless there is a policy change and less controversy among surrounding gender identity and sexual orientation.

ACCESS PROVIDER SURVEY HERE

Please feel free to fill out if you are a Hackensack provider

NEXT STEPS

▪Presentation to be scheduled with Stakeholder Jose Lozano, Executive Vice President, Chief Growth Officer

▪Network with DEI Division Leadership
▪Work with Hudson Pride Center to create “outlist” for pride center members.

REFERENCES

Nurturing with Knowledge: Bridging the Gap in Infant Nutrition

Rebecca Wang, Janet Schairer, Marvin Pelavin

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- Nutrition is an integral foundation in a child's health, development, and long-term well-being during the crucial early months and years of life. However, although there is an abundance of resources that informed involving and critical information on nutrition, guidance for infants., this remains a challenge for caregivers from cult, diverse backgrounds. These obstacles extend beyond language differences, but also include cultural, relevance and information, accessibility communication, clarity, and address of medical literacy barriers.

What's Out There?

- 1.**New Jersey State Health Assessment Data shows:**
  - •More than 1/5 of New Jersey residents are foreign born
  - •Nearly 1/3 speak a language other than English
  - •60% only feel they speak English very well
- 2. T**he Academy of Pediatrics reports negative impact from some cultural misconceptions of Pediatric nutrition**
  - •perception of breast-feeding is insufficient
  - •Variations in perceptions of what constitutes appropriate weight
  - •Encouragement of prolonged bottle feeding (2 years and beyond)
-

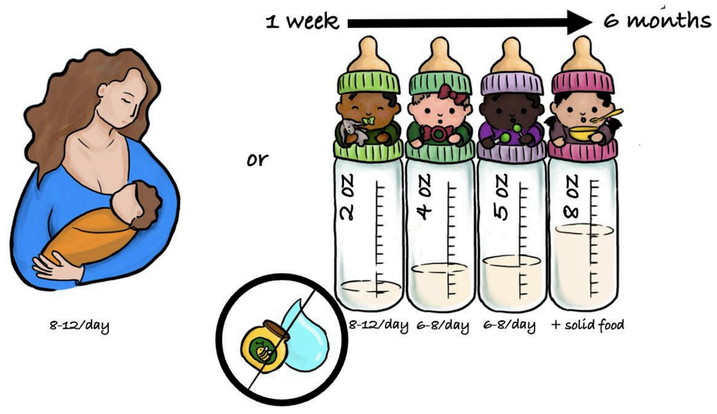
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

What's Out there?

- ••FDA Mandated Nutritional Labeling:
  - oProvides transparency about food ingredients.
  - oCan be overwhelming due to technical jargon.
  - oMakes it difficult for parents to make informed decisions.
- •Role of Pediatricians in Newborn Visits:
  - oOffer additional guidance to clarify nutritional labels.
  - oDetail feeding amounts, management expectations, and signs to monitor.
  - oImportant information provided can be complex and voluminous.
- •Parental Challenges:
  - oRetaining detailed and complex information can be challenging outside the clinical setting.

Intervention Design

- •Visual communications can help transcend linguistic and literary limitations, and often offer an intuitive, engaging pathway to understand the essential nutritional guidelines in this project, we will focus on visual learning and aim at diversifying vital health information in the sharing that every caregiver irrespective of their educational background or cultural heritage,



DISCUSSION / CONCLUSION

- initiative to raise awareness of cultural influences on dietary behavior communications to help improve nutritional status this project acknowledges power of visual communication to breach the medical literacy gap with culture inclusive representation of nutrition.
- By transcending, the linguistic literacy barriers, visual aids, can provide an intuitive and engaging way to grass essential nutritional guidance.
- We aim to spread this information through pictorial guidelines, resonate across diverse cultures and reflect a period of practices and beliefs that shaped dietary choices and feeding behaviors

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Understanding Patients' Knowledge and Beliefs About Colonoscopies

Author: Rehman Ali
Co-Authors: HD Facilitator - Dr. Katherine Clouser MD, Mentor - Dr. Chintan Modi MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Background:

- Colorectal cancer rates have been declining in recent years due to increased colonoscopy screenings. However, they are starting to occur at younger ages. Additionally, there is a stigma against colonoscopies in several minority groups, especially south asian cultures.

Describe which DOH you focused on and how it impacts health outcomes?

- Our project primarily focuses on the social determinant of health that is healthcare. Specifically, the focus is on quality patient care and ensuring patients have adequate healthcare knowledge about the importance of colonoscopy screenings.

What is the knowledge/action gap?

- The majority of American patients express concerns about getting prostate and breast cancer. This fear is certainly warranted, however colorectal cancer rates are common and now are happening at even younger ages.
- For these reasons, it is now more important than ever to ensure that patients start receiving colonoscopy screenings at the guideline recommended ages to detect colorectal cancers early.

Objective of the project/study

- This survey was designed to assess the fears patients have about colonoscopies and to learn how much they know/understand about colorectal cancer.

INTERVENTION DESIGN, The Survey and Expected Impact

- **Methods/Design**
- The design of this study was to administer a pre-survey and a post-survey.
- In the pre-survey, patients were asked a series of questions to rate their knowledge about colonoscopies and feelings about them, among several other questions, on a scale of 1-10.
- After the pre-survey, patients were given an information sheet that explained the colonoscopy procedure, the importance of colonoscopies, and facts about colorectal cancer.
- After reading this sheet, patients were given a post-survey very similar to the pre-survey.
- Patients were given the option to complete the survey online via google form or through a QR code that linked to the google form, and a physical paper copy of the survey.
- For non-English speaking patients, physical survey options were available in Spanish, Hindi, Urdu, and Gujarati.

Expected Impact

- We believed that by providing patients with an information sheet describing the importance of colonoscopies and the procedure itself, that this would increase the comfort level of patients with colonoscopy procedures and help to increase the rate of colonoscopy procedures done to prevent colorectal cancer.
- The goal of the survey is to find an informative method that helps increase patient knowledge about colorectal cancer, and ultimately to increase the rates of colonoscopy screenings.
- Another expected impact was focused on the South Asian population, in which there is a stigma against colonoscopy procedures. The goal was to understand why this is the case and what can be done to increase colonoscopy screening rates among South Asian patient populations.

Colon Cancer Screening Options

CATEGORY	SCREENING METHOD	FREQUENCY	DESCRIPTION
Stool Test	Fecal Immunochemical Test (FIT)	Annual	Stool samples are tested for the presence of blood
	Stool DNA test	Every 3-5 years	Stool samples are tested for the abnormal DNA and blood in the stool
Direct Visualization Test	Flexible Sigmoidoscopy	Every 5 years	Lower part of the colon is visualized endoscopically
	Colonoscopy	Every 10 years	The entire colon is visualized endoscopically and polyps are removed
	CT Colonography	Every 5 years	X-ray and CT combined imaging produce a 3D image of the colon and rectum

DISCUSSION / CONCLUSION

- **Conclusions/results**
- The results of our survey showed that patients of diverse backgrounds for the most part felt they had an okay understanding of colorectal cancer and the importance of colonoscopy screenings.
- Overall, most patients reported that they felt they had a better understanding of the significance of colonoscopy procedures and why they are necessary.
- Most patients reported that the toughest thing about colonoscopies was the prep required before the procedure.
- **Limitations**
- Potential limitations of the study include too much bias affecting the results of the post-survey.
- The survey was conducted with a narrow population over a short period of time, using this same method for a broader population may yield more beneficial results that can help determine the best way to educate patients about colorectal cancer.

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- Special Thank you Contributions: Dr. Clouser and Dr. Modi

References:

Addressing Medication Cost SDOH Through New FDA Rule: A Policy Proposal for the Clifton Health Department

Robert Gelfond, HD Facilitator: Dr. Tham

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- Cost of retail prescription drugs is a top issue
  - More than 25% of US adults have difficulty affording them
- Inflation-adjusted costs have risen rapidly since the 1990s, now at $1,147 per person on average
  - However, for seniors this can be upwards of $6,000 per year
- Those who are younger, earn less, and/or take 4 or more Rx medications report greatest difficulty
- Medicare now contributes 32% of total spending on Rx medications

- The top 5 polling solutions to high drug prices are
  - 1. Limiting price increases to inflation rate (88%)
  - 2. Easing ability to bring generics to market (88%)
  - 3. Gov't negotiations w/ drug companies (83%)
  - 4. Allowing drug importation (from Canada) (78%)
  - 5. Increasing taxes on drug companies that won't negotiate (72%)
- Number 4 is an option explored in this capstone; community level a possibility

Section 804 Importation Program (SIP)

Program

Brand new rule implementation of FD&C Act allowing for importation of less expensive Rx drugs from Canada. 2 year programs that FDA authorizes. Must be applied for by SIP sponsor such as a State. First approval for State (FL) was very recent (Jan 2024). CO, NH, ME, NM, VT among others seeking approval. In future, pharmacists and whole distributors may sponsor as well. In an authorized SIP, an Importer (pharmacist or wholesaler), who may co-sponsor and effectively run implementation, imports eligible rx drugs. These are purchased from Foreign Seller, who purchases directly from Manufacturer. Drugs must be approved by the Canada's Health Products and Food Branch for safety. This allows safe and far less expensive drugs to be brought to local pharmacies such as in Clifton through this new program.

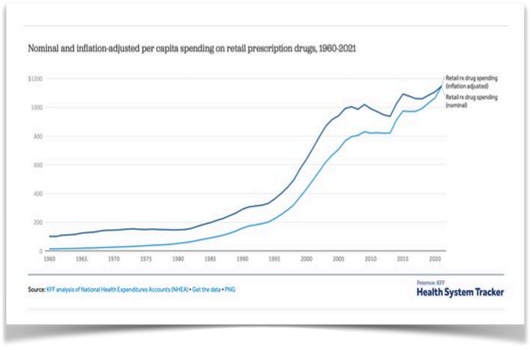
Emerging Results Application process is very new and initially difficult; took Fl 3 years for recent January approval. Intended plans for chronic medical conditions such as prostate cancer, HIV, and various psychiatric conditions. Projected 183 million in savings in Fl state alone.

Clifton

This new rule implementation and the program details were presented to the Clifton Health Department (CHD). The CHD will present when with local leadership and reach out to local pharmacies with information. CHD will be poised to take advantage of program as it become available in order to bring savings to community.

DISCUSSION / CONCLUSION

Clifton excels in most health metrics but is slightly below average in percent insured. 11.3% of population uninsured vs 9.6% average across cities. Addressing medication costs helps patients who may be paying high prices out of pocket and may not be able to afford medications that affect their health and wellbeing.



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I would like to express my gratitude to Dr. Tham, HD facilitator, and to the Clifton Health Department for their help on this capstone

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StopTheBleed Instructor Training at HMSOM

Robert Nugent
Tracy Nerney, RN; Jennifer Knight, MD

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Hackensack Meridian School of Medicine

BACKGROUND

- Injury is the **leading cause of death** in the US among those aged **1-44 years old** and **hemorrhage/hemorrhagic shock** is the cause for **30-40% of trauma deaths** [1]

▪Analysis of US military combat injury data from 2001-2017: **44.9% of prevented deaths could be attributed to pre-hospital bleeding control measures** (tourniquet use, blood transfusion, rapid transport) [2]

▪**DOHs:** Healthcare access/quality & Social and community context
- ◯Assisting the training of NJ citizens in bleeding control increases access to potentially life-saving measures in the pre-hospital setting

▪**Problem:** Legislation proposed to implement STB curriculum in all NJ high schools but no funding provided for materials or instructor pool

▪**Solution:** Training HMSOM students to be StopTheBleed instructors

StopTheBleed (STB)

▪Bleeding control curriculum for civilians created by the American College of Surgeons Committee on Trauma (ACS COT) after analysis of US military combat injury data from 2001-2012

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

▪**GOAL:** Create a pool of STB trained instructors at HMSOM that can assist the Trauma and Injury Prevention teams in the HMH network with teaching larger STB classes

▪**PLAN:**
- ◯To certify as a STB instructor: 3 classes requires - 1 as an attendee and 2 as an assistant instructor
- ◯Work with existing clubs and student organizations at HMSOM to plan STB classes for students to take and then help teach to fulfil the instructor qualification requirements
- ◯Register students as STB instructors after completion of all requirements
- ◯Keep a registry of trained students for the Trauma and Injury Prevention Coordinators at the trauma centers in HMH network to refer to when they need assistance with larger classes

▪**WHAT HAS BEEN DONE:**
- ◯ Worked with the Socially Responsible Surgery (SRS) club to organize the first STB class at HMSOM
- ◯10 students in attendance completed 1 of 3 required classes needed to certify as a STB instructor
- ◯Discussions with SRS club for future STB classes
- ◯Disscusions with Trauma and Injury Prevention Coordinators affiliated with HMH on how to best support them in rolling out STB education to larger groups

First STB class held at HMSOM on 10/23/2023

DISCUSSION / CONCLUSION

▪Bleeding control education in NJ will **benefit communities** by increasing possibility of **preclinical intervention** for a major cause of mortality: hemorrhagic injuries

▪Rollout of STB education in NJ requires funding for teaching kits AND an **adequate supply of class instructors**

▪Training students at HMSOM as STB instructors increases our associated trauma centers' ability to teach larger classes and educate more NJ citizens

▪Next steps:
- ◯Work with affiliated trauma centers to identify STB classes that students can attend to further their certification process
- ◯Create club at HMSOM to organize students interested in becoming STB instructors

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Fueling the Future: Empowering Pediatric Populations through Nutrition Education

Robert Vanaria, MS3; Dr. Jennifer Knight, MD; Dr. AnnGene Anthony, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

The selection of childhood obesity and nutrition as the focal points for my capstone project stems from the critical importance of addressing these issues in contemporary society. Childhood obesity has reached alarming levels globally, presenting a multifaceted challenge that intersects with various aspects of health, well-being, and overall development. Nutrition, as a key component, holds the power to influence long-term health outcomes. US students receive less than 8 hours of required nutrition education each school year, far below the 40 to 50 hours that are needed to affect behavior change Therefore, delving into the nuances of proper nutrition for children becomes imperative in promoting healthier habits early in life.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Engaging and informative experience tailored for high school students
- Meticulously curated PowerPoint slides aimed at demystifying nutrition complexities
- Navigation through topics including balanced diets, essential nutrients, and food choices' impact on health
- Integration of real-life examples, practical tips, and intriguing facts
- Content designed to be accessible and applicable to students' daily lives
- Focus on fostering a positive and proactive approach towards nutrition
- Empowerment of students with knowledge and tools for informed dietary decisions
- Aim to lay the foundation for a lifetime of healthy habits

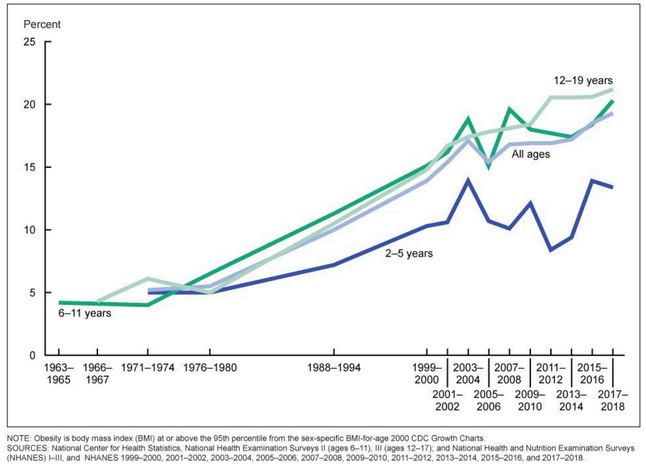

Figure 1: Graph displaying the rates of pediatric obesity by age group, 1963-2018

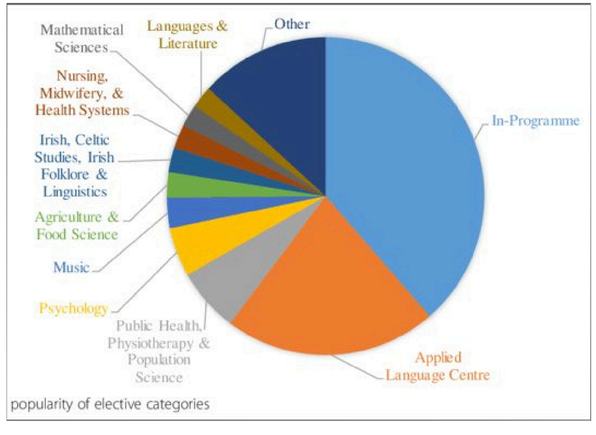

Figure 2: Pie chart displaying US high school elective choice by subject

DISCUSSION / CONCLUSION

- Results were generated based on a survey pre- and post-presentation
- Students were asked a series of questions regarding their current knowledge level in different nutrition facts
- Students were also asked about changes they wanted and would implement into their own dietary habits as a result of this presentation

The prevalence and incidence of pediatric obesity in America is rising. With implementation of supplemental nutrition courses in curricula, those numbers can be reduced.

REFERENCES / ACKNOWLEDGEMENTS

Improving Risk Factor Assessment and Management in Patients with Peripheral Vascular Disease

Ruchir Chaturvedi, Nakul Rao, MD, Marianna Shimelfarb, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- This project focuses on the Behavioral determinant of health surrounding Peripheral Vascular Disease (PVD)
- Peripheral Vascular Disease is a condition influenced by several risk factors and affects more than 6.5 million people in the United States1
- PVD also puts a strain on the healthcare system with costs amounting to over $15,000 per admission and $6 billion total annually 2
- Major modifiable risk factors for Peripheral Vascular Disease include:
  - Smoking, Diet, Exercise
  - Diabetes mellitus, Hypertension, Hypercholesterolemia
- For smokers, the 5-year mortality rate in those who quit is 14% compared to those who continued being 31% 2
- Approximately 70% of non-traumatic amputations of the lower extremity occur in patients with Diabetes mellitus compared to overall prevalence of 12% 3
- If not adequately managed, potential complications of PVD include:
  - Higher 10-year cardiovascular mortality rate
  - Walking impairment 4
- Interventions such as high-intensity exercise have been shown to improve 6-minute walking distance 5

INTERVENTION DESIGN & EXPECTED IMPACT

- Potential gaps in the management of patients with PVD include tracking how they are adhering to the lifestyle/pharmacological recommendations and how their pain levels are changing over time
- Our objective was to create a questionnaire that can be filled out by patients at their follow-up visits that addresses the medical and lifestyle recommendations made to them, provides a pain scale that can be used to track the patient's subjective pain levels, and tracks their walking ability
- Goal: motivate patients to better identify and manage the modifiable aspects in their PVD treatment and have more objective data on their pain levels and walking abilities longitudinally

Methods:

- Thorough literature review of the prevalence, risk factors, complications, and current interventions for PVD patients
- Proposal of questionnaire to vascular disease providers and incorporating feedback to better suit the needs of their patients and practice
- Provide questionnaires to patients at each follow-up visit
- Trend changes in patient modifications to diet, exercise, smoking cessation, medication compliance
- Trend changes in pain levels and walking distance

1. Have any of the following recommendations been made to you?

- ☐ Lifestyle modifications
  - ☐ Dietary changes
  - ☐ Exercise regimen
- ☐ Smoking cessation
- ☐ Medications
  - ☐ Cholesterol reducing medication
  - ☐ Antiplatelet medication (Aspirin or Plavix)
  - ☐ Anticoagulant medication (Warfarin or Xarelto)
  - ☐ Blood pressure reducing medication

2. Have you followed through on any of these recommendations? If so, which ones?

- ☐ Lifestyle modifications
  - ☐ Dietary changes
  - ☐ Exercise regimen
- ☐ Smoking cessation
- ☐ Medications
  - ☐ Cholesterol reducing medication
  - ☐ Antiplatelet medication (Aspirin or Plavix)
  - ☐ Anticoagulant medication (Warfarin or Xarelto)
  - ☐ Blood pressure reducing medication

3. Have there been any barriers to following through on these recommendations? If so, please explain.
4. What kind of dietary changes have you made, if any?
5. What kind of physical exercise changes have you made to your lifestyle, if any?
6. Do you feel like you would benefit from a handout of specific dietary recommendations?

   Yes No
7. Do you feel like you would benefit from a handout of a specific exercise plan?

   Yes No

Symptom follow-up

8. Do you have any pain at rest? If so, how would you rate it?

Good 1 2 3 4 5 6 7 8 9 10 Bad

9. Has your pain improved at all since making changes to your diet or exercise?

   Yes No
10. How far/long are you able to walk before you feel like you need to break for rest or pain relief?

DISCUSSION / CONCLUSION

- The goal of this project was to augment the current practices in patient education for PVD by providing a questionnaire that would:
  - Help patients track their own progress with regard to smoking, diet, exercise, and medication compliance
  - Identify barriers to making the recommended changes
  - Gather objective data on pain levels and walking distance
- Over the course of months, we will hopefully be able to see if patients perform better in these areas
- If proven to be beneficial, future considerations may include creating similar questionnaires for other conditions that are heavily influenced by modifiable risk factors

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Thank you to Dr. Nakul Rao and Dr. Thomas Bernik for their guidance and help with this project, and Dr. Marianna Shimelfarb for her support.

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Sex Trafficking Education at HMSOM

Sabrina LaRosa

Special Acknowledgments: Ginja Morreale, MD; Nora Doty, MD; Anjali Gupta, MD

Hackensack Meridian *Health*

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BACKGROUND

▪Sex trafficking is defined as the recruitment, harboring, transportation, provision, obtaining, patronizing or soliciting of a person for the purpose of a commercial sex act”

▪ In 2021, an estimated 6.3 million people were sex trafficked

▪Victims of sex trafficking are more likely to suffer from mental health disorders including suicidal ideation, depression, substance abuse and somatic complaints

▪up to 87% of sex trafficking survivors interact with the healthcare system during the time they are being victimized

▪63% of healthcare professionals lack training on how to identify victims of sex trafficking and few medical schools offer education on sex trafficking

▪This project focuses on increasing medical student education on sex trafficking to help close gaps that victims may receive in healthcare and promote identification of victims.

INTERVENTION DESIGN & EXPECTED IMPACT

- I created a lecture focusing on medical student education for sex trafficking that was presented to the student’s at HMSOM on an elective basis
- A survey was administered to the participants before the lecture to help gauge baseline knowledge on sexual trafficking
- A follow up survey was provided for students who attended the lecture, revealing that all students who attended the lecture felt better prepared to recognize the signs of sex trafficking, more aware of resources to help victims and more ready to address sex trafficking
- Including lectures on sexual trafficking in HMSOMs curriculum would be expected to help increase comfort level of student’s with providing compassionate care to victims as well as help them better identify victims.

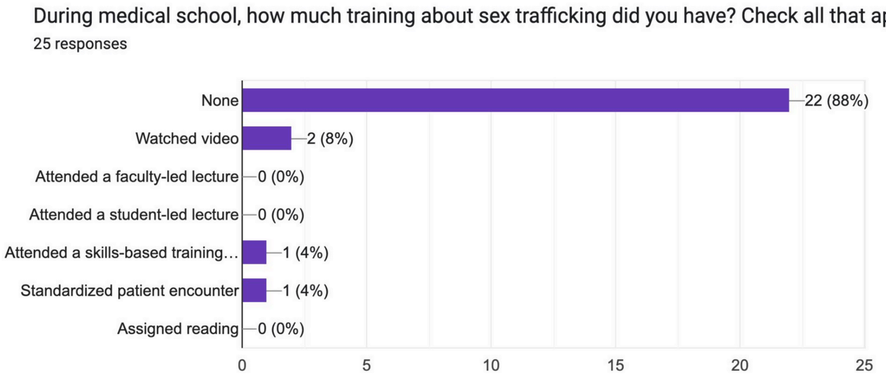

Figure 1: Training regarding sex trafficking among HMSOM students

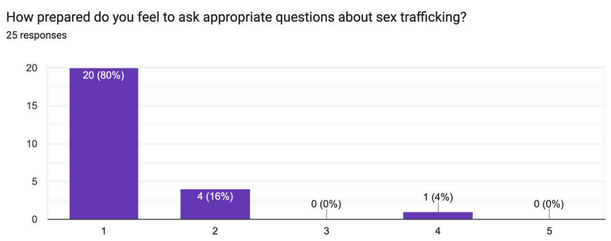

Table 1: HMSOM student preparedness to ask appropriate questions regarding sex trafficking. 1 represents not prepared, 5 represents very well prepared

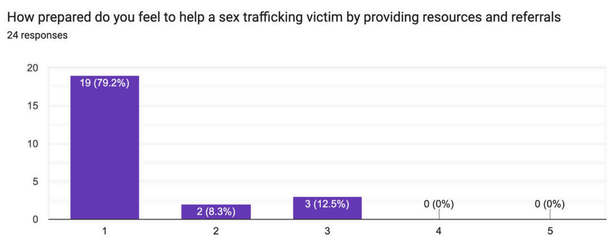

Table 2: HMSOM student preparedness to provide resources and referrals regarding sex trafficking. 1 represents not prepared, 5 represents very well prepared

DISCUSSION / CONCLUSION

- The vast majority of students who responded to the prelecture survey do not feel prepared to ask screening questions for sex trafficking, refer victims for resources, or identify the signs and symptoms of sex trafficking
- The post lecture survey indicated that students felt more prepared from the lecture to ask screening questions for sex trafficking, refer victims for resources, or identify the signs and symptoms of sex trafficking
- Students remained engaged in the lecture as evident by questions expressing interest in the topic post lecture
- Including sex trafficking education in the HMSOM curriculum would benefit the students by increasing confidence in screening victims and increasing the ability of students to provide resources

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Culturally Appropriate Nutrition Education for Diabetes in Latino Patients in Plainfield

Sahana Sangappa/Mentor: Beryl Sowah, APN-C; Facilitator: Dr. Kountz

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Social DOH

- Healthcare: Patient education of nutritional management and increasing accessibility of culturally-competent information for Latino diabetic patients
- Behavioral: Infographics provide culturally-competent information to empower diabetic patients to adapt their meals to the current diabetic guidelines

Knowledge and action gap

- Diabetes prevalence is higher in Latino Americans compared to non-Hispanic Whites (17.9-18.7% Mexicans, 18.2% Dominicans, 17.7% Central Americans, 13.4% Cubans, 18.1% Puerto Ricans, 10.2% South Americans)
- Diabetes prevalence and complication rates vary between countries of origin due to differing dietary patterns
- No specific recommendations that accommodate cultural dietary patterns of the diabetic Latino population in Plainfield, NJ

Objective of the project

- Assess cultural food patterns that are consumed most often in the Hispanic-Latino population in Plainfield, NJ to develop culturally specific dietary recommendations that improve compliance with the American Diabetes Association (ADA) recommendations
- Develop accessible informational materials about culturally sensitive diabetes nutrition management

INTERVENTION DESIGN & EXPECTED IMPACT

Literature review

- Identify current disease burden in U.S. Latino populations
- Research successful nutritional interventions implemented at other clinics targeting Latino populations and their impact on HbA1c levels, lipid levels, weight, and other metabolic profile factors

Identify target population

- Research Plainfield, NJ census data to identify most common countries of origins (Central America, South America, Dominican Republic, Mexico)
- Identify country-specific dietary patterns and their impact on diabetes prevalence and complications

Develop informational material

- Collaborate with diabetes educators and nutritionists to assess common cultural foods within these specific countries
- Identify food alterations that adhere to ADA guidelines
- Develop visual infographics in Spanish and English that can be sent through text messaging
  - Frequent, low-cost, and interactive communication was an effective medium to disseminate information for population-level diabetes interventions

DISCUSSION / CONCLUSION

- The expected impact of this intervention is to improve compliance with ADA dietary recommendations and improve HbA1c levels and glycemic control
- Literature review showed that diets that promote and preserve current healthy Hispanic nutritional practices is correlated with stricter adherence to ADA recommendations and better glycemic control in diabetic Latino patients
- Using culturally-competent care that encourages dietary modifications that encompass an individual's cultural and language preferences, health professionals can help bring about positive health outcomes for Latino populations and close the gap in negative health outcomes
- Further studies can evaluate this project's impact on compliance and HbA1c levels

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Special thanks to Beryl Sowah and her team at JFK Muhlenberg Plainfield Health Connections

A System Based Solution for Streamlining Communication Between Schools and Educational Outreach Programs

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INTRODUCTION

Educational outreach programs are a means of sharing health and safety topics with students of all ages. These programs can result in significant outcomes including:

- receiving life saving education
- inspiring career decisions
- communicating pertinent community healthcare issues in a timely fashion.

A significant challenge faced by HMH program providers is the lack of a streamlined communication process in attempting to reach schools. There is a lack of consistency among schools with regards to which staff member must be contacted to offer programs. In some cases it is the school nurse, in others it may be the principal, guidance counselor or school safety officer. A significant amount of time is spent calling individual schools in attempting to find the point of contact. This time could be better utilized to present programs. This project attempted to identify clear pathways of communication between program coordinators and school program organizers. We identified that other HMH program providers also needed to reach schools, but also found difficulty with communication.

METHODS

The communication pathways were clarified by speaking with school officials from 3 types of schools: Public, Catholic, and Yeshiva.

A contact information resource sheet will be shared with HMH program providers.

RESULTS

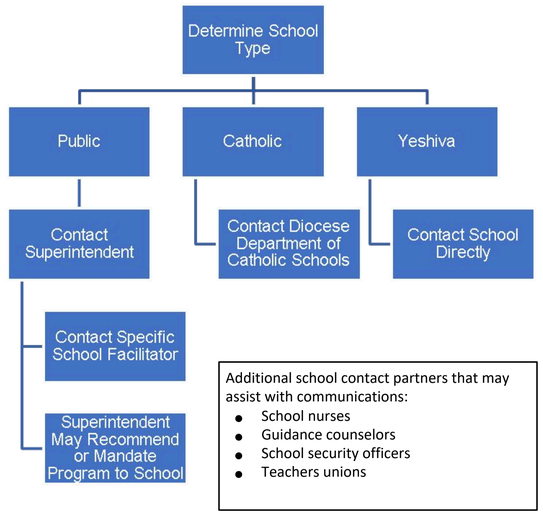

Figure 1: School Contact Algorithm

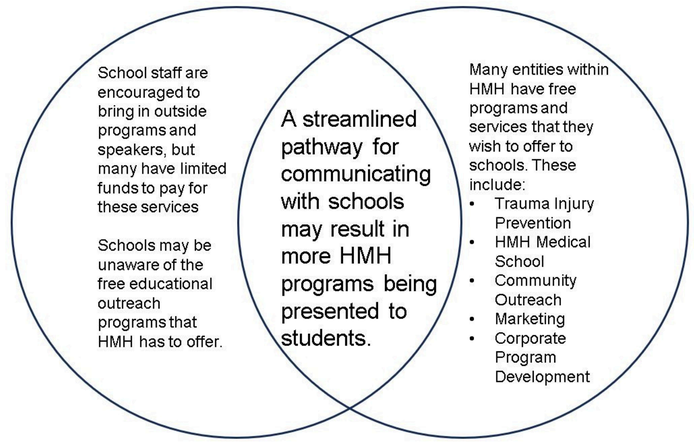

Figure 2: Dual Benefit of School Contact Algorithm

Due to the need of frequent communication between program providers, and school coordinators, it would be highly beneficial to have an efficient pathway of communication between these two entities. Higher level school officials such as superintendents can email program information to multiple schools within their jurisdiction. They can recommend or mandate programs that they see to hold value for students. This is more efficient than attempting to reach every school individually.

Exposure to healthcare programs can play a role in attracting students to career opportunities in healthcare. This is important because more healthcare providers will be needed in the future. According to the AAMC, there will be a shortage of up to 124,000 physicians by 2034[1].

Additionally, such communication is beneficial in the case of emergency situations that require quick dissemination of information. In the case of the COVID-19 pandemic, information had to be distributed to schools as a public service in a timely fashion to be of any significance. If healthcare professionals, and students have this tool in their inventory, pertinent information can be shared in an efficient manner in the case of future pandemics.

LIMITATIONS

It was late in the school year by the time the pathway for communication was identified, so we were unable to meet with school officials. However, the school official agreed to meet to plan for the 2024-2025 school year. The communication pathway to charter schools needs to be explored.

CONCLUSIONS

Program providers face challenges with gaining access to schools. School program coordinators may have requirements to bring in speakers into schools. They may have challenges in discovering programs that meet their interests, and budget constraints. By facilitating a more efficient, centralized process of communication, both hospital program providers, and school program coordinators will save time. Students will have greater access to quality health and injury prevention programs.

NEXT STEPS

- Compile a list of free HMH education outreach programs to share with school program coordinators
- Meet with school system leaders to discuss available programs

ACKNOWLEDGEMENTS

Many thanks to Lauren Sacs, and Kelly Meehan for clarifying school processes.

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Intimate Partner Violence Education in Medical School Curriculum

Sameeha Shaikh, Anil Desai MD, Michal Divney LCSW, Ginja Morreale MD, Nora Doty MD

Hackensack Meridian Health

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BACKGROUND

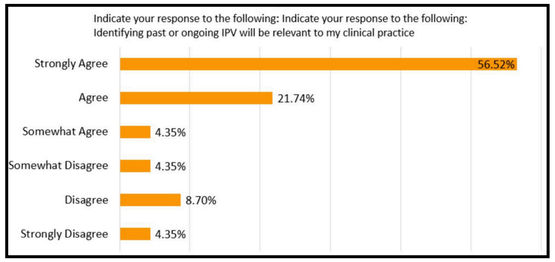
- IPV has significant consequences on health, including acute injuries, somatization, PTSD, depression, anxiety disorders, substance abuse disorders, and suicide, as well as significant costs in healthcare dollars.

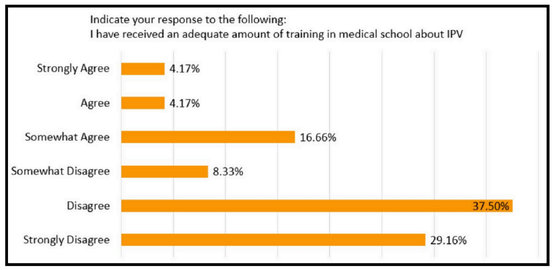
- We cover IPV during medical school, notably in the ObGyn clerkship. Considering that students may encounter IPV prior to this rotation, it is important to assess the IPV curriculum in the early phase of medical school. Ideally, this curriculum should cover screening, recognizing abuse, assessing risk of mortality, and developing a safety plan. This information will empower students with the knowledge and training to not only screen for and recognize abuse, but also what to do when IPV is present in the clinical setting.

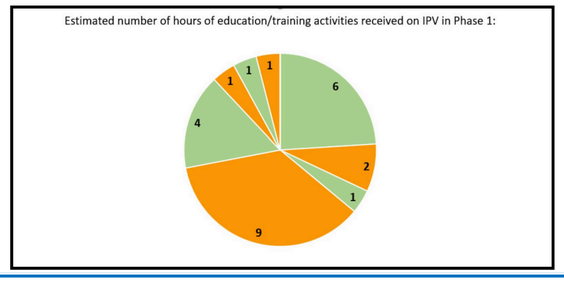
- Student feedback was assessed through survey format. Students were surveyed on their experience of the IPV curriculum in Phase 1, and feelings of readiness/knowledge in approaching IPV in the clinical setting. A student-led presentation was developed on the clinical approach to IPV. This presentation was informed by survey results.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

- Develop and administer a survey to medical students assessing: experience in Phase 1 IPV curriculum, knowledge of and preparedness in IPV screening, identifying signs and symptoms of IPV, and preparedness to assess danger of lethality and assist patients with the development of a safety plan.
- Develop, host, and present an informational session on IPV in the clinical setting. This session will cover epidemiology, consequences, impact on health, special populations, screening guidelines, and recognizing signs and symptoms of IPV.
- Expected impact:
  - increase student preparedness to recognize, screen for, and manage IPV encountered in the clinical setting
  - understand student experience of current IPV curriculum
  - assess student readiness and knowledge in approaching IPV
- Impact/Results







- The majority of students agreed that identifying IPV is important to their clinical practice. Reported number of hours of education/training on IPV varied, with most students reporting either 2 or 0 hours of time. A majority of students disagreed with the statement "I have received and adequate amount of training in medical school about IPV."
- Identified areas of weakness:
  - preparedness to respond to disclosures of abuse
  - preparedness to help an IPV victim assess their danger of lethality
  - preparedness to help an IPV victim develop a safety plan
- Following a student-led lecture, 100% of students reported feeling more prepared to respond to disclosures of abuse, help patients develop safety plans, and help patients assess their risk of lethality. 100% of students also reported they were more likely to screen patients for IPV.

DISCUSSION / CONCLUSION

- Students were surveyed on a Likert scale for assessment of feelings of preparedness and knowledge about sub-topics in IPV. Most students reported weaker scores for responding to disclosures of abuse, assessing danger of lethality, and developing safety plans. Relatively, students reported stronger scores for knowledge of screening and relationship between IPV and pregnancy.
- Medical students largely agree that IPV is important and relevant to their clinical practice, however, most students also disagree that they have received an adequate amount of training in medical school about IPV.
- Regardless of variability in reports of how many hours are devoted to IPV training, students overall note the need for further and more comprehensive IPV training, with special emphasis on the above identified areas of weakness.
- A student-led lecture was effective in increasing student preparedness to approach IPV in the clinical setting.

REFERENCES / ACKNOWLEDGEMENTS

- ACOG
- USPSTF
- AAMC
- AAFP

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Increasing Adherence to AAP Child Passenger Safety Guidelines to Prevent Pediatric Trauma

Sarah Leonard, Christine Frugard, Dr. Janet Schairer, Dr. Karen Eigen

Hackensack Meridian *Health*

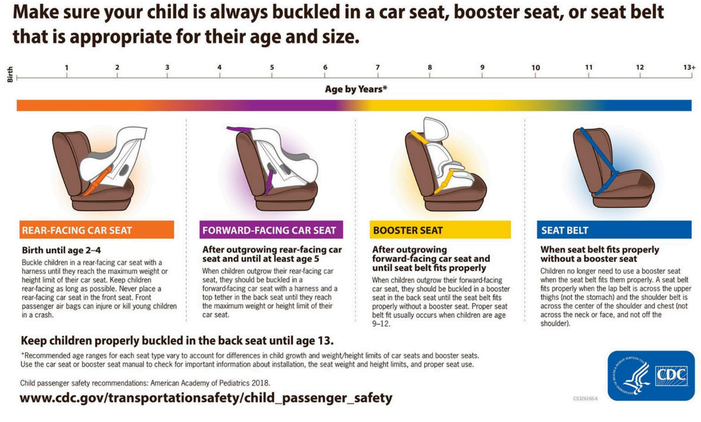
Hackensack Meridian School of Medicine

BACKGROUND

- This proposal focuses on the behavioral determinant of health. Specifically, how proper car seat use can prevent pediatric trauma from MVCs. Through clinical experiences on the trauma rotation, I saw multiple pediatric patients who were injured in MVCs. Most of these patients were not properly restrained.
- The CDC reports that an estimated 59% of car seats are used improperly.1 This can be due to loose restraints, incorrect harness positioning, or advancing to the next stage of restraint earlier than recommended.
- The AAP Child Passenger Safety guidelines, most recently updated in 2018, recommend that children remain rear facing as long as allowed by the height and weight requirements of the car seat.2 For most children, this is well past the age of 2. Prior to 2011, it was acceptable to make the transition at 1 year of age. After 2011, it was recommended to wait until age 2. Though significant time has passed since these updates were made, the literature and subjective reports find that the guidelines are not widely followed.
- The objective of this project is to prevent pediatric trauma by increasing adherence to the AAP Child Passenger Safety guidelines.

INTERVENTION DESIGN & EXPECTED IMPACT

- A survey of parents found that advice from their pediatrician and the information that comes with the car seat are the most influential factors in deciding when to move to the next level of restraint.3
- An anonymous survey of pediatricians found that only 69% base their guidance off of the AAP guidelines, but 81% are confident in their guidance.4
  - In the same study, 39% percent of pediatricians reported not regularly discussing car seat safety, mostly due to time constraints.4
- A 2015 study of 715 pediatricians gave participants 6 scenarios based on AAP car seat safety guidelines. 52.9% of respondents answered all 6 correctly.5
- This evidence shows the impact of guidance from pediatricians on adherence to the guidelines and highlights an opportunity to improve knowledge of the guidelines by targeting the outpatient setting.



- **Intervention:** Have CDC infographics detailing the AAP Child Passenger Safety guidelines available in pediatric waiting rooms.6
- This intervention is being introduced as a trial at the Jane H. Booker Family Health Center.
- The infographics will be available in the waiting room and as age appropriate handouts for wellness visits.
- English and Spanish versions will be available.
- **Expected Impact:**
  - ◯Empower parents with information to make the safest choice for their child.
  - ◯Encourage conversations regarding car seat safety in the pediatrician's office.
  - ◯Keep providers and office staff informed of the most recent guidelines.

DISCUSSION / CONCLUSION

- Based on the literature and subjective reports, there is a clear opportunity to improve adherence to the AAP Child Passenger Safety guidelines.
- Increasing parental access to the guidelines can directly increase their understanding of the guidelines, encourage conversation with their pediatrician, and keep offices up to date on the recommendations.
- This is a low cost intervention that has the potential increase adherence to the guidelines.
- Increasing adherence can have the downstream effect of preventing pediatric trauma secondary to MVCs.
- Further research on the efficacy of this intervention could include:
  - ◯Surveying pediatricians/office staff on the perceived impact
  - ◯Pre and post tests for parents on the guidelines

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Acknowledgements: Thank you to Christine Frugard, Dr. Janet Schairer, and Dr. Karen Eigen for providing mentorship and guidance for this proposal.

Video Directly Observed Therapy for Outpatient Methadone Clinics

Sarah Mohideen, Dr. Hussain Abdullah
HD Faculty: Dr. Nancy Tham

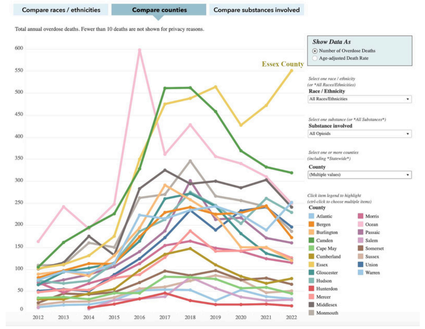
Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

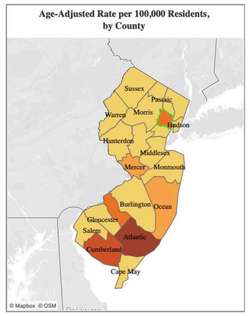
BACKGROUND

- The opioid epidemic is an increasing cause of mortality in New Jersey
- Medically assisted therapy (MAT) is the standard of care treatment for opioid use disorder
- Patients are typically observed during therapy or given take-home doses if deemed stable
- However, many patients have difficulty with in-person observed dosing due to financial or transportation difficulties
- The length of in-person observation before take-home doses are granted also exacerbates these issues
- Video Directly Observed Therapy (VDOT) offers a solution for these patients
- VDOT has been shown to be effective for other treatment regimens such as TB, Hepatitis C, HIV prevention, and anticoagulation for stroke prevention

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)



https://www.nj.gov/health/populationhealth/opioid/sudors.shtml



https://www.nj.gov/health/populationhealth/opioid/opioid_hospital.shtml

Essex County
1,805 visits
69.7 visits per 100,000 residents

Estimated Cost

New Jersey Legislature Bill S4181 - 2023 Remote Methadone Pilot Program

- Appropriates $225,000 for three-year VDOT programs for methadone in Atlantic City, Camden, and Paterson
  - $75,000 per program
- This bill was not passed, but estimates of the amount of funding needed to establish a three year VDOT program at a single clinic

Funding Opportunities

- JCOIN Rapid Innovation Grant
  - Justice Community Opioid Innovation Network grant for opioid use disorder interventions, especially those that prioritize social determinants of health. Focused on pilot programs or feasibility studies
  - Funds up to $110,000
- Robert Wood Johnson Foundation- Pioneering Ideas: Exploring the Future to Build a Culture of Health Grant
  - Seeks proposals primed to impact health equity moving forward. We are interested in ideas that address any of these four areas of focus: Future of Evidence; Future of Social Interaction; Future of Food; Future of Work.
  - Grant award averages $315,000

DISCUSSION / CONCLUSION

- Advantages
  - Can serve as a bridge between in-person observation and unsupervised take-home dosing
  - Can be used to shorten the length of the in-person observation period
  - Mitigates concerns about diversion and overdose, since patient is still observed taking their methadone dose
  - Removes logistical barriers to supervised MAT such as transportation, childcare, and needing to take time off of work
- Disadvantages
  - Patients early in recovery may favor the routine and daily check-ins associated with in-person treatment, as described in a qualitative study of a VDOT program in Washington
  - Cost

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The Effects of Student Mentoring in the Community: A Prospective Outlook

Sean M. Richards - M3

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

▪Focusing on Social and Community Context to develop a mentoring program for high school students

▪According to data from Healthy People 2020, approximately ¼ high school students feels they do not have a trusted adult to discuss issues with

●Many studies in the past have demonstrated the benefits of mentoring programs for students of all ages

◯Linked with favorable outcomes in attitudes, behaviors, health, interpersonal relationships, and career1

◯Other studies have shown improvements in mental health resilience, high school completion, and overall quality of life2

●With such convincing outcomes and profound benefits, students should have the opportunity to participate in such programs

◯ Mentoring could help students build relationships, discuss certain difficult topics, and improve coping skills

●Objective: Identify a neighboring high school in whom a cohort of students may benefit from mentoring programs

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- Met with many helpful personnel - including but not limited to Laura Frank, VP of Community Outreach for HMH, and her team, who helped narrow focus, develop procedures for matching mentor-mentee pairs, and curate mentee satisfaction surveys Developed a relationship with the principal of Nutley High School, Mr. Denis Williams
-
  - Mr. Williams was interested in the program and believed there is a cohort of students at the high school who would sincerely benefit from mentoring
- Introduce the mentoring program to Hackensack-Meridian School of Medicine Students
  - Target population would be students in their 1st or 2nd year
  - No formal mentoring experience required, but must be committed to developing a meaningful relationship with mentee
- Goal is to meet with mentee every other week either before or after high school day hours
  - Discuss various topics - home life, friends/relationships at school, high school classes, SAT/ACT preparation, concerns about college and life after high school, etc.
  - Mentees are able to share or not share whatever they would like with their mentor based on their level of comfort
  - Mentors should listen intently and offer advice when appropriate, but most importantly serve as a confidant whom mentees can trust
  - Ideally, deeper conversations will arise as the mentor-mentee relationship grows and develops

DISCUSSION / CONCLUSION

- Discussed program with Mr. Williams and other staff members in March 2024:
  - ◯Included a powerpoint presentation and references to resources about the benefits of similar programs
  - ◯Other school personnel (e.g. guidance counselors, teachers) attended and provided feedback
  - Plan to incorporate feedback into program
- Mentoring program will correspond with two additional student-led Capstone projects within Nutley High School:
  - Nutrition (Robert Vanaria)
  - Exercise and Fitness (Nicolas Nadeau)
- Mentees to provide feedback via surveys given at the midpoint and conclusion of the program
- Future directions to identify a cohort of interested medical students to serve as mentors for high school students

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Improving Diagnosis on Diverse Skin Tones: A Project to Expand a Skin of Color Medical Image Repository

Shannon Meledathu, B.S.[1], Nancy Tham, MD, Jennifer Zepf, D.O. [2]

[1] M3, Hackensack Meridian School of Medicine, [2] Faculty, Hackensack Meridian School of Medicine

BACKGROUND

- Recognizing and diagnosing skin conditions relies heavily on visualization and pattern recognition and because dermatology is such a visual field, the way a rash or tumor is interpreted can be significantly influenced by the background skin tone. This, in turn, can potentially hinder healthcare providers in making accurate diagnoses, particularly in conditions affecting patients with darker skin.1
- The objective of this initiative is to substantially enhance the existing repository by incorporating images routinely collected by dermatologists as part of standard care. The vision is for the repository contents to be readily searchable by faculty and students, facilitating both formal and informal instruction across the curriculum. The DOH is healthcare and education.

Figure 1. *Exfoliative erythroderma of the lower legs.*

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

- The first stage of this project is focusing on collecting images from HMH sites. As an integral aspect of the standard of care at these sites, patients undergo comprehensive consent procedures, which include explicit language authorizing the use of photographs for academic purposes. The design of this consent form is based on models from prominent dermatology journals. In the event of compliance with network regulations there is potential for the repository hosted on the HMSOM library website to be publicly accessible. This would contribute to enhancing the education of medical students and providers, not only within the HMH network but also extending its impact nationally and internationally in the future.
- Images are usually captured using iPhones equipped with encrypted and HIPAA- compliant software. Emphasizing the utmost importance of safeguarding private health information, precautions are taken to collect images that exclude potentially identifiable areas, such as facial features and tattoos. Subsequently, these photos are typically transferred to the electronic health record software (EpicTM). With the help of Dr. Zepf, I will be able to evaluate the quality of images and descriptions included in the HMSOM Skin of Color Image Repository.

- The repository is poised to enhance HMSOM students' understanding of symptoms associated with skin conditions on darker skin tones, aiming to prevent delays in diagnoses and treatment. This proactive approach is anticipated to reduce morbidity and mortality not only within the state of New Jersey but also in any location where HMSOM alumni practice. It plays a pivotal role in shaping a new generation of healthcare providers who can confidently and accurately identify dermatological conditions, irrespective of the underlying skin tone. This repository serves as a robust tool for faculty to incorporate into curricular elements and for students to use as a comprehensive study guide. Furthermore, it has the potential to foster lifelong learning and continuous improvement in practice for professionals within the HMH network and beyond.

DISCUSSION / CONCLUSION

- The project was awarded $35,000 for the upcoming year by the New Jersey Health Foundation grant

- This project was presented to Dr. Mariela Mitre, a dermatologist, and Christopher Duffy, the Associate Dean and Founding Director of the Interprofessional Health Sciences Library.
- Phase 3 HD Leadership has been informed of the intent to continue this project for the community immersion elective
- An expedited IRB is currently being completed
- This expanded repository aims not only to educate future dermatologists but also to enhance the knowledge of all current and future healthcare providers, enabling them to perceive beyond skin tones

REFERENCES / ACKNOWLEDGEMENTS

- Huge thanks to Dr. Jennifer Zepf and Aliza Leiter for their incredible work and guidance on this project

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Patient Perspectives Surrounding Epidural Anesthesia in Labor: A Sentiment Analysis of X (formerly Twitter) Tweets Using Artificial Intelligence (ChatGPT)

Shawn Ohazuruike1, Kiana Cruz1, Michael Block2, MD, Antonia F. Oladipo3, MD, MSCI

1. Hackensack Meridian School of Medicine 2. Hackensack University Medical Center, Department of Anesthesia, 3. Hackensack University Medical Center, Department of Obstetrics and Gynecology,

BACKGROUND

▪The perception and sentiments of pain in childbirth is heavily influenced by social media with 84% of adults aged 18 to 29 report using social media.

It's important to recognize that these sources of information can present contrasting viewpoints, and these conflicting narratives have the potential to significantly influence the decision-making process of expectant mothers

OBJECTIVE

This study aims to characterize the perspectives and creator characteristics surrounding epidural anesthesia in labor of X tweets using artificial intelligence

METHODS

ChatGPT assessed 500 English- language tweets from 10/20/2023 to 12/31/2023 containing keywords 'labor' & 'epidural' for emotional content utilizing a likert scale and an emotion classification model. The query was used:

"Using the emotional likert polarity score, evaluate each tweet from a scale of 1-10 (1 being the most negative experience and 10 being the most positive experience) and evaluate the tweet using three emotions associated with each tweet"

METHODS/RESULTS

Table 1: Example tweets with corresponding likert polarity score and associated emotions according to ChatGPT

Tweet	Likert Polarity Score	Emotion
"exhausted, slept for 21 hours with my daughter and 18 with my son. I almost passed out from exhaustion with both of them. I got the epidural when I was at an 8 with both of them and it was because I just wanted to sleep, I was crying because I was so tired from just the pain."	3	deprived, overwhelmed
"Going through labor. My first caused labor pains so painful, I couldn't get a word in until I got an epidural. Second not so bad and the third.. we'll see!"	4	challenging, hopeful, ambiguous
"I really gave birth without an epidural after being in labor from Thursday to Sunday…I was really wild for that."	7	Bold, adventurous, confident

Figure 1:

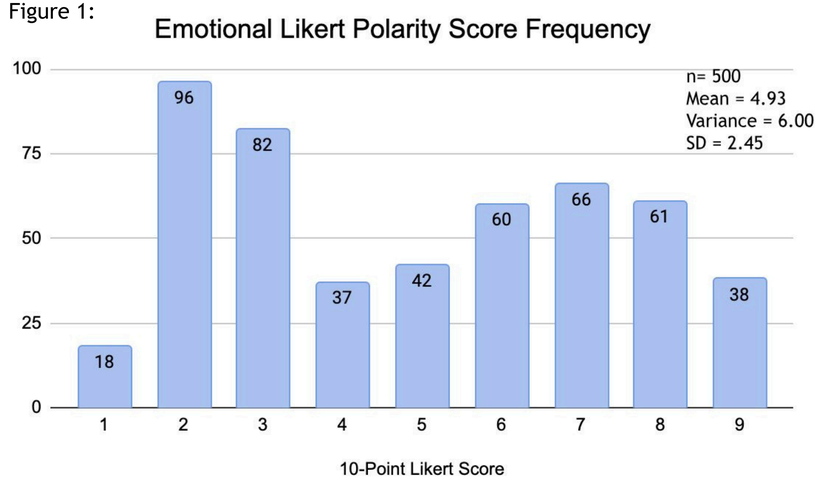

Table 2: Mean Emotional Likert Polarity Score by creator Type

Creator Type	Advocates and Educators	Entertainment and Humor	Expectant Mothers and Personal Experiences	Healthcare Professionals	Pooled
Observations (N)	28	13	395	64	500
Mean	3.32	4.46	4.93	5.73	4.93
Sample Variance	3.49	6.94	6.10	4.71	6.00
Sample Standard Deviation	**1.86**	2.63	2.47	2.17	2.45

Figure 2: Frequency of Emotions As Determined by AI

DISCUSSION

▪ Tweets displayed a bimodal distribution of Emotional Likert Polarity Scores with the a mode of 2 and mean of 4.93 indicating tweets carried either a distinctly negative or positive emotional sentiment

▪When looking specifically within creator groups, advocates and educators posted largely negative tweets. This comes in contrast with both healthcare professionals and expectant mothers who were more likely to describe positive experiences associated with relief. ($p<0.01$)

CODNISCCLUSSSIOIONS

▪The stark difference in sentiment and emotional associations seen when comparing advocates/educators to expectant mothers and advocates/educators to healthcare professionals demonstrate how such subgroups can influence patient perspectives

- It is imperative that healthcare providers understand the current public perception in order to impact patient approach surrounding labor pain management.

▪AI tools such as ChatGPT increase efficiency of Tweet characterization

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Stress Management Group Therapy for Development of Healthy Coping Skill

Shinya Sakurai. HD Facilitator Marni Kriegel, MD

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

▪The determinant of health focused on in this project is behavior. Specifically, the project aims to shape patients' coping skills to enable them to deal with the stress of having a chronic neurologic disease in healthier ways.

▪Coping skills play a crucial role in individuals' ability to manage stress and adapt to challenging circumstances. By addressing maladaptive coping behaviors and promoting the development of healthier coping strategies, the project seeks to positively impact health outcomes for individuals with chronic diseases. Research has shown that individuals who engage in effective coping strategies experience reduced levels of stress, improved psychological well-being, and better overall health outcomes (Kołtuniuk et al. 2021). Therefore, by focusing on behavior and promoting the adoption of healthier coping skills, the project aims to enhance patients' ability to cope with the challenges associated with their condition, ultimately leading to improved health and quality of life.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

▪The goal of this project is to investigate the impact of a 12-week stress management therapy program on the development of healthier coping mechanisms in individuals newly diagnosed with a chronic neurologic disease. The hypothesis guiding this study is that participation in a structured stress management therapy program will replace negative coping mechanisms and equip these patients with effective coping strategies that are associated with improved overall psychological well-being.

▪A maximum of ten patients diagnosed with a chronic neurologic disease will be recruited from HUMC's Neuroscience Institute, all of whom have been enrolled in the stress management therapy program but have not yet initiated their participation. These participants will subsequently receive a 12-week stress management therapy program delivered via telehealth under the guidance of a licensed psychologist. To assess the program's effectiveness in improving coping skills, the Brief-Cope, a validated scale, will be employed (Carver et al. 1997). Coping skills will be evaluated at two junctures: at the program's commencement (baseline) and upon its 12-week completion. This assessment will offer insights into the evolution of coping mechanisms among these individuals participating in the therapy program.

▪Expected impact: First, in terms of benefits for the participants, these patients will undergo the stress management therapy designed to help develop coping skills shown to improve quality of life. The overall benefit of doing this as a study is to provide preliminary empirical evidence regarding the effectiveness of the stress management intervention, offering insights into whether the designed program positively influences coping strategies over the 12-week period. This information can be instrumental in refining and tailoring future stress management interventions. Secondly, evaluating coping skill improvements allows for a better understanding of the specific aspects of the intervention that contribute most to positive outcomes. This knowledge can inform the development of targeted and stress management programs, optimizing their impact on participants. Furthermore, demonstrating a measurable improvement in coping skills among the treatment group adds to the body of evidence supporting the importance of structured stress management interventions in enhancing individuals' ability to cope with stressors.

DISCUSSION / CONCLUSION

▪The development of this project came with many challenges and lessons learned along the way. My initial idea was to create a patient led support group which in theory, sounded like it would create a positive impact but in reality, research has shown that it can produce negative outcomes. An important lesson learned here is that just because an idea seems sound in theory, does not mean that it will translate to reality. I learned how important it was to do a full literature dive before looking to implement projects because sometimes the results are not what you expected it to be.

▪Through this project I also gained a lot of experience with communicating and collaborating with experts. Not just with my mentor who was an expert in her field of neurology but also, multiple psychologists who developed these programs. I learned a lot about how to ask the right questions and how to incorporate feedback into my work.

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Language Interpretation Services at HUMC: Usage and Barriers

Shivani Patel
Deepti Reddy MD, FACP and Anjali Gupta MD, MPH

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- This project focuses on healthcare access and quality, specifically regarding language barriers and interpretation services.

- Executive order 13166, "Improving Access to Services for Persons with Limited English Proficiency (LEP)" was signed in 2000; it bolstered compliance standards to ensure programs and activities normally provided in English are accessible to LEP persons in order to not discriminate per Title VI of the Civil Rights Act. (USDOJ)

- Per the US Census Bureau:
  - 25.7 million people in the United States fall in the LEP category,
  - In New Jersey, 12% of the population is considered to have LEP.

- A systematic review found language concordance resulted in higher measures of patient satisfaction, understanding of their diagnosis, better glycemic control and improved blood pressure control

- **Objective:** Gain a better understanding of what barriers providers face when trying to access interpreting services to suggest a quality improvement intervention.

INTERVENTION DESIGN & EXPECTED IMPACT

Intervention Design: Create a survey for healthcare providers to collect information about current language interpreter usage

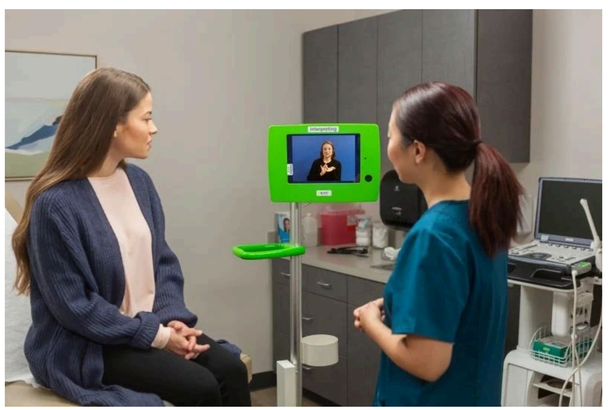
- The objective of the survey was to collect information about both current usage and barriers faced. Using input from my mentors, the survey was created specifically with the HUMC hospitalists in mind.

- The survey was split into sections based on initial answers about usage, the data collected was then split into two groups; those who had used interpretation services in the past and those who have not.

- Survey distribution: The survey was presented to at the weekly hospitalist meeting twice and emailed out to them as well

Interventions proposed in survey:

- Adding signage at the head of the bed regarding patient's preferred language
- Increasing accessibility of dialing information
- Creation of a badge insert
- Increasing number of tablets available
- Installing interpreting app on HMH phone



DISCUSSION / CONCLUSION

- Results:
  - 14 HUMC hospitalists surveyed
- How often remote interpretation services are used:
  - 2-4 times/month: 14.3%
  - 5-8 times/month: 64.3%
  - 9+ times/month: 21.4%

- Most common reasons interpreting services are not utilized:
  - Time constraints (work and interpreter wait time related)
  - No tablets available
  - Family or staff member interpreted

- Most popular means of increasing usage
  - More available tablets
  - Interpreting app on HMH phone
  - Head of bed signage about preferred language

REFERENCES

Addressing Knowledge Gaps in Opioid Conversion Education

Singi Weerasuriya; Kaitlyn Bender, MS, AGNP-C, CHPN; Patrick Roth, MD

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

- Determinant of Health: Education
- Pain is the most common presenting symptom in the emergency department
- Although there have been many advances in research concerning the pathophysiology of pain, opioid analgesics remain a crucial foundation of modern pain management.1
- Roughly 20% of patients presenting with the chief complaint of non-cancer pain receive an opioid prescription.2
- In recent years there has been increased education on prevention of opioid misuse and abuse, however, conversion of opioid analgesics remains a very challenging topic for many healthcare workers due to a lack of adequate training.1
- Systematic reviews reveal that most commonly used opioid conversion tables rely on reference data from studies that are dated and many were single-dose studies, or provided opioid conversion recommendations secondary to the aim of the study.1,2
- These limitations need to be addressed within pain management education for healthcare providers and improved to provide better overall patient care.
- The objective of this project was to better ascertain what existing educational interventions have been formulated to address this knowledge gap, and identify which key interventions can be integrated into a longitudinal and patient-centered opioid conversion education program.

INTERVENTION DESIGN & EXPECTED IMPACT

- Finding: Literature-based opioid conversion tables are focused solely on on the pharmacokinetic data needed for the conversion calculations and do not integrate data from a patient's pain assessment. There is no widely accepted algorithm for the opioid conversion/rotation process.
- Key intervention identified:
  - 5-step approach to opioid conversion, by Gammaitoni et al. (Figure 1 below)

Step	Task
Step 1	Globally assess the patient (ie, PQRSTUs) to determine if the uncontrolled pain is secondary to worsening of existing pain or development of a new type of pain.
Step 2	Determine the total daily usage of the current opioid. This should include all long-acting and breakthrough opioid doses.
Step 3	Decide which opioid analgesic will be used for the new agent and consult the established conversion tables to arrive at the proper dose of the new opioid, recognizing the limitations of the data.
Step 4	Individualize the dosage based on assessment information gathered in Step 1 and ensure adequate access to breakthrough medication.
Step 5	Patient follow-up and continual reassessment, especially during the first 7–14 days, to fine-tune the total daily dose (long-acting + short-acting) and increase or (decrease) the around the clock long-acting dosage accordingly.

Figure 1: 5-Step Approach

- Finding: The format of the classic opioid conversion table can be difficult for first-time learners
- Intervention Identified:
  - Alternative visual tool the "Opioid Square", developed by Young et al.; a slight majority of 2nd year medical students were found to prefer this tool to the traditional opioid conversion table
- (continued)
  - No statistical differences in accuracy were found between the Opioid Square tool and conversion table. (Figure 2)

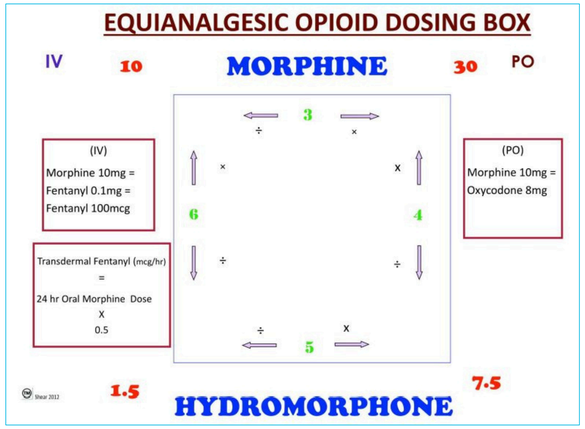


Figure 2: Opioid Square Tool

- Finding: Need for simple education tools for opioid conversion refreshers
- Intervention Identified:
  - Lecture, infographic, pre and post survey developed by Tan et al. targeted for medical residents

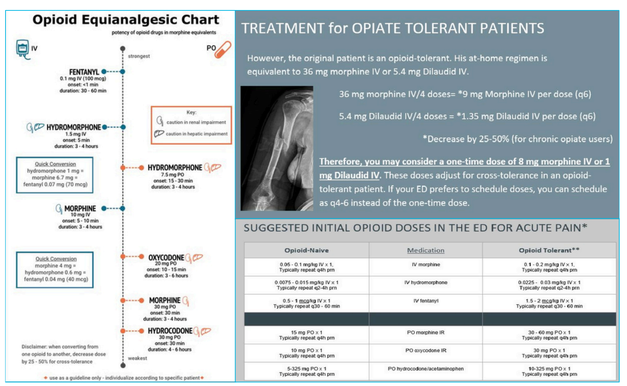


Figure 3: Opioid Conversion Resident Edu. Tools

DISCUSSION / CONCLUSION

- Implementation of these key interventions at different stages of medical education (first-time learners e.g. 2nd year medical students, clerkship students, medical residents) can help to address the training gaps regarding opioid conversion education and create a more comprehensive longitudinal pain management education program
- Repeated exposure to alternative visual frameworks and an algorithm which integrates patient pain assessment will discourage sole reliance on the traditional opioid conversion table, increase awareness of the conversion table limitations, and reinforce the importance of an overall patient-centered and holistic approach to pain management.

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A big thank you to Katie Bender for helping me find direction in this project and their responsive feedback despite my irregular project schedule, and another thank you to Dr. Roth for his constant check-ins and encouragement.

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Use of retinal imaging device to increase diabetic ocular pathology surveillance

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Hackensack Meridian School of Medicine

BACKGROUND

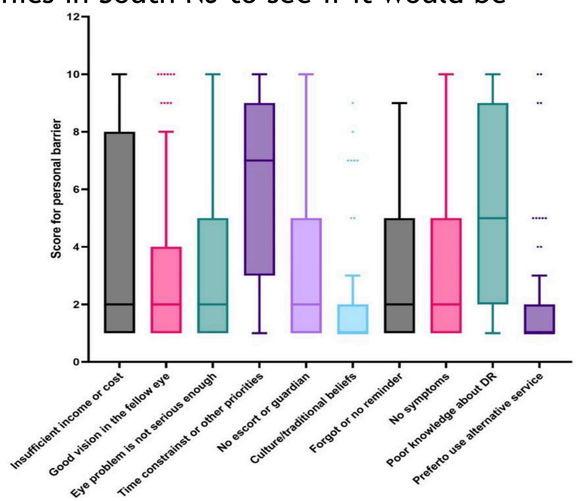
- This project focuses on addressing the inequality of obtaining screening for diabetic retinopathy within underserved communities.
- Previous research has shown that race, income, geographical location, insurance coverage and educational status are factors affecting ophthalmic care access(1).
- Previous solutions: implementation of culturally sensitive diabetic educational programs and expanding coverage of medicare/medicaid (2).
- Teleophthalmology is a novel service that allows for users to capture high quality images of the retina that can be evaluated by third party specialists.
- With the use of a retinal imaging device, we can develop a teleophthalmology service in my community to combat the issues of costs, transportation and subspecialist scarcity that affect access to ophthalmic care.

Objectives:

- The goal of this study is to use a novel portable retinal imaging device to increase access to ophthalmic care in underserved communities and reduce diabetic ocular pathology burden.

SOLUTION AND PROPOSAL

- Solution:
  - Maestro2 is a user-friendly OCT and fundus camera that can provide comprehensive analysis of the macula, optic disk and anterior segment for diagnosis of acute/chronic conditions.
    - These reports can easily be uploaded to patient's EMR allowing for access by other healthcare providers.
  - Despite increasing insurance coverage, 30%-50% of diabetic individuals are unable to get appropriate screenings.
    - In New Jersey, the most commonly cited reasons for not getting screening is costs and transportation issues due to subspecialist scarcity particularly in South NJ.
    - This is further worsened in underserved and rural communities.
  - This device is a promising solution to address these barriers to allow for more screenings to take place.
- Proposal
  - Met with directors of (Bergen Volunteer Medical Clinic) to identify specific barriers with regards to obtaining diabetic surveillance in their populations.
  - Presented the proposal of using the device every four months for their diabetic population to allow for frequent screenings.
  - I was informed that the BVMI was already partnered with a third party organization that carries out biannual diabetic screenings.
  - Contacted the directors of various other clinics in South NJ to see if it would be beneficial to implement this device.



DISCUSSION / LIMITATIONS

- Use of the retinal imaging device has immense potential to provide the necessary screenings for patients who may not be able to obtain them otherwise.
- This device is expected to reduce patient travel times and overall costs while increasing rates of surveillance even in the rural setting.
- Increasing availability of this device to clinics particularly in the rural setting could combat the issue of subspecialist scarcity in those settings as well.
- Limitations:
  - Difficulty acquiring this expensive equipment.
  - Coordinating with third party ophthalmologists/optometrists to read images.
  - Need for extensive planning with regards to infrastructure.
  - Further research is needed to evaluate the success of implementation and effectiveness of this device.

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Early, Accurate Med Reconciliations by Pharmacy Techs

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Hackensack Meridian School of Medicine

BACKGROUND

When patients are admitted to the hospital, a "medicine reconciliation" is performed to ensure that appropriate outpatient medications are continued inside the hospital. However, this process is **complicated** by multiple social and institutional factors.

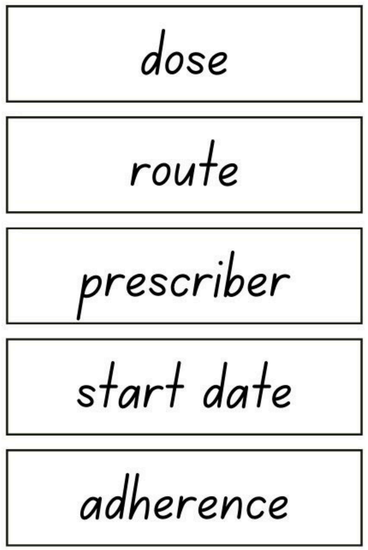
BARRIERS TO MED REC

- ☐ English Proficiency
- ☐ Low Health Literacy
- ☐ Polypharmacy
- ☐ Mental Status

Many parties, including the ED physician and the admitting team, nominally perform a med rec, but few have the time to thoroughly complete it. This leads to more ***guesswork*** in adjustment of patients' regimens, and unwanted ***drug interactions*** are more likely. This project investigated the use of pharmacy technicians to perform high quality med recs in the Emergency room for patients being admitted.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

Med recs can be time intensive: one may need to call physicians, pharmacies, and caretakers. Having physicians perform this task is inefficient, as it does not require specialized training. The ED is the ideal location for a complete medicine reconciliation for multiple reasons: many patients have supporting documentation that may later be lost, and earlier medicine reconciliations help physicians create a more appropriate initial treatment plan. Pharmacy technician-led medicine reconciliation is also be a scalable solution: if the ED is overwhelmed, med recs can be prioritized for the most difficult patients.



Above: Components of a Successful Med Rec

Bearsden Competition

Philip Meyer and I proposed the idea to the Bearsden Competition, a HMH network initiative to implement new innovations based on employees' firsthand experience. We found that the implementation of a pharmacy technician led med reconciliation in Inova Alexandria ED reduced medication errors by over 50%. We argued from the economic perspective, med rec could ***reduce costs*** associated with medication errors and reduce readmission rates. We also met with William Carroll, Chief Pharmacy Officer and VP of Network Pharmacy at Hackensack. He told us that one of the finalists of last year's Bearsden competition, Jennifer Le, had proposed a ***similar idea i***nvolving pharmacy technicians performing med recs, within the first 24 hours of admission. This was currently ***undergoing a pilot*** in Raritan Bay Perth Amboy. Additionally, a pharmacy technician who was hired for the sole purpose of doing medicine reconciliation had been hired at HMH Old Bridge.

Results

Unfortunately, the project was not selected to move forward to the final round. We were told that while the idea was deemed useful and workable, it was likely ***too similar to the pre existing pilot project*** taking place in Perth Amboy.

DISCUSSION / CONCLUSION

In a complex system, clear **division of labor** is important for efficiency and improved outcomes.

- This experience imparted several key learning points. I realized the importance of ***realistic time horizons***. Because gathering high quality data on this takes years, it is unrealistic to expect a systems wide change in a short period of time. That an idea very similar to our proposal is currently being tested in Old Bridge and is currently in use in various hospitals across the country is an excellent sign. A problem was identified and a solution was being tested, but it would still be years before widespread implementation.
- Additionally, effort should be made ***not to redouble existing QI initiatives***.

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Type 2 Diabetes Diet Education Material for Arabic Patients within the Hackensack Meridian *Health* Network

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BACKGROUND

The patients in the Hackensack Meridian *Health* network come from diverse ethnic and cultural backgrounds, where the cuisine is even more diverse. In western society, representations of and perceptions of a "healthy diet." In turn, many patients are alienated from healthier diet changes. This translates to hundreds of patients across the network severely underrepresented in nutrition counseling. A healthy diet affects all branches of a person's wellbeing. It can affect exercise fitness, joint health, bone fragility, neuropathy, stroke risk, MI risk, and wound healing.

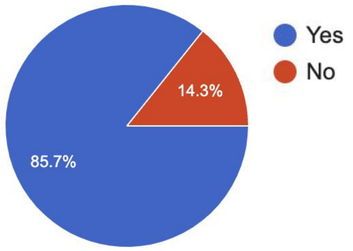
The disconnect between the perception of "healthy eating" and cultural ingredients needs to be addressed. Many patients, even those without comorbidities, can improve their quality of life by having a diet rich in minerals, vitamins, proteins, and healthy fats. The purpose of this HD Capstone project is to target the bridge between healthy eating and ingredients found in Arabic cuisine for Type 2 Diabetes patients. In this flyer, specific food items for a diabetic diet will be reviewed, while also including a time-friendly recipe that uses these ingredients. The flyer will review facts about type 2 diabetes mellitus and the sort of diet patients should follow to create a blueprint for future meals.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

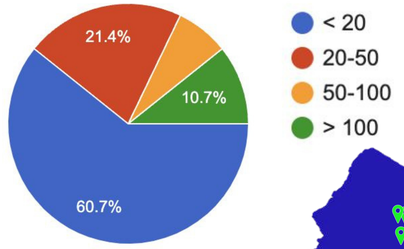
Twenty-eight offices across New Jersey were surveyed to determine if there is a need for Arabic cuisine-inspired T2DM education material, as well as the specific office's interest in acquiring this flyer in English and Arabic.

Determining the Need for the Intervention:

Offices with and without T2DM Education Material:



Number of Arabic Patients Seen in Office:



The Impact and Application:

Interest in Type 2 Diabetes Mellitus educational material in the clinic's Arabic patient population:

The Flyer (Available in English and Arabic):

How To: Type 2 Diabetes Diet for Arabic Patients

What is Type 2 Diabetes?

Type 2 Diabetes is an illness where your body has trouble using carbohydrates you eat in your food, which turn into sugar when they are broken down. Inside your body, there is a hormone called **insulin** that is responsible for helping you absorb sugar. **Obesity** and **inactive lifestyles** lead to **insulin resistance**. This means that your body does not respond to insulin, leading to **high levels of sugar** in your blood. Overtime, this leads to **damage** to your **eyes, nerves, and kidneys**.

Build Your Plate

Protein, Carbohydrates, Water, Non-starchy Vegetables

- Choose a 9-inch plate to start for adults. Use a 7-inch plate for children.
- Fill half your plate with non-starchy vegetables, one quarter with lean protein, and the other quarter with carbohydrates. Build recipes with the ingredients below.
- Try to eat 3-5 servings of vegetables a day. One serving is ½ cup of cooked vegetables.
- Finish off your meal with water or another zero-calorie drink and you have a balanced meal!

Grocery List: Let's Go Shopping!

Proteins	Non-starchy Vegetables	Carbohydrates	
Skinless Chicken	Broccoli	Grains	Fruit
Lean beef cuts (sirloin, flank, round)	Cabbage	Brown rice	Dried fruit
Tuna	Cauliflower	Bulgar	Prunes
Salmon	Carrots	Barley	Apples
Tilapia	Celery	Semolina	Pears
Eggs	Cucumber	Whole grain toast, bread, pita	Apricots
Beans	Eggplant		Figs
Fava beans	Green beans		Watermelon
Lentils	Peppers	Parsnips	Grapes
Chickpeas	Tomatoes	Squash	Tangerines
Falafel	Mushrooms	Potatoes	Cantaloupe
Cheese	Lettuce/Salad Greens		Strawberry
Labneh	Onions		Blueberry
Nuts	Garlic		Cherries
Low fat milk	Beets		Bananas
	Turnips		Plums
	Artichokes		

Sheetpan Chicken Bowl *Prepares 4 servings.*

Diabetes-Friendly Recipe

Ingredients

- 1 cup cooked brown rice
- 1 lb boneless, skinless chicken breast
- 1 lb bell pepper (any color)
- 1 cup chopped scallions or onions
- ½ cup chickpeas
- 2 medium sweet potatoes
- 2 tablespoons fresh parsley
- 4 tbsp olive oil
- 1 tbsp lemon zest (or lemon pepper seasoning)
- 1 tbsp thyme (fresh or dry)
- ½ tbsp rosemary (fresh or dry)
- Salt and pepper to taste
- Toppings: sliced avocado, lemon juice, chopped walnuts, parsley, dill, chopped olives, feta, or labneh.

1. Preheat oven to 400 F. Cut chicken into ½-inch chunks and cut veggies into similar bite-sized pieces. Toss the chicken and veggies with olive oil, salt, black pepper, fresh parsley, lemon seasoning, rosemary, and thyme. Spread on a baking sheet. Roast for 30-40 minutes or until the chicken is cooked.
2. Once cooked, remove from the oven. Add your brown rice to a bowl. Add your chicken and veggies to each bowl. Top with your toppings of choice. Enjoy!

Building a Healthy Meal Plan:

- **Eat around the same time everyday.** This helps keep your blood sugar steady.
- **Watch your carbohydrates.** Eat higher fiber carbs like vegetables and fruits more than sugary or starchy food.
- **Use sodium (salt) -free seasonings.** This is a great way to add depth and flare to your food.
- **The best meal plan is one you can stick to and fit into your life.** Create small goals that you can build on.

Shaping New Habits

Do's	Don'ts
Airfry or bake	Oil fry
Use olive oil	Chips, cookies, candy
For dessert, eat a small piece of whole fruit or a ½ cup of fruit salad	White bread
Drink lots of water!	Juice or soda
Unsweetened tea or coffee	Margarine
Limit salt to 2 grams (1/8 tbsp)/day	
Exercise or walk 150 minutes/week	
Ask your doctor for help!	
Be confident that you can do this!	

The information contained in this flyer is for educational purposes only and is not professional medical advice. Please seek the guidance of your healthcare provider for questions regarding your health.
Designed by medical student, Soumaya Bahlouli, as part of the Human Dimension course at HMSOM.

Hackensack Meridian *Health*

DISCUSSION / CONCLUSION

The WHO and the Arab Center for Nutrition created guidelines for Arabic populations in the Middle East and North Africa for healthy nutrition and lifestyles. They did so with a Food Dome that is divided into different sections, each representing a food group, proportional to the recommended amounts. Musaiger et. Al summarized the steps taken to develop these dietary guidelines and concluded that these are useful guides for the communities in the Arab Gulf countries to reduce the incidence of nutrition-related diseases. In the United States in 1997, Congress authorized Diabetes Self-Management Training as a Medicare benefit, with the goal of providing comprehensive levels of support to educate and self-manage about diabetes, to reduce the known risks and complications of diabetes, and improve overall health outcomes.

This flyer is to be distributed in English and Arabic at primary care offices in North and Central New Jersey. Many physicians that were surveyed expressed interest and excitement for this flyer. The broader goal of this brochure is to motivate Arabic patients to make healthy changes to their diet with their ingredients and recipes available, and with nostalgia from their upbringings.

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Improving Diabetic Retinopathy Screening With Retinal Cameras

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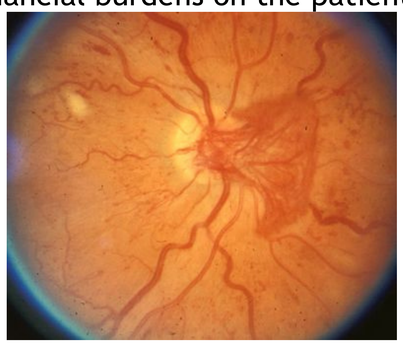
BACKGROUND

- Diabetic retinopathy is a consequence of untreated diabetes
- Reduced visual acuity, vitreous hemorrhage, retinal detachment, and blindness
- American Diabetes Association recommends annual to biannual screening
- Only about 50-60% of patients adhere to recommendations (2)
- Social determinants impacting screening: availability of ophthalmologists, insurance status, transportation/time off for appointments, and reluctance to undergo dilated eye exams

Proposal

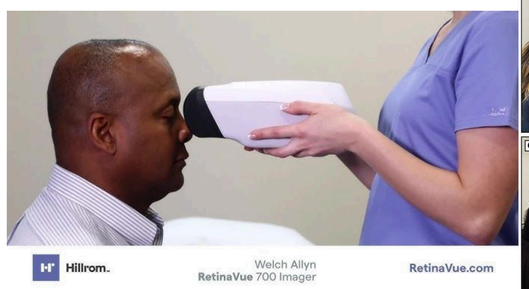
- Use digital fundus cameras to screen for diabetic retinopathy in the primary care setting,
- Goal of alleviating extra time and financial burdens on the patient



Proliferative Diabetic Retinopathy (1)

INTERVENTION DESIGN

- Initial evaluation by an ophthalmologist
  - If initial evaluation negative, screening annually to biannually
- In primary care clinic:
  - Resident or the medical assistant/nurse trained to use fundus camera
  - Training is quick and easy with informational brochure and short videos
  - Images obtained during rooming or during evaluation
  - Image can be analyzed via teleophthalmology and the results sent to the treating physician within 24 hours
  - Patients who screen positive for diabetic retinopathy referred to an ophthalmologist for speciality care of the disease



Welch Allyn RetinaVue

Standard diabetic retinopathy screening (A, B) vs remote teleophthalmology evaluation of fundus photograph (1)

Figure 1: Training of ophthalmology residents using the ZEISS VISUSCOUT 100 handheld fundus camera.

Zeiss VISUSCOUT 100

DISCUSSION & POTENTIAL IMPACT

- Increase adherence to screening guidelines
- Decrease the financial burden of specialist visit
- Save the patient time

FUTURE DIRECTION

- Study resident and clinical staff comfort in using the retinal cameras.
- Conduct study in April
- Determine feasibility of widespread implementation across HMH
- Work to proactively address challenges with implementation
- Validated software is currently being developed to automatically analyze the fundus photos for diabetic retinopathy (3)

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Integration of Complete Streets Near Hackensack University Medical Center

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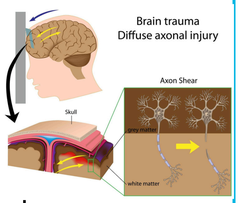
BACKGROUND

Traumatic Brain Injury (TBI) ranges from mild blow to the head to penetrating injury and is commonly caused by:

- falls
- firearms
- assault
- motor vehicle crashes

- Moderate to severe TBI is the **primary cause of injury-related death and disability**
- Complications:
  - seizures
  - cognitive decline
  - PTSD
  - insomnia
  - post-traumatic headaches
  - mood/behavior changes
- Additional complications for patients at extremes of age



From 2015-2019, 306 documented accidents along Prospect Ave & Beech St.

- 26 involved pedestrians/ cyclists
- ¼ involved high school students

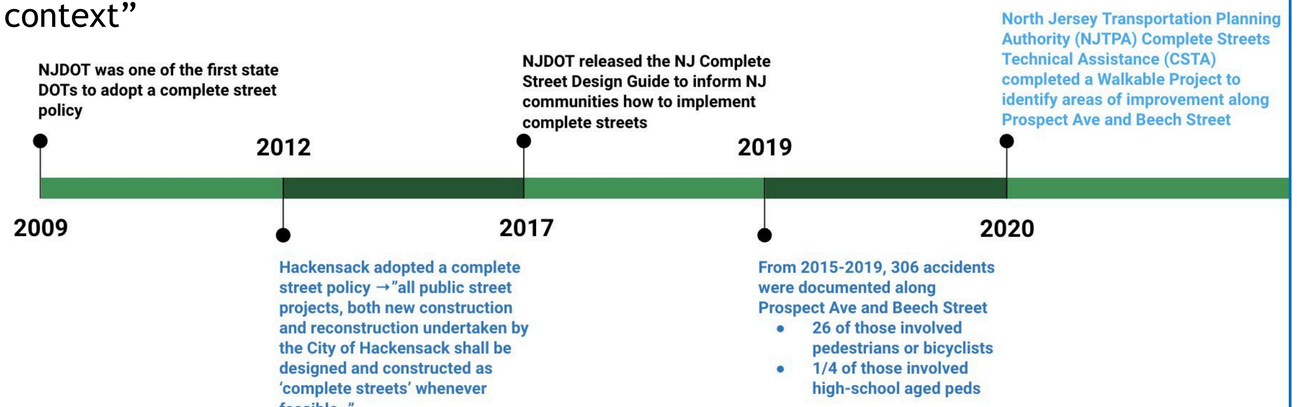
Figure 12. Map of crashes within the study area, from 2015 to 2019.

The intersection between Prospect Ave.-Thompson St. is highly trafficked but very poorly structured.

- ***Warning beacon is always active***
- ***51% of cars did not stop for peds***
- ***North bound land widens allowing drivers to pass slow or stopped cars***

INTERVENTION DESIGN & EXPECTED IMPACT

Complete Streets are roads designed to "balance the needs of drivers, pedestrians, bicyclists, transit riders, emergency responders, and good movement based on local context"



My area of interest highlighted in the report is the Prospect Ave-Thompson St crosswalk.

Current structure of crosswalk:
flashing ped sign (poorly angled and always active), cones/ped signs between lanes (ignored), no left turn onto or off of Thompson St. (ignored)

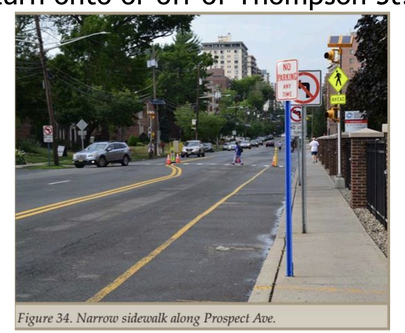


Figure 34. Narrow sidewalk along Prospect Ave.

Proposed intervention:
painted curb extension with bollards

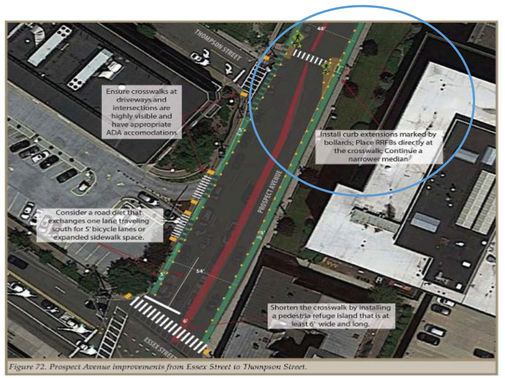
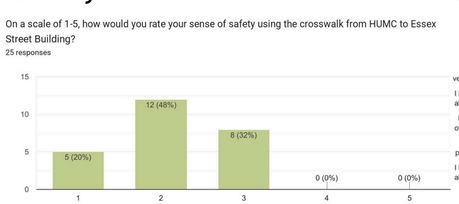
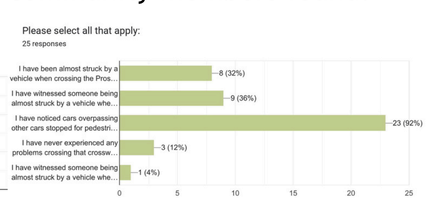


Figure 72. Prospect Avenue improvements from Essex Street to Thompson Street.

Survey distributed to Hackensack community members found:





Next Steps: Data was included in an evidence-based, literature-supported petition letter sent to Hackensack City Council urging for the proposed change of this crosswalk to protect the safety of our community!

DISCUSSION / CONCLUSION

COVID and post-COVID transport is more commonly walking, bicycling, etc.

This intervention addresses gaps in the determinants of environment and access to healthcare. Creating safe pedestrian spaces to walk allows for greater opportunities for exercise, reduced use of cars, and greater ability to get to medical providers and appointments.

A **painted curb extension with bollard placement** such as this example photo:

- Narrow the northbound lane and prevent overpassing
- Shorten the crosswalk
- Emergency vehicles can still access the main hospital

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Thanks to Dr. Reilly and Dr. Tracy for your guidance. Thanks to James Sinclair for your knowledge of Complete Streets and policy.

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Inequity in Fertility Preservation for Pediatric Oncology Patients

Tamar Itzkowitz, BS, Laurie Donnelly, BSN, Burton Appel, MD, Jasneet Kaur, MD

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

- Fertility preservation (FP) for pediatric oncology patients is lacking insurance coverage. NJ Bill 2133 states clearly that iatrogenic infertility requiring preservation should be covered by law if it is deemed standard of care. ASRM and ASCO have stated that oocyte cryopreservation is not experimental. However, patients in NJ are not getting coverage for FP.

- SDOH: Access to care

- Oocyte cryopreservation is the only method of FP available for prepubertal children undergoing potentially sterilizing medical therapies.

- Discrepancy between the law requiring FP coverage for non experimental practices and insurance denying coverage for oocyte cryopreservation.

- Eliminating the disparity by collaborating with organizations, such as Alliance for Fertility Preservation (AFP), who dedicate resources and time towards legal procedures to require insurance companies to follow the law using legal precedent.

INTERVENTION DESIGN & EXPECTED IMPACT

Current legislation: NJ bill 2133 requires non-medicaid plans to cover FP for children who may become infertile following cancer therapy/iatrogenic infertility.

Project goals: Identify a solution for FP coverage for HUMC pediatric oncology patients

Project design:

- Reviewed the current process of insurance claims and appeals for coverage at HUMC
- Collected data regarding HUMC pediatric heme-onc patients who had a FP consults and discovered that between July 2022 and December 2023, out of 55 FP consults at HUMC pediatrics heme-onc department 12 were self pay, 20 had FP procedures covered by grants or clinical trial participation, and 22 did not undergo FP procedures.
- Initially, the project centered around reinventing the appeal process at HUMC, and then shifted to a larger scale impact as collaborations with AFP was established.

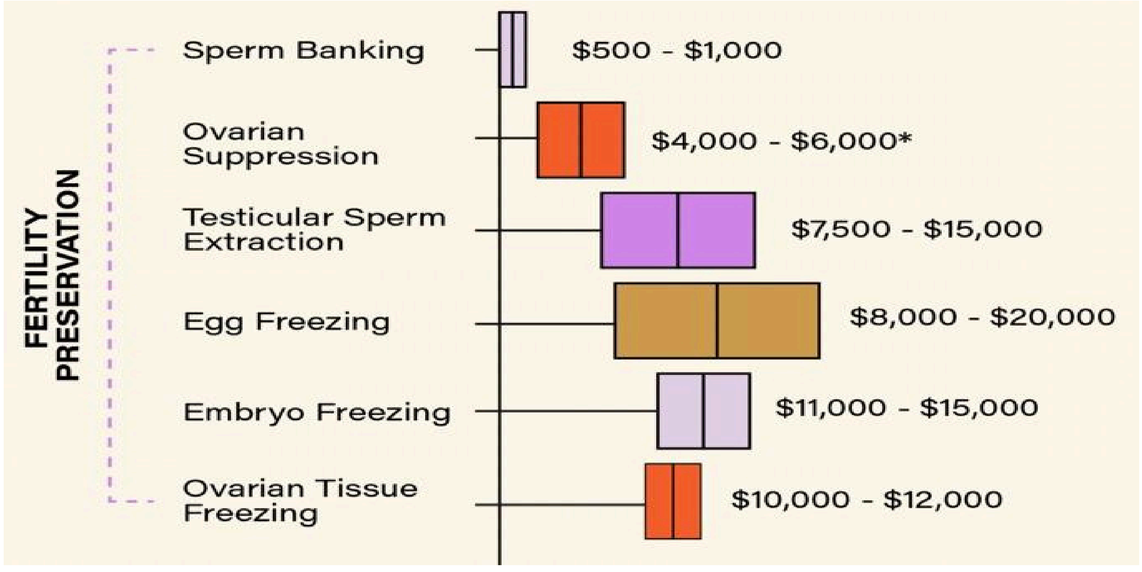

Table 1. Average upfront costs of fertility preservation

DISCUSSION / CONCLUSION

Plan: Partner with AFP, and use the legal precedent they set with oocyte cryopreservation coverage in Washington, California, and Maryland to address this disparity in court and officially have the court recognize and mandate insurance coverage of oocyte cryopreservation.

Expected impact: the impact of a standardized FP coverage in NJ will be monumental for two reasons.

1. It will relieve parents from having to decide if they can afford to preserve their child's fertility, while coping with a new and potentially life threatening diagnosis. It will allow organizations like
2. AFP to continue to use legal precedent in states like NJ to obtain coverage for FP in other states and eventually throughout the country.

REFERENCES

SCAN ME

References:

Medication-Assisted Treatment in the ED

Tariq Alnsour, Kevin Lee

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

▪ **Background: Describe which DOH you focused on and how it impacts health outcomes?**

▪Opioid use disorder is an illness that has become increasingly prevalent in the US over the past few years, with drug overdoses having a mortality rate of 92,000 in 2020.

▪**What is the knowledge/action gap?**

▪Targeted Naloxone distribution, Medication-Assisted Treatment (MAT), Academic Detailing, and eliminating Prior-Authorization Requirements for Medications to treat Opioid Use Disorder (OUD) are all current programs to decrease both the prevalence of OUD as well as opioid overdoses.

▪MAT has become the treatment of choice for OUD, and is now beginning integrated into the Emergency Department Protocol for the treatment of opioid overdose. MAT is a reliable option, however induction of therapy requires takes time, and therefore the sooner patients are started on MAT, the better.

▪**Objective**:

▪To decrease the frequency of both opioid overdoses and super-utilizers in the ED through the use of Medication Assisted Therapy (MAT). This would be accomplished with prompting ED staff to use a new protocol that integrates MAT in the treatment of opioid overdoses.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

▪ **Intervention:**

◯The Hackensack Meridian Health Network has recently adopted a protocol utilizing Suboxone therapy for treatment of patients presenting with opioid use disorder, opioid overdose, as well as opioid withdrawal.

◯This interventions begins with assessing patients for opioid overdose or COWS score for opioid withdrawal and subsequently commencing patients on naloxone then specific dosages of suboxone.

◯We hope to push this protocol in the ED via the presentations to EM faculty, staff bulletin boards/displays, pre-service/in-service training and education, and providing informational documents displaying the implementation of this protocol. We will continue to trend the progress of this protocol through monitoring the number of patient presenting with opioid overdose and withdrawal and subsequently patient outcomes after suboxone initiation in the ER. Furthermore, we will also be sharing patient success stories in order to display the efficacy of this protocol

▪**Literature Review/Expected Impact:**

◯A randomized control trial from 2009 to 2013 that involved 329 opioid-dependent patients in the ED compared three groups: 1) screening and referral, 2) screening and brief intervention, and 3) screening, brief intervention, and ED-initiated treatment with buprenorphine/naloxone (suboxone). 104 patients were randomized to the referral group, 111 to the brief intervention group, and 114 to the buprenorphine treatment group. Enrollment in and receiving addiction treatment 30 days after randomization was the primary outcome with self-reported days of illicit opioid use as a secondary outcome. It was shown that among opioid-dependent patients, ED-initiated buprenorphine treatment vs brief intervention and referral significantly increased engagement in addiction treatment, reduced self-reported illicit opioid use; 78% vs 45% vs 37% for engagment of treatment as well as 0.9 days vs 2.4 days vs 2.3 days for self reported past 7-day opioid use at 30 days.

◯Multiple hospital systems utilize MAT as part of the protocol for patient care of opioid overdoses in the ED. Substance Abuse and Mental Health Services Administration (SAMHSA) delineated 4 forerunners of MAT use in the ED.

◯These include the “First Step Opiate Addiction Treatment Program” located in Akron, Ohio, “Center for Opioid Recovery and Engagement (CORE) ED Buprenorphine Program” run by Penn Presbyterian Medical Center (PPMC), South Carolina Medication-Assisted Treatment (MAT) Program Pilot located in Charleston, SC, and Cooper Emergency Department Bridge Program located in Camden, NJ.

◯All of these programs saw substantial positive effects of utilizing MAT in the ED department, with patients more likely to remain on therapy as well as be more adherent to outpatient follow up.

DISCUSSION / CONCLUSION

▪Opioid use disorder and opioid overdoses have been in the rise for the past few years.

▪By utilizing a protocol that initiates patients on MAT in the ER we can hope to decrease the mortality and morbidity associated with opioid use.

▪This relies on the providers applying this protocol. As such it relies on us, advocates of this protocol to provide training and information regarding this protocol.

▪We hope that by using informational resources, staff involvement as and monitoring progress we can encourage the use of this protocol and thereby decreasing the dangers associated with opioid use.

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Rainbow List: Identity-Concordant Care for LGBTQ+ Patients

Tatiana Cirne Oliveira, MS3

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

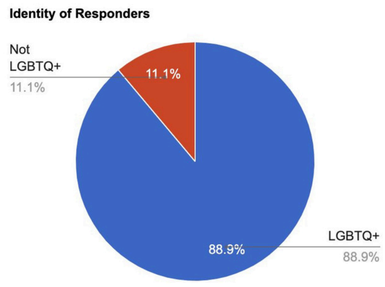
- LGBTQ+ individuals often face health care discrimination and even mistreatment due to their sexual orientation, gender identity, or gender expression. This may stem from reasons ranging from deliberate homophobia to well-intentioned but incompetent LGBTQ+ care due to lack of provider information and/or awareness.
- The discrimination that LGBTQ+ patients face leads to inequitable healthcare access and subsequent health disparities.
- My capstone project aims to address the SDoH healthcare access through the creation of a comprehensive list of self-identifying LGBTQ+ providers, coined as the "**Rainbow List**", in order to provide LGBTQ+ patients the option of seeking identity-concordant care.
- Although there is no single LGBTQ+ experience, there are shared perspectives and experiences – having a provider who understands and shares these lived experiences can help facilitate a more meaningful physician-patient relationship and subsequently lead to better health outcomes.

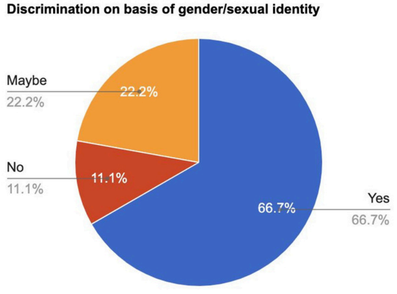
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

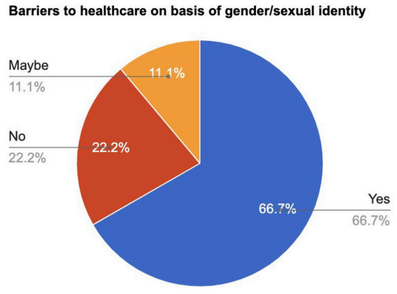
- The goal of creating the "Rainbow List" is to implement a network-wide, systems-based change that will allow patients to search for providers on HMHN's "Find a Doctor" webpage using an "LGBTQ+" filter option.
- In doing so, patients will be able to search for providers who have volunteered to self-identify as LGBTQ+ in order to access identity-concordant care. This will address the gap in LGBTQ+ healthcare disparities by directly responding to the need for LGBTQ+ affirming and competent care while empowering patients to access providers who are sensitive to their identities and healthcare needs through personal, lived experience.
- For this quality improvement initiative, I created an anonymous survey that was distributed to a small subset of patients as a pilot study. This survey was intended to access the baseline healthcare experience and receptivity/interest in the implementation of a "Rainbow List".
- Of the patients surveyed, **88.9% of whom identified as LGBTQ+**:

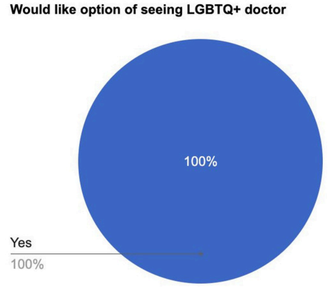
➢**66.7%** reported that they had faced discrimination and barriers to seeking healthcare because of their gender or sexual identity

➢**100%** reported that they would like to have the option of seeing an LGBTQ+ doctor









DISCUSSION / CONCLUSION

- A survey prompting applicable providers to self-identify as LGBTQ+ has been distributed amongst physicians in the HMHN and data is currently being collected.
- Additional patient surveys will be distributed at local physician offices to reach a greater pool of responders.
- Stakeholders have been contacted regarding implementation of network-wide "LGBTQ+" filter option.
- Call-to-Action:
  - Systems-level changes are fraught with challenges. This, however, should not be a deterring factor for implementing necessary change. As current and future physicians, we are in a unique position of power to have a meaningful impact on both patients and communities – as such, we have a duty to identify and pursue systems-level changes to their fullest extent.

REFERENCES / ACKNOWLEDGEMENTS

A special thank you to:

- My mentor - Mark Schlesinger, MD
- My facilitator - Marianna Shimelfarb, MD
- My classmate – Rachel Lozada, MS3

Medical Spanish Programming at HMSOM

Taylor Aguiar, BS; Elizabeth Koltz, EdM; Lawrence Rosen, MD

Hackensack Meridian Health

Hackensack Meridian School of Medicine

BACKGROUND

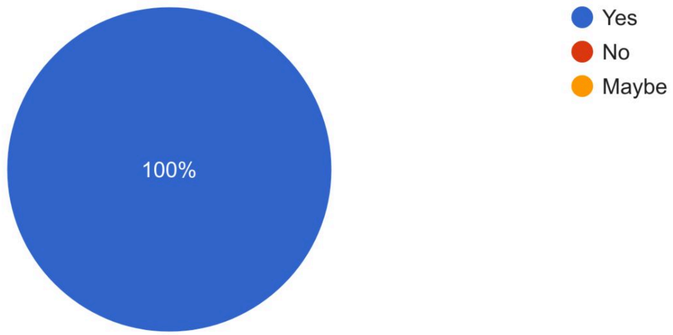
Of Bergen County's 937,920 residents 176,933 identify as Hispanic or Latino1. 66% of medical schools responding to a survey set out between 2012-2014 reported some form of a medical Spanish curriculum2. In schools that did not offer a formalized curriculum, there was a plan to begin a new program within the following two years. Most of these programs were elective, meaning they were not integrated into the core curriculum of the school. This may be due to the strict requirements by the LCME** has for what medical schools should include in their curriculum or financial limitations. Other obstacles to implementation included lack of additional student time to learn and be examined on medical Spanish in a formal way and heterogenous initial Spanish skills in the cohort.

Currently at HM SOM, Medical Spanish programming includes the Latino Medical Student Association (LMSA)'s student-run Medical Spanish club and the Medical Spanish 4-week elective limited to 2 students at once. In a survey sent out to current HM SOM students, 100% reported wanting further Medical Spanish programming at HM SOM.

INTERVENTION DESIGN

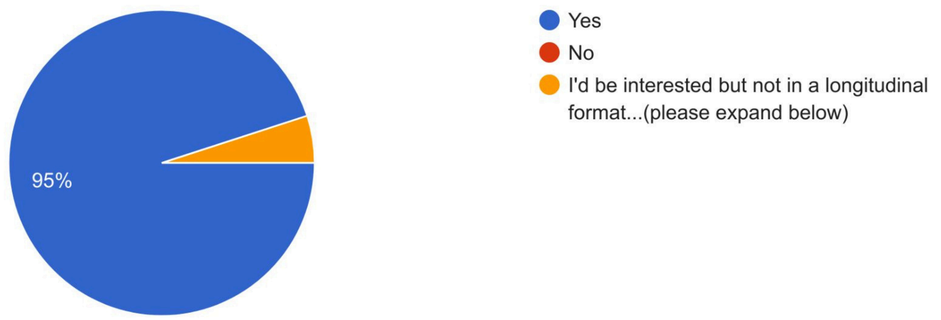
Do you believe additional Medical Spanish programming would benefit HMSOM & the HMH patient population?

20 responses



Would you be interested in participating in a longitudinal Medical Spanish curriculum at the school?

20 responses



Other ideas from student survey

- Phase 1 & 2 HD sessions focused on basic Spanish language skills
- SP Encounters using translator technology to practice best practices
- ID badge reference guides for basic terminology

DISCUSSION / CONCLUSION

Best next steps at HMSOM

- Need buy-in from leadership to fund a facilitator for this group
- Expansion of existing Medical-Spanish elective
- Formation of longitudinal Medical-Spanish club

The need for Medical Spanish programming in medical schools is widely documented. With the number of Spanish-speaking patients in Bergen County and the greater HMH network, it is important that HMSOM invests in educating their students to best serve their patients. Several ideas, such as those listed above, are realistic next steps.

REFERENCES / ACKNOWLEDGEMENTS

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Thanks to Professor Koltz and Dr. Rosen for your guidance!

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Characterizing digital health literacy as an emerging social determinant of health in oncology patients

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Human Dimension Facilitator: Anne Park, DO[1]
1. Hackensack Meridian School of Medicine, Nutley, NJ 2. Center for Discovery & Innovation, Nutley, NJ

BACKGROUND

- Digital health literacy (DHL) is an emerging social determinant of health, defined as the capacity to find and understand health-related information with electronic media
- An association between higher DHL and improved management of chronic disease has been identified
- Recently, an association was identified in cancer survivors, where increased e-Health literacy was correlated with improved overall survival, yet DHL is still poorly characterized among cancer survivors

INTERVENTION DESIGN (METHODS)

Cross-sectional survey study: Patients with non-Hodgkin lymphoma (NHL) (n=50) or colorectal carcinoma (CRC) (n=55) were recruited to participate in a survey about their cancer care experience.

Qualitative interviewing: A subset of survey participants (n=25) completed a follow-up interview.

Literature review of DHL interventions: A rapid review pertaining to DHL was conducted in January 2024.

Intervention design and planning: Currently ongoing with JTCC.

Figure 1. Flow chart of survey study, qualitative interviews, and review of DHL for interventions, leading to ongoing DHL intervention planning

DISCUSSION / CONCLUSION

- In this convenience sample, DHL varied by cancer type, general health literacy, and education level, suggesting interventions to increase DHL may be well-suited for those with NHL and/or lower level of education Further, these
- factors may affect technology-based care, an important consideration in eHealth intervention development This study also indicated a possible link between clinical trial
- enrollment and lower DHL that should be explored in future studies with larger samples

RESULTS

Table 1. Patient characteristics

	Total (%)	NHL (%)	CRC (%)	p
Number of participants	105	50	55	
Age, median (IQR)	63 (53-69.5)	66 (58-71.5)	61 (47.5-63.75)	0.053
Female	48 (46)	19 (38)	29 (53)	0.13
Race/Ethnicity				<0.001
Asian	7 (7)	2 (4)	5 (9)	
Black or African American	26 (25)	3 (6)	23 (42)	
Hispanic or Latino	2 (2)	1 (2)	1 (2)	
Middle Eastern or North African	4 (4)	3 (6)	1 (2)	
White	65 (62)	40 (80)	25 (45)	
Other or unknown	4 (4)	1 (2)	3 (5)	
Education				0.033
High school or less	20 (19)	10 (20)	10 (18)	
Some college	22 (21)	15 (30)	7 (13)	
College degree	21 (20)	11 (22)	10 (18)	
Graduate degree	36 (34)	10 (20)	26 (47)	
Other or unknown	6 (6)	4 (8)	2 (4)	
eHeals score, mean (SD)	26.9 (8.24)	24.6 (8.10)	28.9 (7.91)	0.008
Health literacy score, mean (SD)	12.6 (2.42)	12.5 (2.54)	12.7 (2.32)	0.57
Clinical trial enrollment	10 (9.5)	6 (12)	4 (7.3)	0.41

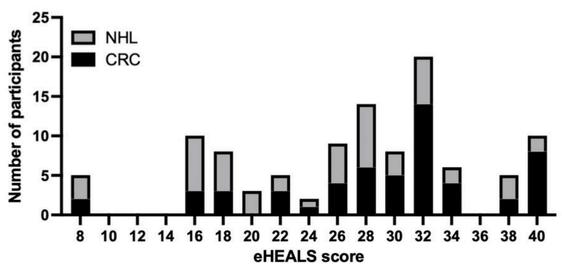

Figure 2. Histogram of eHEALs scores (mean=26.9, SD=8.24, range: 8-40) of patients with a prior diagnosis of NHL or CRC.

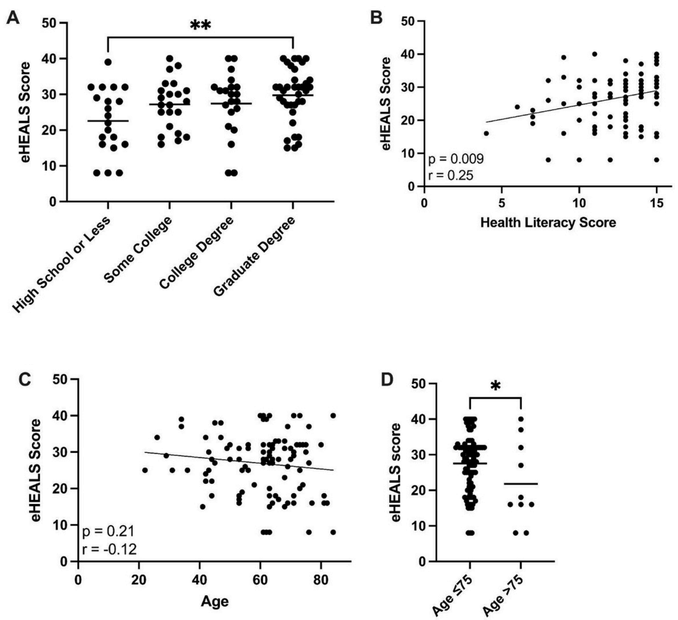

Figure 3. Sociodemographic correlates of DHL in patients with CRC and NHL. (A) Higher DHL was related to higher education level (rs=0.29, p=0.004). The most significant difference found was between participants who indicated high school or less as their highest level of educational achievement and patients with a graduate degree (p=0.009). **(B)** Positive association between general health literacy and DHL (r=0.25, p=0.009). **(C)** Older participants tended to have lower DHL, though this pattern was not statistically significant (r=-0.12, p=0.21). **(D)** When assessing DHL in participants older than 75 years of age, however, there is a decrease in eHEALS scores when compared to participants 75 years old or younger (t(103)=2.13, p=0.035).

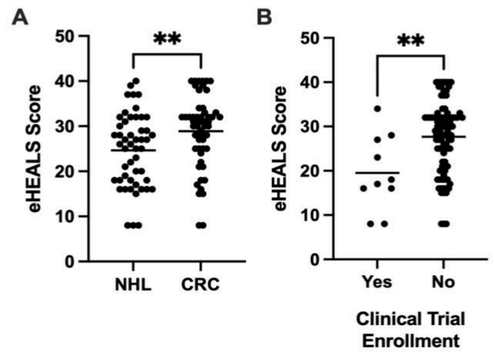

Figure 4. Clinical factors associated with DHL. (A) Patients with NHL (mean=24.6, SD=8.10) reported lower DHL than patients with CRC (mean=28.9, SD=7.91, t(103)=2.72, p=0.008). **(B)** Patients who reported participating in a clinical trial (N=10) reported lower DHL than patients who had not (t(100)=3.08, p=0.003).

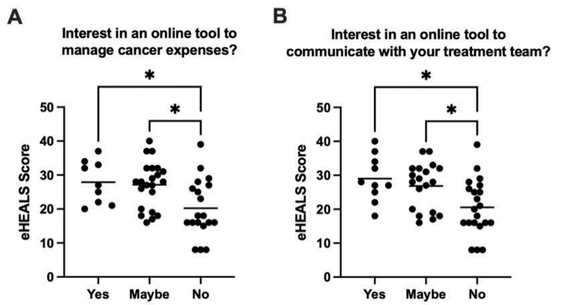

Figure 5. (A) Those who were interested in using an online tool to manage cancer-related expenses reported higher DHL than those who were not interested (F(2,47)=5.43, p=0.007). **(B)** Those who were interested in using an online tool to communicate with their care teams reported higher DHL than those who were not interested (F(2,47)=5.73, p=0.006).

Digital health literacy interventions could help specific patient populations, such as patients with lymphoma or those enrolled in clinical trials, take advantage of digital tools to manage their health

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For full references list, please see HD Capstone Final Paper, submitted April 8, 2024 to the human dimension program

ACKNOWLEDGEMENTS

- Dr. Anne Park served as my HD Faculty Mentor and was a constant source of advice and support throughout this project.
- Development and execution of this project was made possible by Derry-Vick lab members and collaborators: Amanda Khoudary, Osairys Billini, Andrew Ip, Lia Sorgen, Arnold Potosky, Marc Schwartz, and Claire C Conley.

Implementing a Motorcycle Safety Toolkit: A Resource for Riders and Providers

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INTRODUCTION

Background: Universal helmeting has been shown to decrease fatalities associated with motorcycle accidents (Peng et al., 2017), and helmeting may also reduce healthcare expenditure among those hospitalized with motorcycle-related injuries (Kim et al., 2015), while reducing the incidence of traumatic brain injury, facial fractures, and injury severity for the head and the neck (Urréchaga, et al., 2022). In a study evaluating fatal US motorcycle crashes from 2000-2016, the highest fatality rates were among those aged 18-29 years old (Chaudhuri et al., 2019). Enhancing rider knowledge about motorcycle laws, helmet safety certifications, and educational offerings are approaches that may improve motorcycle safety.

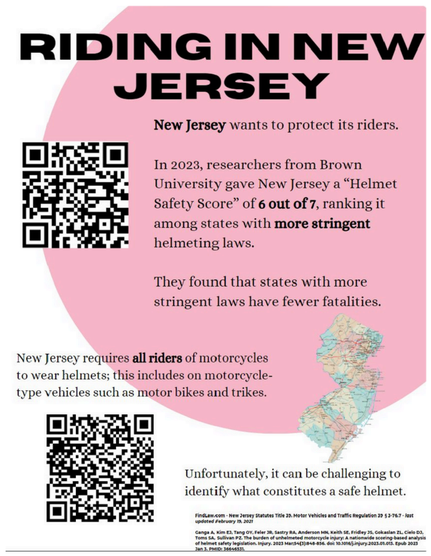
Objective: The dissemination of a motorcycle safety toolkit in areas frequented by riders (eg, motorcycle dealerships and courses), or in proximity to vulnerable populations (eg, primary schools, emergency rooms) could provide a means for riders to learn about the educational offerings and safety resources available to them.

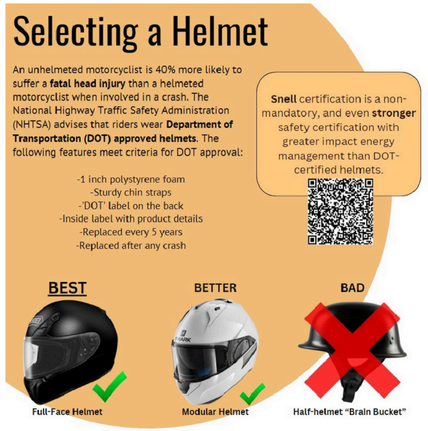
METHODS

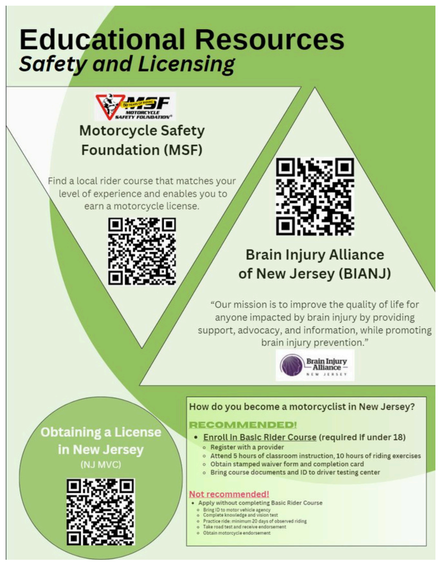
Design: The toolkit was created in Canva, an online graphic design platform. QR codes were made using the website qr-code-generator.com.

Contributors: Brain Injury Alliance of New Jersey's Motorcycle Safety Coalition, New Jersey Trauma & Injury Prevention Coordinators, Indian Motorcycle of Monmouth.

Motorcycle Safety Toolkit







Description: The toolkit is a 7-page feature that includes an introductory page (not pictured) with basic statistics and outline followed by a description of New Jersey's helmeting laws, details about eBikes, comparisons of helmet safety, QR codes linking readers to educational material and rider training class schedules, and a primer discussing safe helmet removal.

LIMITATIONS

It remains to be seen where this toolkit will reach the most motorcyclists and whether education is a limiting factor in the prevention of motorcycle-related injury and fatality. A better understanding of the financial and social factors, eg, through survey, that may limit the use of safe and effective helmets is imperative in reducing fatalities.

CONCLUSIONS

Riders may benefit from a comprehensive educational toolkit distributed within their community and at trainings. Future preventative measures may be identified by evaluating state and national trends or by analysis of data from trauma and emergency departments.

NEXT STEPS

The designers aim for application of the motorcycle safety toolkit in HMH system hospitals for provision to patients with motorcycle-related injuries. Future efforts may be made to input the toolkit into the electronic medical record to accompany discharge paperwork, and the toolkit's being displayed or being prepared for distribution at dealerships or educational courses. A retrospective cohort study investigating the relationship between helmeting and injury severity scores and health outcomes among victims of motor-vehicle collisions in Monmouth County could identify further areas of focus for rider education and for this toolkit.

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Efficacy of Diabetes Education provided by Molly Center on Diabetes Management

Udochukwu Okorafor
HD Advisor: Dr. David Kountz

Hackensack Meridian *Health*

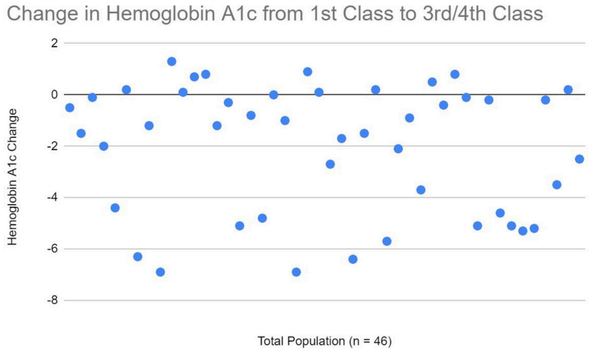
Hackensack Meridian School of Medicine

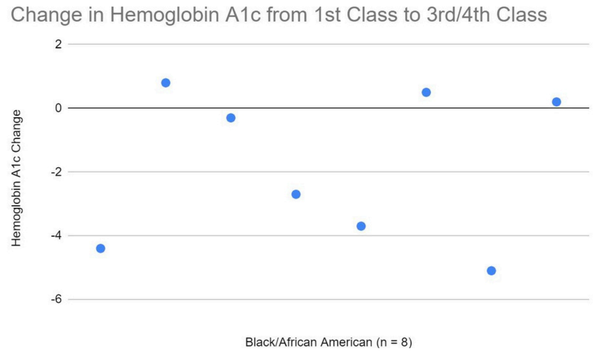
BACKGROUND

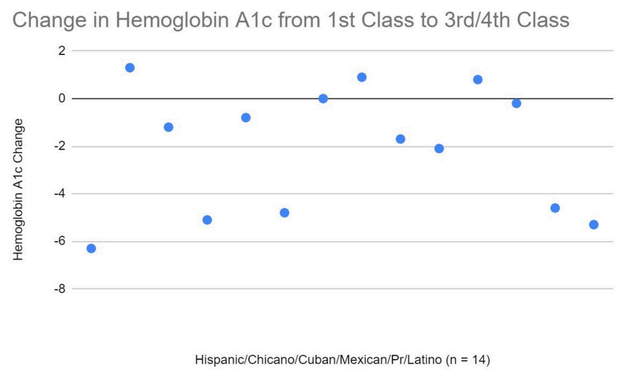
Background: There have been numerous studies indicating that diabetes education can lead to improvement in personal management of diabetes. The Molly Center is an outpatient facility that provides guidance to patients with diabetes and prediabetes. For patients with diabetes, the center provides 5 classes that educate the patient on diabetes and management. The 1st 4 classes are done within a 4 month period and the 5th class is done within 5-6 months of the 1st class. There is a follow-up after the 5th class in 6 months and then the patient continues to follow-up twice a year. The topics covered by the classes range from diabetic complications to meal planning to blood glucose monitoring. The classes include dieticians, nurses, and social workers. The Center provides different lists for culturally sensitive foods. The sources for the lists are typically from leading health organizations, .gov sites, CDC, and Academy of Dieticians.
Objective of the project is to determine the efficacy of diabetes education by the Molly Diabetes Education Management Center in properly managing diabetes.

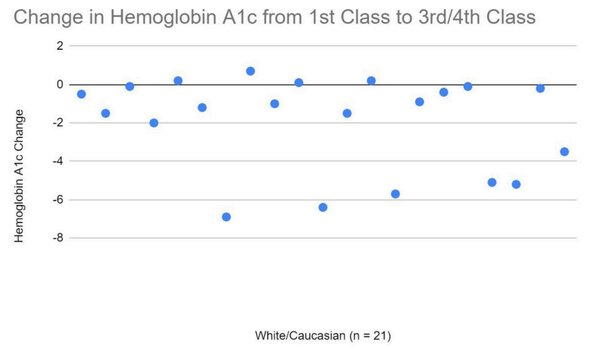
INTERVENTION DESIGN & EXPECTED IMPACT (METHODS) (Size 36 font)

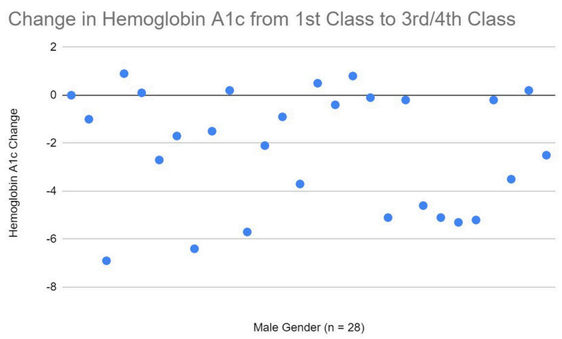
Design: Efficacy was determined by difference in Hemoglobin A1c from 1st class to 3rd or 4th class. The 3rd/4th class was selected as endpoint since they would occur within 4 months of the 1st class which would provide enough time for any lifestyle changes to have an effect on A1c.

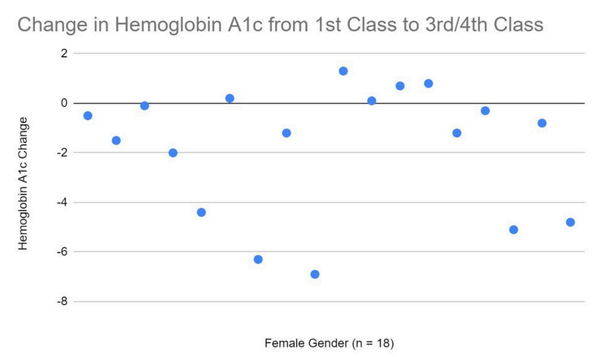












DISCUSSION / CONCLUSION

The scatterplots indicate that there is a general decrease in A1c in total population, both genders, and three races. There seems to be greater decreases in A1c in males than females. Additionally, the classes seem to be more effective in white/Caucasian patients than black or Hispanic patients. Due to the small sample size, it was not possible to determine if there was statistical significance in the change of A1c from 1st class to 3rd/4th class. Thus, cannot determine as of now whether classes may need to be adjusted for genders or races. The next steps would be to collect more data to determine if this preliminary data analysis is correct. For now, there does not seem to be a need to make any changes in the curriculum that the Molly Center offers. If the preliminary data is eventually confirmed to be statistically significant, the program should be expanded to all parts of the Hackensack Meridian Health system.

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▪Thank You to Molly Center for providing the data.

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Implementing Mindful Based Stress Reduction Practices for Symptomatic Relief in Patients with Irritable Bowel syndrome (IBS)

Victoria Lynott MS3, Anil Desai MD, Mary Brighton MS, RDN, CDCES

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Irritable Bowel Syndrome: Overview

- Functional gastrointestinal disorder characterized by abdominal pain and classified according to type of alteration in bowel habits, such as constipation, diarrhea, or both
- Based on a systematic review from 2012, worldwide prevalence estimated to be 14% in women and 9% in men
- Pathogenesis is not well understood, but some proposed mechanisms include infection or immune dysfunction leading to weakened intestinal barrier and local inflammation, dysbiosis, altered motility, psychosocial factors, and visceral hypersensitivity

Uncontrolled Economic Burden of IBS

Many patients struggle with uncontrolled IBS symptoms despite available treatments, leading to increased health care costs and utilization of resources. In a study surveying over 3,000 patients with Irritable Bowel Syndrome, less than 15% report "very satisfied" with current over-the-counter recommended treatments.

INTERVENTION DESIGN

Finding New Solutions For Managing Burdensome IBS Symptoms

Given that many patients struggle with their IBS symptoms despite the current recommended and available treatments, my goal was to research and implement an educational resource about an alternative and cost effective treatment for IBS symptom relief. Given my personal background performing a project that involved nutrition education in cancer patients, I learned about mindful stress reduction eating practices and wanted to research if this would be an appropriate option to offer IBS patients .

Step 1. Researching Mindful Eating

Mindful eating involves understanding the brain-gut connection and the impact of stress on digestive function

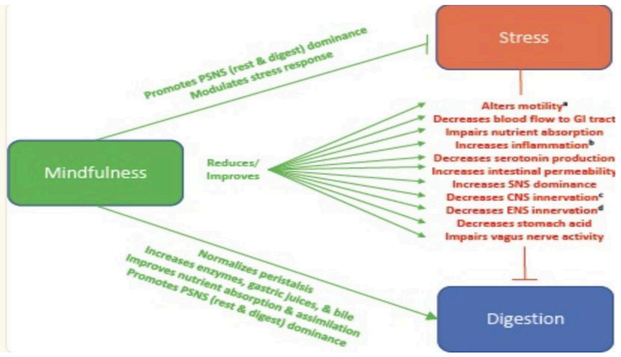
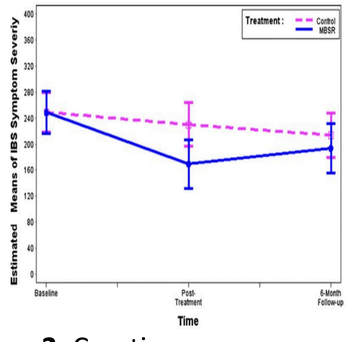
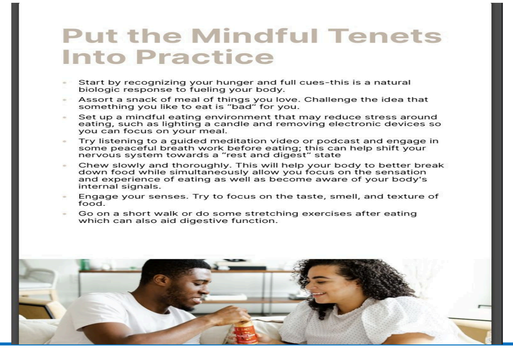


Fig. 2



In this randomized controlled trial, 90 patients diagnosed with IBS using Rome III criteria were assigned to an immediate mindfulness based stress reduction (MBSR) program or control group without immediate intervention. The MBSR program included meditation practices as well as teaching yoga stretches in aims of decreasing stress and disease symptoms. Patients rated their symptoms using established questionnaires including the IBS Severity Scoring System at pre- and post-intervention at 6 month follow up. The study showed at 6 month follow up clinically meaningful improvement in IBS symptoms in the MSRB group compared to those who were not enrolled in this program, as seen in the graph below.

Step 2. Creating a resource



Step 3. Distribution

My goal was to have the resource available to patients in clinics that often see patients with IBS. Distribution proved to be difficult due to nonresponse. I was able to present my pamphlet to a gastroenterologist; however, their clinic already offers a similar resource about stress reduction and improving irritable bowel symptoms.

DISCUSSION / CONCLUSION

- Goal of the project: Research and teach patients about the gut-brain connection and how stress can impact the gut's functions. This would allow patients to better understand the importance of stress reduction and provide a meaningful, cost effective, and researched treatment that could serve as an alternative to the current frequently offered methods of management, such as dieting. Challenges:
  - Nonresponse from stakeholders
  - Similar resources already available
  - Finding valuable research as the current literature on the benefits of mindful eating is still expanding
- Takeaways
  - Understanding and empathizing with the challenges that patients face and striving to find new solutions
  - The importance of interprofessional collaboration to create an effective and unique resource

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Mental Health Fairs to Combat Mental Health Stigma in Faith Based Communities

Authors: Vince Gerald Dagot (MS3 HMSOM) Dr. Nathan Carroll (PGY3 JSUMC Psychiatry), Dr. Anne Park (DO Internal Medicine)

Special Acknowledgments: Fr. Jose Zuniga

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Objective: To invite local Neptune township parishioners within Monmouth County to a mental health fair in order to combat stigma that may be ingrained in faith based communities

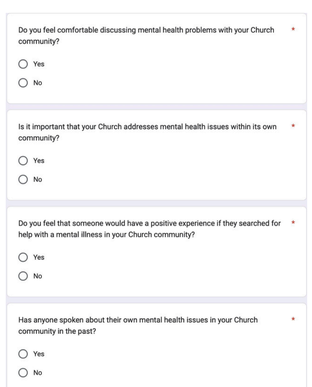
1) Meeting with community stakeholders to gain insight into what issues may be afflicting the Church community

- Met with Father Jose Zuniega from St. Anthony de Padua:
  - Younger Clergy and Younger Parishioners have been at the forefront of combating mental health stigma within the Catholic Church community, but the problem still exists
  - Pope Francis had made public statements saying: “it is essential that action is taken to fully overcome the stigma that mental illness is often tainted with.”
  - It is important to recognize the intersectionality between the faith based communities Fr. Jose and I work in, and the immigrant population, particularly from Hispanic and Filipino communities
  - Churches should be more open to working with healthcare professionals to provide their parishioners with enriching and healthy experiences

2) Perform a literature review on mental health stigma and the mechanisms by which it is perpetuated

- The articles all share that Religious dogma a may be contributing to a lack of understanding of mental health disorders, wrongly attributing them to sin or spiritual wrongs
- Individuals are going to their Churches in order to seek help for the mental health conditions, however their needs are not being met in an appropriate manner
- All the articles described that Mental health professionals and Faith based organization leadership must collaborate more in order to combat the religious dogma and cultural stigma that is keeping people from receiving the mental health care that they so need

3)Plan a mental health fair that addresses the concerns from the background research and distribute a Survey on Mental Health Stigma:



Do you feel comfortable discussing mental health problems with your Church community? *
- Yes
- No

Is it important that your Church addresses mental health issues within its own community? *
- Yes
- No

Do you feel that someone would have a positive experience if they searched for help with a mental illness in your Church community? *
- Yes
- No

Has anyone spoken about their own mental health issues in your Church community in the past? *
- Yes
- No

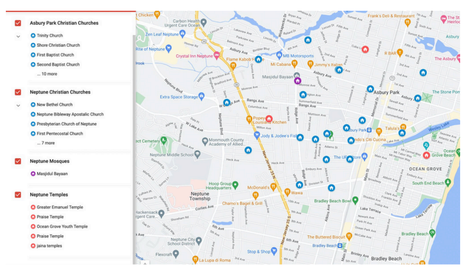
INTERVENTION DESIGN & EXPECTED IMPACT

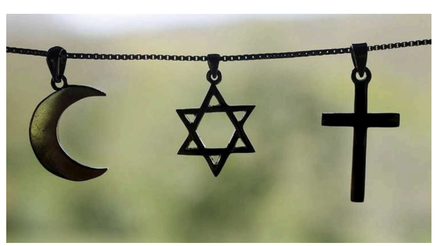
Design:

- Proposal: Use mental health fairs to combat Mental Health Stigma in Faith Based Communities
- Setting:
  - Monmouth Mental Health Fair Hosted by Jersey Shore University Medical Center
  - Location: Springwood Park Asbury Park
  - Date: 9AM to 12AM on May 11th, 2024
- Plan:
  - Plan Mental Health Fair in a local Neptune park, and invite members of local faith based communities. Then provide them with a survey to see if the mental health fair successfully changed their minds regarding mental health within these communities. Finally, to encourage further projects/mental health fairs to combat mental health stigma
  - Target Audience: Faith based communities within Neptune

Expected Impact

- Reduce Mental Health Stigma in Faith Based Communities
- To combat specific barriers to seeking mental health that have been identified via literature review
- To encourage future partnership between Faith Based Communities in Neptune and Jersey Shore University Medical Center, so that future mental health fairs may be hosted.





DISCUSSION / CONCLUSION

- Risks of not having this intervention
  - For many, their Church Community is a main source of social support and is therefore one of the first to hear about their mental health issues
  - Many even seek mental health guidance from their Church first, before ever seeing a mental health professional
  - If mental health stigma is not addressed here, this whole community could miss out on vital mental health care
- Mental Health Fair
  - This project is reproducible annually and can be used to make a lasting change in Church communities in Monmouth County for years to come
  - The event can be used to gather data for future research and to spread awareness on a variety of mental health topics
- Challenges and Lessons Learned:
  - Planning a mental health fair requires a reliable multidisciplinary team
  - Making systemic change can be a slow and frustrating process, especially if the target audience is not interested in making the change

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Pedaling Ahead: Transforming Hackensack with Bike Lanes

Walid Anwar, Nathan Snyder
HD Facilitators: Dr. Jose Contreras, Dr. Jasneet Kaur
Mentor: Albert Dib, Director of Redevelopment & Economic Development, City of Hackensack

Hackensack Meridian *Health*

Hackensack Meridian School of Medicine

BACKGROUND

Hackensack is undergoing a significant transformation, with plans to add more than 4,000 residential units in the next few years1. This will increase the demand for transportation and parking in the city, which can be met by bike lanes. Transportation is responsible for ¼ of CO_2 emissions in the U.S., and most commutes are less than five miles2, which can be traversed by bike if the means are provided.

Determinant of Health Focused On: environmental and physical influences on community health

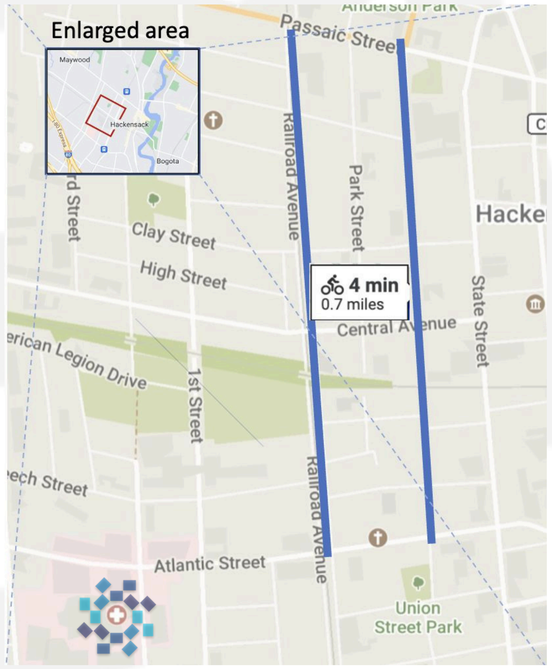
Knowledge/Action Gap: despite the existing popularity of cycling within the city as well as the benefits to individual health and environmental health, Hackensack lacks the infrastructure to safely and effectively accommodate cyclists.

Objective of Project/Study: develop a proposal advocating for the implementation of dedicated bike lanes, aiming to enhance public health, environmental quality, and urban livability.

INTERVENTION DESIGN & EXPECTED IMPACT

Systems Solution Proposal: work with the city to submit a grant application that, if approved, will secure crucial funding and consultation for bike lane planning and a pilot study

- **Data Collection:** analyzed traffic data to highlight the need for safer streets and reduce traffic burden
- **Feasibility:** assessed roadway typology, municipal jurisdictions, as well as structural and vehicular constraints to capitalize on Union Street and Railroad Avenue
- **Community Engagement:** collaborated with the Hackensack City Council and NJ Bike & Walk Coalition
- **Planning and Implementation:** applied for funding and expert consultation through the New Jersey Department of Transportation (NJDOT) Local Bicycle/Pedestrian Planning Assistance Program, helping to ensure our city's biking future is both applicable and achievable



Expected Impact:

- Improved safety for cyclists and pedestrians
  - reduced traffic and pedestrian collisions
  - more inclusive urban environment
- Reduced air pollution and gas emissions
- Increased cycling → improved physical health
- Economic boost and enhanced city appeal: bike lanes will help to increase bike and pedestrian traffic, fostering a lively urban environment that benefits local businesses
  - "bike traffic" effect encourages quick, convenient stops at local businesses, directly boosting the local economy
  - a more accessible city not only attracts residents but also visitors, contributing to the city's appeal in tourism and sense of community

DISCUSSION

Introducing dedicated bike lanes in Hackensack offers a chance to make the city safer, healthier, and more connected. This plan aims to reduce road hazards and promote public health, establishing Hackensack as an advocate of sustainable urban planning. The NJDOT grant will allow the installation of temporary bike lanes targeted to launch alongside NJ Bike & Roll to School Day (May 8th). This pilot program symbolizes progress towards a more livable, accessible city. Rooted in a passion for cycling and solutions to parking and congestion, this strategy supports urban mobility, environmental sustainability, and community well-being, marking Hackensack's commitment to a vibrant, healthier future for all residents. **Future direction:** with a successful pilot study and support from the community, we hope to replace temporary bike lanes with permanent, dedicated bike lanes and expansion to more streets.

ACKNOWLEDGEMENTS

- City of Hackensack
- NJ Bike & Walk Coalition
- Millennium Strategies LLC
- New Jersey Department of Transportation (NJDOT)

References: 1. https://www.hackensack.org/redevelopment/ 2. https://www.epa.gov/greenvehicles/what-if-we-kept-our-cars-parked-trips-less-one-mile 3. https://vtc.rutgers.edu/wp-content/uploads/2015/06/Bicycling-Benchmarking-Report-FINAL.pdf

Implementing comprehensive screening questionnaires to close gaps in healthcare for pediatric immigrant patients

Weng Chan M3 / Timothy Watkins MD/ Tade Ayeni EdD

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Hackensack Meridian School of Medicine

BACKGROUND

- Children of international migrants use most types of healthcare services less than local children: they are less likely to have a usual health service provider, to use preventive services, primary and dental care, and some specialized health services.[1]
- My capstone project is to implement a comprehensive screening questionnaire that targets gaps in healthcare for pediatric immigrant patients. It will be based on the American Academy of Pediatrics' Immigrant Health Toolkit, and the screening will be utilized during the initial intake for new patients who had just immigrated to the US. By recognizing the unique challenges and strengths that many immigrants experience, providers can identify effective practice strategies and relevant resources that support health within the community, especially among immigrant children.
- The screening questionnaire will assess immigrant patients' access to healthcare and health status (e.g did they receive adequate screenings or immunizations in their home country), socioeconomic factors (e.g do they have awareness and access to early education programs and preschool programs, such as Head Start), and unique stressors (e.g living in a family with a parent who faces the threat of deportation without notice or preparation). Especially for children whose parents have been taken into custody/deported, they are more likely to demonstrate a number of health problems such as anxiety, depression, poor school performance, sleeping and eating disruption. Forced separations due to immigration enforcement can also result in the loss of family income and have been shown to result in family housing and food instability, which have further implications on the physical and mental health of everyone involved. The screening will refrain from directly asking about immigration status and instead will try to elicit information by asking if any family members have left suddenly or are at risk for leaving suddenly and then helping to create separation contingency plans if needed. This will hopefully serve to minimize any emotional distress surrounding the potentially sensitive topic.

INTERVENTION DESIGN & EXPECTED IMPACT (METHODS)

- The screening questionnaire was developed from the American Academy of Pediatrics' Immigrant Health Toolkit[2] and address concerns from different domains of DOH tailored to the pediatric immigrant population, including immigration information, vaccination history, nutritional history, environmental hazards, social history, mental health and trauma history, and infectious diseases etc.

Screening Questionnaire:

General Questionnaire tailored to the immigrant population:

1. Immigration Information: birth country/ethnicity, country/countries of transit and length of time living in these countries, time in the United States
2. Medical records, if available, including vaccine records
3. Past medical history, including prenatal serology results of mother/health of mother, birth setting, gestational age at birth, history of female genital cutting (FGC), other traditional cutting, transfusions, surgeries, tattoos
4. Sexual history, including whether history of sexual abuse
5. Nutritional history, including foods available, to determine risk for specific micronutrient deficiencies
6. Use of complementary and alternative medications
7. Environmental hazard exposure history, including possible lead exposure risks
8. Tobacco, alcohol, opium/heroin, betel nut, khat, and other drug use
9. Allergies
10. Dental History
11. Education: last year of school completed and literacy level of patients/parents as application, potential learning difficulty and/or need for special education
12. Social history – including family structure, support in US, school environment, individuals who live in the same home as the child, primary care taker
13. Mental health evaluation with Pediatric Symptom Checklist PSC, or the Refugee Health Screener RHS-15 for those over age 14.
14. Screening for trauma
15. Developmental screening tools with multiple available languages

Infectious Disease Screening: Certain parasitic infections, with which clinicians may be less familiar, are particularly prevalent among immigrant populations.

1. Soiled-transmitted helminths: ascaris lumbricoides, whipworm, and hookworm. Infections may be asymptomatic or cause abdominal pain, diarrhea nausea/vomiting, or anemia due to malabsorption or blood loss. These infections may be diagnosed by stool ova and parasite examination.
2. Giardia: Protozoan infection that may cause bouts of acute symptoms such as watery diarrhea and abdominal pain, or cause prolonged symptoms including foul-smelling stools, abdominal distention, anorexia, malabsorption, or FTT. Should send Giardia specific stool antigen using EIA.
3. Strongyloidiasis: Serology for IgG antibodies against strongyloides
4. Schistosomiasis: Blood schistosoma IgG antibody test
5. Malaria: Rapid Diagnostic Test (RDT) followed by malaria microscopy.

Nutritional Screening:

Pediatric anemia:

1. Iron deficiency: most common cause of anemia worldwide.
2. Hemoglobinopathy, particularly immigrant children of African, southeast Asian, East Asian, Hispanic or Mediterranean ethnicities.
3. Vitamin D deficiency, particularly in those with growth delay, poor vitamin D intake or limited su exposure due to geography, veiling, or institutionalization.
4. Other micronutrients that may be deficient among immigrant children in resource-limited settings include Vitamin A, zinc, vitamin B12, iodine, vitamin B3, tryptophan, vitamin B1, or vitamin C.

Toxic and Environmental Exposures:

1. Lead poisoning

Mental Health Screening:

Mental health merits particular attention in immigrant populations. Stressful experiences may take place prior to departing from one's country of origin, during transit or upon arrival to the United States. Sensitive and trauma-informed approaches to care are essential.
In addition, immigrant children and families may experience discrimination and fear within the United States, and acculturation may place stress upon children, adolescents, and families.

- The questionnaire can be easily formatted into a SMART phrase option on the Epic system of the pediatrics' academic practice. Residents and faculty will be able to incorporate the questionnaire into their interaction with new immigrant patients in the clinic,facilitating care for this particular demographic with an easily accessible, patient-centered, and evidence-based guidelines.

DISCUSSION / CONCLUSION

This screening will serve to inform providers of unique challenges faced by immigrant children that may have health implications and support can be provided accordingly. The questionnaire should be implemented into the initial intake of every immigrant patient in the pediatric academic practice. Communication, continuity of care and confidence were identified as the three main factors influencing migrant and refugee health care delivery in high income countries. Communication has been recognized as the key starting point allowing to build-up confidence between the health care provider and the patient.[3] The desired outcome is that not only will the screening provide tailored guidance during the patient's initial visit but hopefully will also serve as an invitation for further conversation during continuity of care.

REFERENCES / ACKNOWLEDGEMENTS

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- **Ref 2:** American Academy of Pediatrics' Immigrant Health Toolkit
- **Ref 3:** A systematic literature review of reported challenges in health care delivery to migrants and refugees in high-income countries - the 3C model. *BMC Public Health* **19**, 755 (2019). https://doi.org/10.1186/s12889-019-7049-x

Provider Barriers to Childhood Domestic Violence Screening

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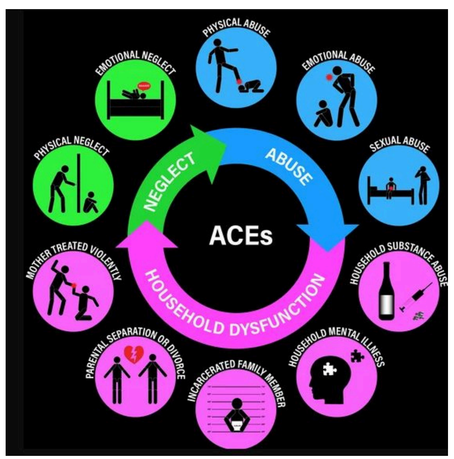
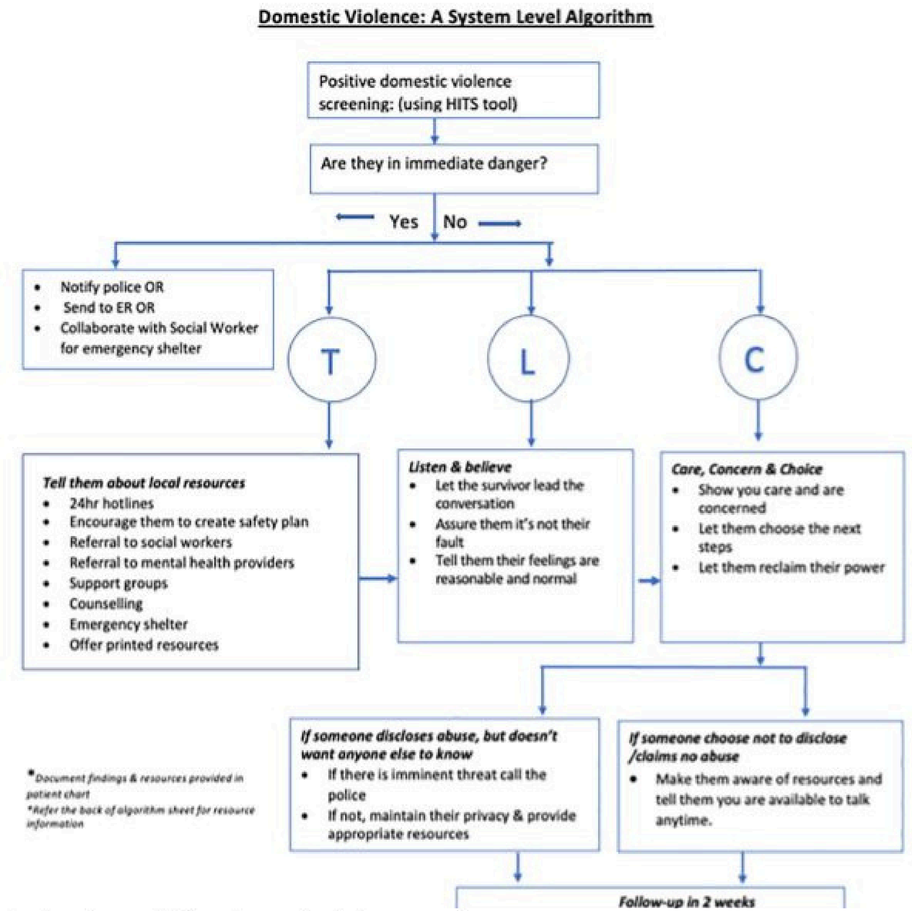
BACKGROUND

- Adverse Childhood Experiences (ACEs) can have profound effects on individuals well into adulthood, influencing their physical and mental health outcomes.
  - These experiences, such as abuse, neglect, or household dysfunction, can increase the risk of chronic diseases, mental health disorders, and even premature mortality.
  - Recognizing ACEs is critical for physicians as they provide crucial insight into a patient's health risks and inform tailored interventions to mitigate long-term consequences, promoting overall well-being.



- Our goal is to establish a comprehensive domestic violence screening program here at HUMC that serves as a centralized hub of resources tailored to the unique needs of adolescents.

INTERVENTION DESIGN & EXPECTED IMPACT



Appendix A. Provider/Staff Barriers to Childhood Domestic Violence Screening Survey:

For the following statements, please select the response that best describes how you feel about the following statements. 1= Strongly disagree, 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

1. Childhood domestic violence (CDV) is prevalent in the population that I serve.
2. I feel comfortable screening adolescents for Childhood domestic violence (CDV).
3. I have adequate time to screen adolescents for Childhood domestic violence (CDV).
4. I am comfortable with responding to a positive screening of Childhood domestic violence (CDV) in my practice.
5. I am aware of the resources for referral for positive screenings of Childhood domestic violence (CDV) in my practice.
6. There are an adequate amount of mental health resources in my practice to respond to positive Childhood domestic violence (CDV) screenings.
7. I am aware of the current screening protocol(s) for Childhood domestic violence (CDV) in my practice.
8. Our current protocol for Childhood domestic violence (CDV) screening is effective.
9. Our current follow-up for Childhood domestic violence (CDV) is effective.

DISCUSSION / CONCLUSION

- This tool is designed to enhance the early recognition of domestic violence situations, ensuring timely intervention and the provision of essential resources for patients who may lack the means to vocalize their distress.
- Through this initiative, we aspire to not only bridge the existing gaps in the healthcare system but also to empower healthcare professionals with the tools and resources needed to identify, address, and support individuals of all backgrounds grappling with the silent burden of domestic violence.
- Our commitment to this project is rooted in the belief that every individual, regardless of their background, deserves the opportunity to break free from the shackles of abuse and embark on a path towards healing and resilience.

REFERENCES / ACKNOWLEDGEMENTS

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