

2022 AIM CONFERENCE STUDENT ABSTRACT SUBMISSIONS: COMMUNITY HEALTH

Student Experiences with Telehealth in the student-run Brooklyn Free Clinic

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Purpose of Research: The Brooklyn Free Clinic (BFC), a student-run clinic at the SUNY Downstate College of Medicine has been a sustained model for community-engagement for over 10 years. The BFC delivers high-quality care to a medically underserved community in Central Brooklyn while providing students with unique experiences in advocacy, service learning, peer-mentorship, in community health, and in partnering with community-based organizations. During the COVID-19 pandemic, the BFC transitioned to telehealth. The objective of this study is to examine students' experiences with transitioning to telehealth.

Overview of Methods: This was a mixed method study using 261 medical student survey responses on their experiences and 11 qualitative interviews conducted via Zoom. RedCap was used to collect patient visit data. Open Coding was used to analyze qualitative data.

Results: During this period, the BFC had 208 telehealth visits and 471 in-person visits. When comparing students' experiences with in-person and telehealth visits, both settings received high ratings, both provided opportunities to improve clinical skills and medical knowledge, enhanced student comfort with practicing clinical skills, and were associated with positive feedback on peer-mentorship. However, in-person visits received slightly higher positive responses compared to telehealth visits. Emerging themes revealed telehealth had more reported barriers to providing certain types of care and organizational challenges.

Conclusion: The adoption of telehealth is critical to increasing access to care especially, for medically underserved communities who receive care in a free-clinic setting. As telehealth continues to expand, understanding student perspectives will be important in developing telehealth curricula in medical education.

Associations between Enroller Demographics and Subject Enrollment into a
Randomized Cancer Prevention Trial
Ivana Baldie, MS1, SUNY Downstate College of Medicine

Research Question: To what extent is enrollment into cancer-related randomized trials dependent on demographic similarities between patient and enroller?

Research Group: David Adler and Beau Abar's UPMC Emergency Department Cancer Screening Research Program

Abstract: Representativeness in clinical trials is essential to ensuring generalizability of findings, particularly in universal interventions aimed at limiting disparities in care and outcomes, such that efforts to ensure inclusive enrollment must be taken. We sought to investigate this issue by examining associations between patient and subject demographics, as well as the impact of concordant demographic characteristics on enrollment into a randomized trial of an intervention to promote cervical cancer screening among emergency department patients. Data comes from shift charts compiled by Emergency Department Research Associates (EDRAs) while enrolling patients into Dr. David Adler's ongoing RO1 cervical cancer screening study ($n = 4,419$ encounters; 2,450 White subjects, 1,334 Black subjects; 74 Asian subjects). Rates of enrollment into the trials were similar across EDRA gender (47% when EDRA was a woman; 48% when EDRA was a man), though rates of enrollment were highest when EDRA was White; 50% vs. 44–46%, $p = 0.021$). Asian EDRAs demonstrated lower enrollment rates for White subjects than White or Black EDRAs ($p = 0.027$), while no differences were observed across other EDRA/subject races.

**Traumatic Brain Injury Disparities in American Indian and Alaska Native Communities:
A Systematic Review Abstract
Mason Blacker, MS2, Neurosurgery, NYU Langone**

Background: American Indians and Alaska Natives (AIANs) experience significant disparities in traumatic brain injury (TBI) compared to all other racial/ethnic groups in the United States. This systematic review aims to summarize these disparities, explore factors related to causation, and provide suggestions for improving future research.

Method: The systematic review was conducted following the PRISMA Protocol for Systematic Reviews. PubMed, Cochrane Library, and Library of Congress were searched for scientific articles that focused specifically on AIAN traumatic brain injury. 46 articles were retrieved and 16 met inclusion criteria.

Results: Findings revealed AIANs have the highest TBI related mortality in the United States. Assault (especially interpersonal violence), alcohol, and neuropsychiatric difficulties contribute significantly more to AIAN TBI than to any other group. AIAN TBI patients experience longer length of stay and increased inpatient costs. Additionally, they are less likely to be offered post-discharge resources, return to baseline functional status, and find meaningful employment after experiencing a TBI.

Conclusions: Significant disparities exist concerning TBI and AIAN populations. There is a paucity of AIAN TBI research despite the medical, social, and economic burden associated with this inequality. These findings highlight the need to enact policies that ensure equitable research to: (a) collaborate with tribal nations; (b) target and evaluate prevention programs specific to AIAN TBI causes; (c) uncover the reasons for treatment disparities; and (d) allocate appropriate post-TBI resources to underserved AIAN regions. Even a marginal decrease in TBI inequality may have a major impact on this traditionally marginalized group of people.

HIV to HCV: The Implications of Prophylactic Medicine
Blerim Cukovic. MS2, SUNY Downstate College of Medicine

Abstract: HIV pre-exposure prophylaxis (PrEP) has proven the concept that antiviral therapy can be used to prevent infection. This concept can be translated into other high risk-associated infections, such as HCV. Modern-day direct-acting antivirals (DAA) therapy have been able to cure all HCV genotype infections. However, the prevention of infection has not been successfully addressed. The iPrEx HIV PrEP study method provides an outline for which HCV PrEP (i.e. the pan-genotypic glecaprevir/pibrentasvir) can be used to prevent HCV infection.

Underrepresented minority high school students' knowledge, attitudes, and behaviors regarding the COVID19 pandemic and its vaccines:
A survey of participants in the Arthur Ashe Institute for Urban Health's afterschool health science pipeline program

Marco Diaz-Cordova, MS4, SUNY Downstate College of Medicine

Purpose: Investigate AAIUH HSA's Academy students' COVID-19 attitudes, knowledge, and behaviors (e.g., mask-wearing, the cause of COVID-19) to understand students' perspectives on the COVID-19 pandemic, by using a pre-survey, intervention, and post-survey.

Hypothesis: The intervention would result in an increase in students' more reliable and accurate knowledge, more positive attitudes towards the COVID-19 vaccination, and an increase in their safety practices for COVID-19 behaviors.

Method: Consent was sent to 180 – mostly parents of the Academy students and students over 18. The consent response rate was 29.9%. 98.2% responded to the pre-survey and, 72.7% also completed the post-survey, administered 6 weeks later. The interactive intervention was delivered via Kahoot's and was administered to over 120 students. A \$25 incentive was provided to students after completion of both pre- & post survey.

Results:

COVID-19 knowledge among the students who completed the post-survey:

- 65% show an increase in knowledge about COVID-19
- 50% showed no change in knowledge about the COVID-19 virus
- 45% showed an increase in knowledge about the COVID-19 vaccines

Intervention – of the students who evaluated the session:

- 95% would recommend that others receive the COVID-19 vaccine
- Over 50% agreed the intervention increased awareness about the safety behaviors related to COVID-19 and its vaccines.
- Over 50% would recommend this intervention to other students

Conclusion: In general, the intervention led to an increase in Academy students' more reliable and accurate knowledge, more positive attitudes towards the COVID19 vaccination requirements, and an increase in their safety practices for COVID9 behaviors.

How Does Inflammatory Bowel Disease Impact Outcomes and Costs of Care Following Primary 1- to 2-Level Lumbar Fusion for Degenerative Disc Disease?

Faisal Elali, SUNY Downstate College of Medicine

Purpose: The purpose of this study was to determine whether IBD in patients with degenerative disc changes undergoing primary 1-2LF is associated with higher rates of: 1) in-hospital length of stay; 2) medical complications; 3) readmissions; and 4) costs of care.

Methods: A retrospective study using the PearlDiver database from the years 2010 to 2020 was performed to isolate IBD patients with degenerative disc disease undergoing primary 1-2LF. A 90-day surveillance period was used to measure length of hospital stay, rates of medical complications, rates of readmissions, and overall costs of care. Bonferroni adjustments were made and yielded an alpha value less than 0.001 as statistically significant. Finally, a p-value less than 0.05 was considered statistically significant.

Results Patients in the study group had significantly longer in-hospital lengths of stay (4- vs. 3-days, $p < 0.001$). Additionally, patients in the study group had significantly higher incidence and odds of developing post-operative medical complications within 90 days (42.3% vs. 25.7%; OR: 1.73, $p < 0.0001$). Also, study group patients had significantly higher readmission rates (11.32% vs. 9.44%; OR: 1.22, $p = 0.0007$). Finally, patients in the study group had significantly higher costs of care than their case-matched cohort (\$60,412.83 vs. \$59,331.94, $p < 0.0001$).

Conclusion: This study demonstrated that patients with IBD and degenerative disc disease are burdened with longer in-hospital lengths of stay, rates of post-operative medical complications, rates of readmission, and costs of care after undergoing primary 1-2LF.

**Characterization of the East Flatbush Population Experiencing Homelessness and
Street Outreach Efforts**
Alana Engelbrecht, MS4, SUNY Downstate College of Medicine

The Downstate Street Medicine Outreach Association (DSMOA) conducts outreach for unhoused individuals within the Flatbush community. During outreach, individuals experiencing homelessness were offered housing and medical resources, as well as toiletries, food, water, and clothing. A standardized protocol was developed to conduct and record outreach efforts. The purpose of this quality improvement initiative was to better understand the needs of unhoused individuals within the Flatbush community and how the DSMOA could improve its outreach efforts. The protocol is comprised of a template to record information from encounters regarding housing, employment, medical or non-medical needs, insurance, supplies offered, and demographics. Four outreach events were conducted, during which a total of 11 individuals were encountered. Their ages ranged from 58 to 72 years old, the mean age was 53.7 years, 90.1% were male, four resided in a shelter, three had no housing, and one lived in temporary housing. Only 22% of individuals declined supplies, one individual requested help establishing care with an in-network physician for non-acute medical complaints, and two individuals requested assistance with CityFHEPS. Although rare, barriers to outreach efforts included possible altered mental status and/or aggression (27.2%) and perceived lack of trust (18.2%). These results demonstrate that distributing supplies is well-received by the unhoused community. Providing further information on CityFHEPS and streamlining methods of findings in-network physicians accepting new patients might enhance outreach efforts. Future directions include implementing these improvements and obtaining a larger sample size to continue optimizing the impact of the DSMOA within the community.

Behavioral Weight Management Interventions for Hispanic Men in the United States

Hana Flaxman, MD(c), Weill Cornell Medical College

Obesity is a strong predictor of cardiovascular disease and has become increasingly common, especially among socioeconomically disadvantaged populations. Hispanic/Latino men in particular have the highest prevalence of obesity among ethnoracial groups, and yet have been consistently underrepresented in weight management interventions to-date. This systematic review aims to identify the extent to which weight management interventions have targeted Hispanic/Latino men, and to assess the quality and effectiveness of those interventions using an implementation science approach. On primary search, 2554 studies were retrieved and screened by four reviewers using Covidence software.

Title and abstract screening yielded 113 studies, and full text review yielded 15 publications detailing 10 interventions, the majority of which were published in the past 7 years. Notably, the majority of interventions (6/10) were pilot or feasibility studies, and the majority (8/10) were conducted in urban settings. Unique intervention strategies included involving family members to increase participant involvement, using all-male groups to reinforce community support, leveraging soccer to encourage activity, teaching healthy recipes, and incorporating technology to facilitate progress tracking. All interventions made use of education as well as social support. Strategies such as goal-setting, community involvement, resource provision, and financial incentives were used to strengthen participant engagement. Overall, these results highlight the lack of rigorously tested weight management interventions focused exclusively on the Hispanic/Latino male population, suggesting this field requires further research to test the effectiveness of these interventions in larger, randomized controlled trials.

HOME BASE PRIMARY CARE PROGRAM: ITS IMPACT ON PATIENTS AND THE COMMUNITY

Juanita Gomez, MD(c), Joya Ahmad, MD(c), SUNY Downstate College of Medicine

The USA population older than 65-year-old is expected to double by 2060. In addition, there has been a substantial increase in the homebound population, especially among minority groups. The Home-Based Primary Care Program (HBPC) at SUNY Downstate provides comprehensive primary care to vulnerable populations including elderly and homebound patients. Given the limited research on the effects of HBPC, the present study aims to capture patients' and their family members' experiences in the program. Additionally, the program's economic impact and cost efficacy for patients is also analyzed. To carry out the project, student researchers accompanied family medicine physician Dr. Crystal Marquez to carry out home visits and helped to formulate a Qualtrics survey that was administered to patients and their relatives over the phone. Based on their responses, 100% of patients reported having a home visit as a valuable experience and 95% expressed that home visits increased their trust in their doctor. In addition, 70% of patients reported that the program helped them reduce costs associated with transportation.

Similarly, 100% of patients did not feel the need to visit the Emergency Department since their last home visit. Given the limited data on HBPC programs, our ongoing study adds to the literature in presenting the experiences lived by patients and their family members and highlights HBPC's economic impact in areas such as transportation and ER visits associated costs. The present study highlights the importance of bringing structural support to the program and help to improve patient care for the community of Brooklyn.

HOME BASE PRIMARY CARE PROGRAM: ITS IMPACT ON PATIENTS AND THE COMMUNITY

Juanita Gomez, Joya Ahmad, Crystal Marquez MD

SUNY Downstate College of Medicine

Introduction

- By 2060, the USA population older than 65-years-old is expected to double
- There has been a substantial increase in the homebound population, especially among minority groups.

Home-Based Primary Care Program (HBPC) at SUNY Downstate:

- Established in January 2020
- Goal of providing comprehensive primary care to vulnerable populations (i.e. elderly & homebound patients)
- Improve medical training to residents and students.

Due to the limited research on the effects of HBPC, the present study aims to capture:

- Patients’ and their family members’ experiences in the program
- The program’s economic impact and cost efficacy for patients

Methods

- Patients and/or their families were contacted over the phone to learn about their experiences in the HBPC program.
- Prior to each conversation, the patients and/or their relatives were informed of the purpose of the study, the benefits and risks of their participation and the measures taken to protect their confidentiality.
- A Qualtrics survey was created and provided to patients and their family members.
- Questions were adapted from a survey in “Incorporating Home Visits in a Primary Care Residency Clinic: The Patient and Physician Experience.”
- The survey contained questions about patients’ experiences, including the economic impact the program has had on their families.
- The phone calls were administered through Doximity to ensure HIPAA compliance.

Key Findings and Themes

- 95% participants reported the highest (4) interest in having a home visit (HV) in the future (Chart 1)
- 100% participants reported HVs as valuable experiences
- 100% stated that they would recommend the program to family and friends
- 95% reported that HVs increased their trust in their doctor (Chart 2)
- Major benefit of HBPC is the opportunity for the patient to receive quality care without having to travel to a hospital.
- The HBPC program provides preventative and potentially lifesaving measures that can only be applied when a physician visits patient’s homes including reading medication labels, assessing socioeconomic stressors and home safety

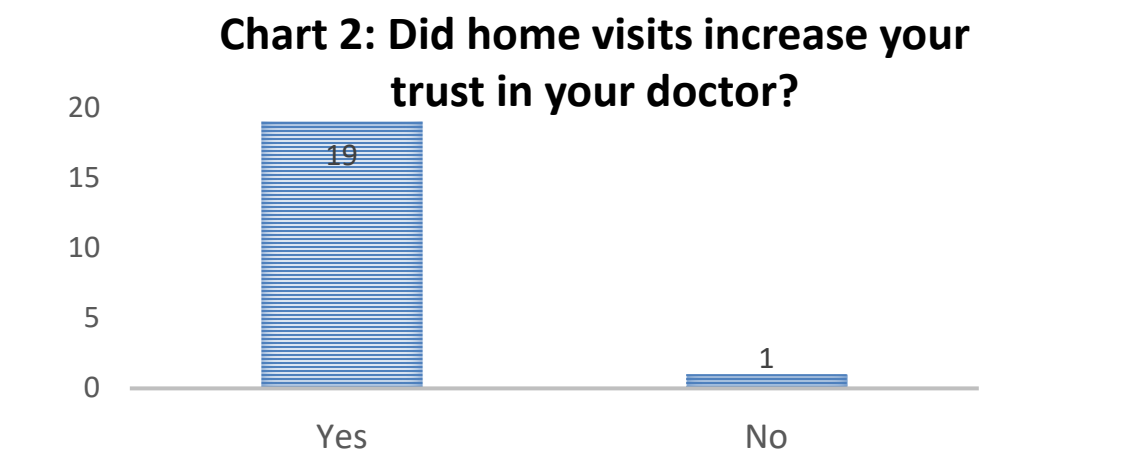
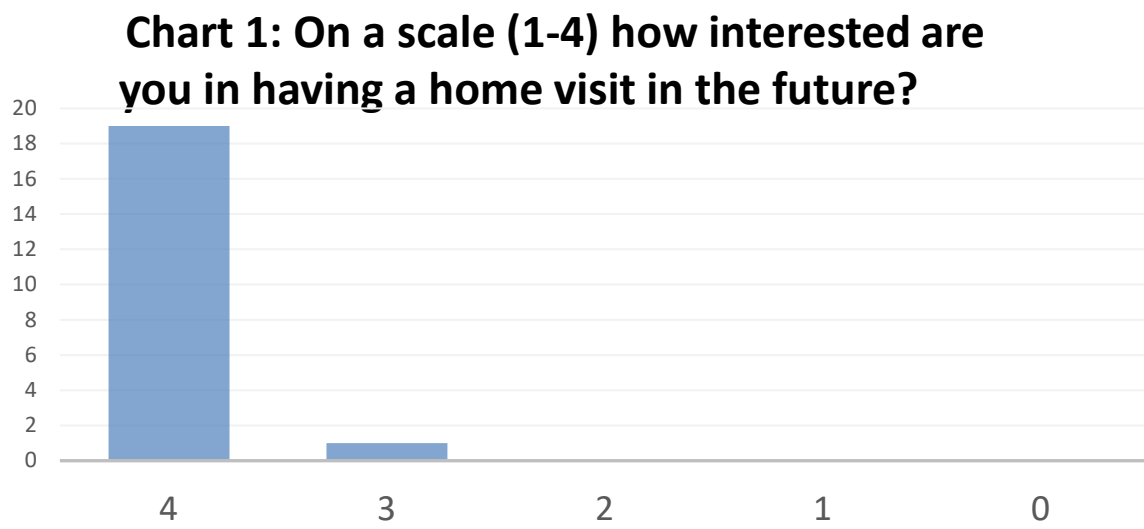


Table 1. Themes Based on Patient Survey

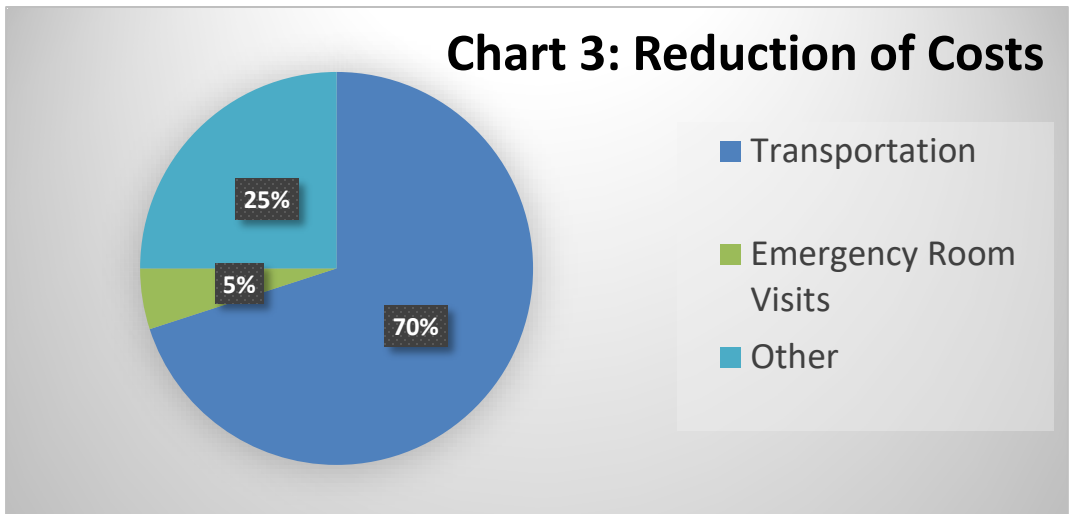
Themes based on Patients’ Experiences	Quotes
Support for family members	“Makes our lives much easier without having to travel to the doctor’s office” “This program has been very good because we don’t have the stress to figure out how to get her to the hospital. Sometimes nobody is at home to get there, and she cannot be taken to the hospital since she is very homebound”
Safety during the COVID-19 pandemic	"it has helped because being afraid of covid we don't have go to outside and be around people, so it has helped a lot"
Comfort for elderly patients	“Tremendous positive impact - relieves the stress of travel” “It is good when the doctor comes, it is much easier for me than going out”
Appreciation	" I like when Dr. Marquez comes to see me. I don't go outside. I can't take the stairs because I have to use a walker" “I recommend this program to everyone! I recommend Dr. Crystal to everyone I know in my building! I love her.”
Improvement: communication access	“Have better access to the doctor, sometimes when they call it is hard to get a hold of her”
Improvement: increased access to other services	Patients reported that the program should include additional services such as mobile x rays

Table 2 Important factors for deciding to participate in home visits in the future on a scale of 1-4

Factors	Mean
Pace of the visit	3.7
Good for my medical care	3.9
Improve my doctor’s understanding of my environment	3.9
Better address my goals of medical care	3.9
Strengthen my relationship with my doctor	3.9

Patients Economic Benefits of HBPC

- 70% patients reported that HBPC helped them reduce transportation costs.
- With clinic visits, patients often had to request bigger vehicles for transportation that often charged a higher rate.
- Often, patients needed more than one person to help them out of their home and into/out of a vehicle.
- It was difficult to coordinate specific time of services.
- 4 patients had been to the emergency room (ER) since starting HBPC
- The length of time as inpatients in the hospital was approximately 2 weeks for the patients combined.
- This further supports the efficacy of HBPC programs in lowering medical costs associated with preventable emergency room visits and unnecessary hospitalization rates.**
- 100% patients did not feel the need to visit the ER since their last HV.
- None of the patients had visited the ER since their last HV
- Overall, the HBPC program helps to connect patients with physicians and students. Also, helps patients navigate insurance policies to be able to increase their home health aide support and access to medical supplies**



Included in the “Other” category: Description of transportation reduction and assistance with obtaining Medicaid

Areas of Improvement

- Increased access to the physician in between home visits.
- Improved access to other home services such as physical therapy and mobile testing tools such as portable X-ray systems.
- Gather economic and structural support to create an interdisciplinary team.

References:

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Comparison of Patient Demographics and Risks of Readmissions Following Open Reduction and Internal Fixation for Bimalleolar Ankle Fractures

Julian Hylton, Maimonides Orthopedic Research Experience

Purpose: Compare patient demographics and Identify risk factors regarding 90-day readmissions following ORIF for bimalleolar ankle fractures.

Materials and methods: This was a retrospective analysis that used hospital information from January 1st, 2010, to October 31st, 2020. Cohorts were identified by using syntax-based language with respect to International Classification of Disease, Ninth Revision (ICD-9), ICD-10, Current Procedural Terminology (CPT), and other diagnostic and procedural codes. The three research domains utilized in this investigation were baseline demographic profiles of patients who were and were not readmitted within 90-days following ORIF of bimalleolar ankle fractures, assessing annual trends of readmissions, and identifying patient-related risk factors associated with hospital readmissions. Demographics of age, sex, and prevalence of comorbid conditions were assessed using Pearson's Chi-Square Analyses or Fischer's Exact Test. Linear regression analyses were used to determine the annual trends of readmissions and an alpha value less than 0.001 was statistically significant. A multivariate regression model was constructed to calculate the odds ratios (OR) of readmissions following ORIF for these ankle fractures.

Results: Two patient demographics yielded the highest readmission rates. The 70–74- year-old age group and women. Women were readmitted 68.47% of the time compared to men at 31.52%. The 70–74-year-old population was readmitted 17.35% of the time. According to the Odds Ratio (OR) and p-values ($p < 0.0001$) the top three conditions in readmitted patients were Coagulopathy (OR 1.46%), Pathologic Weight Loss (OR 1.43%), and Congestive Heart Failure (OR 1.32%).

Conclusion: This study is important because it outlines comorbidities significantly associated with increased readmission rates following ORIF for bimalleolar ankle fractures.

A Matched-Control Study on the Impact of Depressive Disorders Following Lumbar Fusion for Adult Spinal Deformity: An Analysis of a Nationwide Administrative Database
Zaneb Jamil, MS2, SUNY Downstate Health Sciences University

Introduction: In recent years, depression rates have been rising, exacerbating mental health issues globally. Despite this increase, there is paucity in literature about the impact of depression on commonly performed orthopaedic procedures. Thus, the purpose of this study is to investigate whether patients with depressive disorders undergoing lumbar fusion have higher rates of (1) in-hospital lengths of stay (LOs); (2) ninety-day medical complications; and (3) costs of care.

Methods: A retrospective study was performed using a nationwide administrative claims database from January 2007 to December 2015 for patients undergoing lumbar fusion. Participants with depressive disorders were selected and matched to controls by adjusting for sex, age, and comorbidities. The query yielded 3706 patients: 1286 patients with depressive disorders and 2420 controls. Pearson's chi-square, logistic regressions, and Mann-Whitney *U* tests were used for data analyses. A *p*-value less than 0.003 was considered statistically significant.

Results: The study revealed that patients with depressive disorders had significantly higher in-hospital LOs (6.00 days vs 5.00 days, $p < 0.0001$). Study group patients also had higher incidence and odds of ninety-day medical complications (10.22% vs 5.04%; OR, 2.50; 95% CI, 2.16-2.89; $p < .0001$). Moreover, study group patients faced higher episode of care costs (\$54,539.24 vs \$51,645.19, $p < 0.0001$).

Conclusion: This study illustrated that despite controlling for factors such as sex, age, and comorbidities, patients with depressive disorders had higher rates of in-hospital LOs, medical complications, and costs of care. Thus, this study can aid orthopedists to better treat and inform vulnerable patient populations.

Introduction

- The soaring rates of depression worldwide have led to an urgent need for well-powered studies evaluating the association of depressive disorders on orthopaedic outcomes.
- According to prior studies, the rates of postoperative complications and adverse effects significantly increase amongst patients undergoing spine surgery if they have preoperative depression.
- The purpose of this study was to utilize a nationwide administrative claims database to determine the impact of depressive disorders on patients undergoing lumbar fusion for adult spinal deformity. Specifically, this study evaluated whether depressive disorder patients have higher rates of:
 - 1) in-hospital length of stay (LOS)
 - 2) medical complications
 - 3) costs of care

Materials and Methods

- A retrospective level III query of the Humana administrative claims database was performed from January 1st, 2007 to December 31st, 2015 from the PearlDiver supercomputer.
- Patients with depressive disorder undergoing lumbar fusion were identified using ICD-9 codes and matched to a cohort by age, sex, and various medical comorbidities. Patients without depressive disorder served as controls.
- The query yielded a total of 3,706 study group patients (depressive disorders; n = 1,286) and matching control cohort (n = 2,420).
- Dependent variables analyzed within the study included:
 - In-hospital LOS
 - 90-day medical complications
 - Total global 90-day episode of care (EOC) costs.

Statistical Analyses

- Pearson’s chi-square test and multivariate logistic regression analyses were used to calculate the odds-ratios (ORs) and 95% confidence intervals (95% CIs) for 90-day medical complications.
- Mann-Whitney-U test was used to compare LOS and costs. P-values less than 0.003 were considered statistically significant.

	Depressive Disorder		Controls		
Demographics	n	%	n	%	p-value [‡]
Age (Years)					0.99
30 - 34	*	N/A	*	N/A	
35 - 39	*	N/A	*	N/A	
40 - 44	11	0.86	19	0.79	
45 - 49	22	1.71	35	1.45	
50 - 54	53	4.12	90	3.72	
55 - 59	115	8.94	201	8.31	
60 - 64	156	12.13	288	11.90	
65 - 69	427	33.20	830	34.30	
70 - 74	280	21.77	539	22.27	
75 - 79	153	11.90	298	12.31	
80 - 84	42	3.27	79	3.26	
85 - 89	*	N/A	*	N/A	
90+	*	N/A	*	N/A	
Sex					0.88
Female	810	62.99	1,532	63.31	
Male	476	37.01	888	36.69	
Comorbidities					
EtOH Disorder	43	3.34	68	2.82	0.42
COPD	13	1.01	14	0.58	0.21
Diabetes Mellitus	606	47.12	1,139	47.07	0.99
GAD	89	6.92	139	5.74	0.18
Hyperlipidemia	1,039	80.79	1,969	81.36	0.69
Hypertension	1,203	93.55	2,271	93.84	0.78
Obesity	210	16.33	375	15.50	0.51
Tobacco	264	20.53	454	18.76	0.21

Table 1. Demographic Profile of Patients With and Without Depressive Disorders Undergoing Lumbar Fusion for Adult Spinal Deformity.

Medical Complications Assessed	DD (%)	Controls (%)	OR	95%CI	p-value*
Respiratory Failures	15.71	9.11	2.33	1.82 – 2.99	<0.0001
Myocardial Infarctions	4.01	1.99	2.24	1.38 – 3.66	0.0001
Cerebrovascular Accidents	12.91	5.42	2.23	1.63 – 3.06	<0.0001
Urinary Tract Infections	34.90	17.14	2.20	1.80 – 2.68	<0.0001
Venous Thromboembolism	8.20	3.54	2.12	1.57 – 2.87	<0.0001
Pneumonia	10.99	4.67	2.10	1.53 – 2.89	<0.0001
Pulmonary Emboli	3.49	1.27	2.07	1.30 – 3.31	0.002
Deep Vein Thromboses	5.93	3.00	2.04	1.46 – 2.87	<0.0001
Acute Renal Failure	12.22	6.33	1.85	1.37 – 2.51	<0.0001
Infection	9.60	4.23	1.79	1.35 – 2.39	<0.0001
Ileus	5.76	3.44	1.75	1.17 – 2.60	0.005
Neurological	6.81	3.62	1.63	1.18 – 2.26	0.002
Dural Tear	2.44	1.81	1.36	0.81 – 2.25	0.232
Mean Medical Complications	10.22	5.04	2.50	2.16 – 2.89	<0.0001

Table 2. Comparison of Ninety-Day Medical Complications Amongst Depressive Disorder Patients and Matched-Controls Undergoing Lumbar Fusion

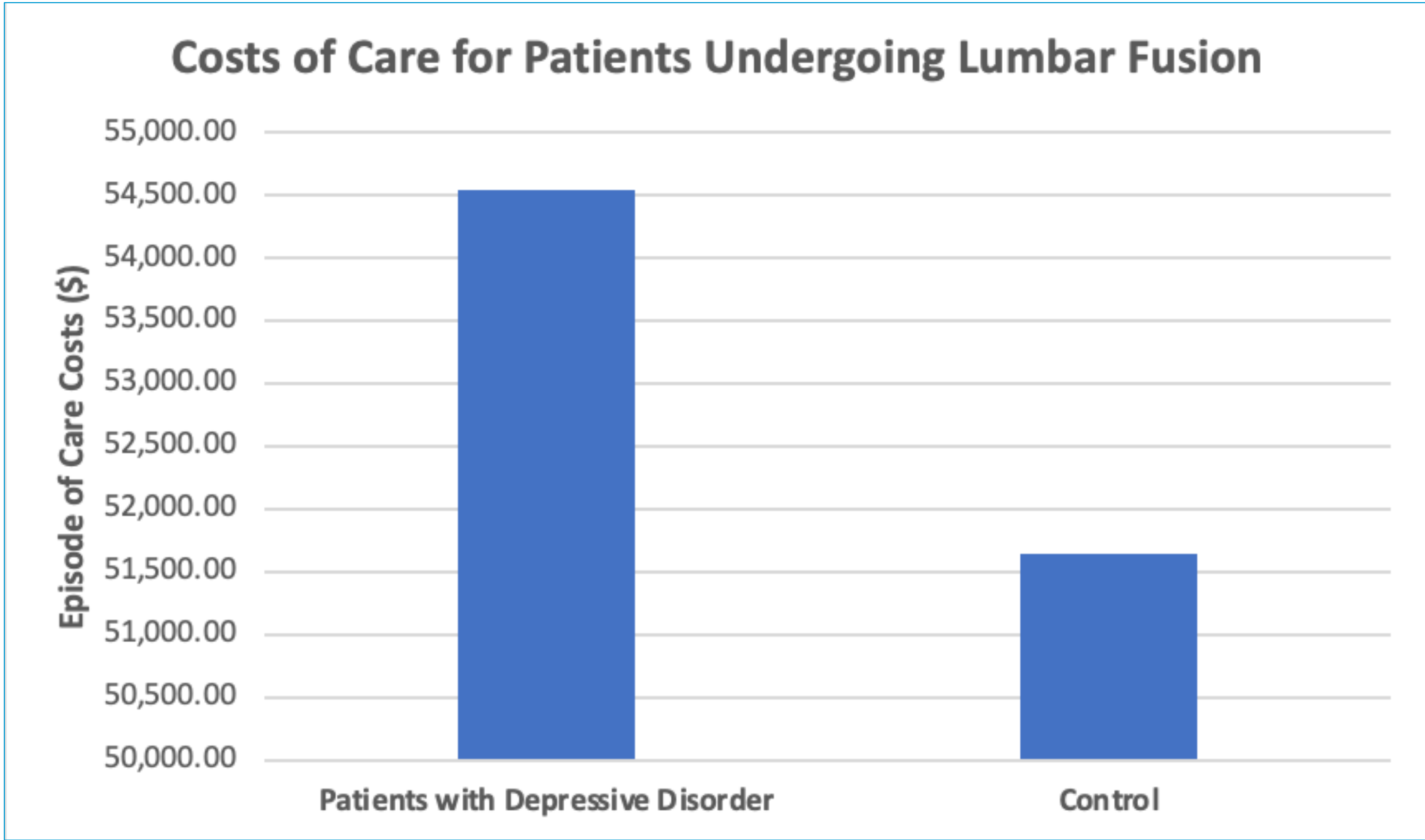


Figure 1. Comparison of Episode of Care Costs Between Patients with Depressive Disorders and Matched Controls

Results

In-Hospital Lengths of Stay

- Study group patients were found to have significantly longer in-hospital LOS (6 vs. 5 days, $p<0.0001$) compared to their matched counterparts.

90-Day Medical Complications

- Study patients with depressive disorders undergoing lumbar fusion were found to have significantly higher frequency and odds of developing medical complications within 90 days following the index procedure (10.22% vs. 5.04%; OR: 2.50, 95%CI: 2.16 to 2.89, $p<0.0001$) such as respiratory failure (15.71% vs. 9.11%; OR: 2.33, 95%CI: 1.82 to 2.99, $p<0.0001$), myocardial infarction (4.01% vs. 1.99%; OR 2.24, 95%CI: 1.38 to 3.66, $p=0.0001$), cerebrovascular accidents (12.91% vs. 5.42%; OR 2.23, 95%CI: 1.63 to 3.06, $p<0.0001$), and other complications (Table 2).

Costs of Care

- Patients with depressive disorders incurred significantly higher ninety-day episode of care costs (\$54,539.24 vs. \$51,645.19, $p<0.0001$) (Figure 1).

Conclusion

- A retrospective study was performed to determine the impact of depressive disorders on patients undergoing lumbar fusion by assessing a large administrative claims database.
- Depressive disorder was found to be associated with with higher rates of hospital stays, ninety-day medical complications, and costs of care for patients undergoing lumbar fusion.
- Futures studies are required to assess the mechanism through which depressive disorders may contribute to medical and implant related complications
- This study can aid orthopaedic surgeons to better treat and inform vulnerable patient populations in order to avoid potential adverse effects after surgery.

BIOMARKERS OF LUNG ALVEOLARIZATION AND MICROVASCULAR MATURATION IN RESPONSE TO INTERMITTENT HYPOXIA AND/OR EARLY ANTIOXIDANT/FISH OIL SUPPLEMENTATION IN NEONATAL RATS

Matthew Marcelino, MD(c), SUNY Downstate Medical College

13.7% of all births in the community of East Flatbush are pre-term births, the highest rate in NYC. Amongst the greatest challenges in these preterm infants is intermittent hypoxia (IH) during oxygen therapy. IH causes excess reactive oxygen species (ROS), which, due to immaturity of antioxidant systems, accumulation of harmful ROS causes significant damage to the lungs, curtailing important signaling pathways that regulate lung alveolarization (matrix metalloproteinases, MMPs) and microvascular maturation (vascular endothelial growth factor, VEGF).

We hypothesized that supplementation with fish oil and/or antioxidants improves lung biomarkers associated with lung alveolarization and microvascular maturation in neonatal rats.

Newborn rats were exposed to neonatal IH birth (P0) consisting of 50% O₂ with brief hypoxia (12% O₂) until P14, during which they received daily oral supplementation with: 1) fish oil; 2) Coenzyme Q10 (CoQ10) in olive oil; 3) glutathione nanoparticles (nGSH); 4) fish oil+CoQ10; or 5) olive oil. At P14, pups exposed to neonatal IH were placed in RA until P21 with no further treatment. Control littermates remained in RA from birth to P21. Lungs were assessed for growth, histopathology, apoptosis, and malondialdehyde (MDA), MMPs, tissue inhibitors of metalloproteinases (TIMPs), hypoxia inducible factor (HIF)1 α , VEGF and its receptors, using enzyme-linked immunoassay (ELISA), immunohistochemistry (IHC), and Western blots.

Neonatal IH was deleterious to lung weights and caused severe histopathological outcomes, effects prevented with nGSH and fish oil+CoQ10 co-treatment. nGSH was protective against apoptosis and CoQ10 prevented ROS production. nGSH and fish oil+CoQ10 co-treatment were associated with improved lung architecture, and microvascular maturation.

Impact of participation in a student-run wound care clinic for people who inject drugs on medical student attitudes and biases
Sam McGowen, MD(c), Weill Cornell Medical College

This study aims to assess medical student attitudes towards individuals with substance use disorders (SUD) and knowledge of SUD before and after participation in a wound care clinic for people who inject drugs. Beginning September 2022, Weill Cornell medical students can volunteer as junior clinicians at a new student-run, free clinic for people who inject drugs. Junior clinicians will assist attending physicians providing wound care services and gain exposure to treatment methods and basic harm reduction principles. The clinic experience will be accompanied by an online lecture series on substance use-related topics. Volunteer clinicians will be surveyed pre- and post-participation in the wound care clinic. The pre-participation survey will be administered to the entire entering class of 2026 (N = 106), while the post-participation survey will be administered at 3 months and 6 months post-completion of the online elective course. Surveys consist of modified questions from the Medical Condition Regard Scale, a validated method of assessing attitudes and biases. Based on previous years' SUD elective enrollment, we expect 50 students to take part in the educational curriculum and 25 students to volunteer as junior clinicians. Survey results for junior clinicians will be compared against a) a control group of students who have neither volunteered nor taken the elective course and b) students who only took the elective course.

As results are forthcoming, we hypothesize that participation will contribute to an overall reduction in stigma and improvement in SUD knowledge, most prominently for students who volunteer as clinicians.

Introduction

- Injection drug use is a public health crisis. In 2020 through April 2021, opioid injection alone caused 67,367 deaths across the United States and 1,043 deaths in New York City¹⁻³.
- Barriers to care for substance use disorders (SUD) include homelessness, poverty, and stigma from the general public and medical providers.
- Previous research shows that providers have more negative attitudes towards patients with SUDs than almost any other health condition⁴.
- Evidence shows increasing formal medical education in addiction medicine can decrease negative attitudes, but the durability of this effect is unclear⁵.
- There are relatively few studies that investigate interventions to reduce negative attitudes in this population.
- Some success has been demonstrated with educational modules, which are based on the hypothesis that these attitudes are due to a lack of formal training in SUD⁵⁻⁷.
- We propose to create a student-run clinic for PWID and online education course in SUD topics, which will both serve to fill a local healthcare gap and provide robust education in addiction medicine, empowering medical students to be empathetic addiction competent physicians.

Objective

- The primary objective is to improve medical student attitudes towards caring for patients with substance use disorders.
- The secondary objective is to evaluate medical student attitudes toward individuals with substance use disorders and knowledge about addiction following clinic experience and course requirements.

Methods

- Interventional design and survey based quantitative approach whereby medical students will be surveyed pre- and post-participation in a student-run free clinic for people who inject drugs accompanied by an online education course.
- One questionnaire will be distributed for completion just prior to the experience, then 3 months and 6 months post the experience.
- Clinic experience time will vary. Attending providers will work with students to provide clinical assessment of outpatients who inject drugs and have various substance use disorders. Wound care services will be performed, and the clinic will provide basic harm reduction services such as Narcan training and counseling.

Table 1. Schedule of trial events

	Pre-study	Timepoint 1	Timepoint 2	Timepoint 3
Informed consent	X			
Demographics		X		
Questionnaire 1 (pre-clinic)		X		
Questionnaire 2 (at 3 months following clinic +/- course experience)			X	
Questionnaire 3 (at 6 months following clinic +/- course experience)				X

Impact of a student-run wound care clinic for people who inject drugs

Advocacy in Medicine Conference

Samuel McGowen Class of 2025 | October 10th, 2022

Methods - Continued

- The student-organized addiction course requires a minimum of 5 hours of lecture time and 2 hours of assignments. Activities include lectures from addiction experts, relevant readings, and reflective assignments.
- The changes in attitudes will be measured by the Medical Condition Regard Scale (MCRS). We will have a control group who have not volunteered or completed the educational curriculum. Another comparison group of students will have participated in either the course or clinic, but not both. Results be gathered by comparison of these groups on the MCRS.

Results

- Results of this study are pending as students will be completing the educational course and clinical experience over the upcoming year
- We hypothesize that participation in a student-run free clinic for people who inject drugs and student-organized online addiction course will improve medical student attitudes towards caring for patients with substance use disorders by providing opportunities for experiential and structured learning about substance use disorders. We hypothesize that the improvement in attitudes will likely contribute to an overall reduction in stigma. We hypothesize that the medical student's knowledge of SUD management will improve after participation.

Discussion

- Many physicians and trainees are not comfortable taking care of patients with SUD, undervalue evidence-based treatment, and harbor negative attitudes towards people with SUD. Physicians continue to view SUD as less important and more difficult than other diseases.
- Syringe exchange programs are an important resource for patients with SUD, providing testing and treatment for blood-borne diseases, social support, clean syringes, and overdose prevention materials and education.
- The results of this study will allow clinicians and researchers to better understand the efficacy of using educational courses and clinical experiences to improve the attitudes of medical students towards those with SUD, and better understand the longevity of the attitude change.
- With this project, we hope to fulfill a local healthcare gap and provide robust education in addiction medicine, enabling medical students to become physicians empowered to tackle the current injection drug public health crisis.

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Comparison of Baseline Demographics and Risk Factors for Aseptic Loosening Following Primary Total Elbow Arthroplasty

Harriet Prior, MS2, SUNY Downstate College of Medicine

Purpose: Aseptic loosening is a feared complication following primary total elbow arthroplasty (TEA), however, the literature assessing patient-related factors associated with this complication are limited. The aims of this investigation were to: 1) compare baseline demographics of patients who developed aseptic loosening following primary TEA; and 2) identify patient-specific risk factors for the development of loosening.

Materials and Methods: A retrospective analysis using a nationwide claims database was performed. Inclusion criteria for the study group consisted of all patients who underwent primary TEA and developed aseptic loosening within two years (n=307). Patients who did not develop loosening served as the comparison cohort (10,741). Baseline demographics were compared using Pearson's chi-square analyses. A multivariate regression model was used to determine the odds ratio (OR), 95% confidence interval (95%CI), and p-value of various risk factors. A p-value less than 0.05 was considered statistically significant.

Results: Demographic parameters associated with significantly increased prevalence of aseptic loosening included age (p=0.0001), sex (p=0.0251), and various comorbid conditions including obesity (15.96% vs. 8.36%, p<0.0001). Risk factors associated with the greatest risk of developing aseptic loosening were obesity (OR: 1.65, 95%CI: 1.18–2.28, p=0.002), male sex (OR: 1.51, 95%CI: 1.13–2.00, p=0.004), and opioid use disorder (OR: 1.58, 95%CI: 1.14–2.15, p=0.004). 0.009).

Conclusion: The study is the first to identify demographics and patient-related risk factors associated with aseptic loosening following primary TEA. This evidence provided can be applied to the clinical setting to both educate at-risk patients of this potential complication as well as potentially inform their clinical management

Relation Between Nocturia and Blood Pressure Elevation in Adolescents

Tasmia Promi, MD(c), SUNY Downstate College of Medicine

Obesity rates have risen in children, particularly in underserved areas. While weight gain is associated with rising blood pressure (BP), hypertension is often under diagnosed in adolescents, possibly because of age and height-based criteria. In adults, nocturia is strongly related to and proposed as a screening method for undiagnosed or uncontrolled hypertension. Although nocturia is common in children, the relationship between BP and nocturia hasn't been studied in the pediatric population. The objectives of this study were to determine the relation between BP elevation and nocturia in adolescents and to compare self-reported frequency to frequencies obtained by nocturnal voiding-diary. Patients 10-18 years of age were recruited from pediatric clinics at our institution. Demographic data were collected and BP was measured. Patients completed nocturnal voiding-diaries and were followed up by phone-call.

Univariate analyses and logistic regression with nocturia as the dependent variable were performed. Fifty patients completed data. While 8% were noted to have HTN, 32% had BP-elevation by office determination. Among 32%, 87.5% reported nocturia, whereas 20.6% of 68% with normal BPs had nocturia. 34% reported nocturia by history but diaries revealed prevalence of 46%. The odds of having elevated BP was 19.4x higher among subjects with nocturia than those without. Preliminary data suggest nocturia is common in adolescents and is strongly related to BP elevation in adolescents and prevalence of nocturia can be underestimated in the pediatric population. Study findings imply that history of nocturia can be an inexpensive method of identifying adolescents at higher risk of having hypertension.

Introduction

- Obesity rates have risen in children, particularly in underserved areas.
- While weight gain is associated with rising blood pressure (BP), hypertension is often under diagnosed in adolescents, possibly because of age and height-based criteria.
- In adults, nocturia is strongly related to and proposed as a screening method for undiagnosed or uncontrolled hypertension.
- Although nocturia is common in children, the relationship between BP and nocturia hasn't been studied in the pediatric population.

Purpose

- To determine the relation between BP elevation and nocturia in children/adolescents.
- To compare self reported nocturia frequency to actual frequencies obtained by a nocturnal voiding diary.

Methods

- Patients 10-18 years were recruited in the general, cardiology, and renal pediatric clinics at University Hospital of Brooklyn since 6/15/22.
- Demographic data (e.g., age, race, sex, BMI) was collected.
- BPs (systolic and diastolic) were measured.
 - Highest systolic and diastolic BPs were used after measuring both arms.
- Urinals and hats were provided along with standardized nocturnal voiding diary that lists time of urination times and volumes.
- Patients completed a nocturnal voiding diary and were contacted the following day for data collection
- Nocturia: ≥ 1 nocturnal voids (determined by voiding diary data)
- Statistical analyses was performed on all patients with complete data using univariate analysis and logistic regression to predict the dichotomous variable of nocturia.

Results

- 53 subjects were thus far recruited, of which 50 followed up with completed bladder diary
 - Median age: 13.46 years
 - 58% males, 42% females

Baseline Characteristics	Total Population (N=50)	Nocturia Present (Nighttime Voids >0) (N=23)	Nocturia Absent (Nighttime Voids = 0) (N=27)	p-value
Age (years) Mean (SD)	13.46 (2.34)	13.96 (2.65)	13.04 (1.99)	0.084
BMI (kg/cm ²) Mean (SD)	25.58 (7.16)	27.894 (8.20)	23.61 (5.58)	0.107
Race				
African American, n (%)	43 (86%)	18 (41.9 %)	25 (58.1%)	
Afro-Caribbean, n (%)	4 (8%)	3 (75%)	1 (25%)	
Hispanic, n (%)	2 (4%)	2 (100%)	0	
Other, n (%)	1 (2%)	0	1 (100%)	
Gender				
Male, n (%)	29 (58%)	9 (31%)	20 (69%)	
Female, n (%)	21 (42%)	11 (52.4%)	10 (47.6%)	
Normal Blood Pressure	34 (68%)	7 (20.6%)	27 (79.4%)	<0.001
Elevated Blood Pressure (Uncontrolled)	16 (32%)	14 (87.5%)	2 (12.5%)	
Pre-Hypertensive, n (%)	5 (10%)	5 (100%)	0	
Stage 1 Hypertensive, n (%)	8 (16%)	7 (87.5%)	1 (12.5%)	
Stage 2 Hypertensive, n (%)	3 (6%)	2 (66.7%)	1 (33.3%)	

Table 1. Baseline Characteristics of Pediatric Patients from ages 10-18.

- While 8% were noted to have HTN, 32% had BP-elevation by office determination. Among 32%, 87.5% reported nocturia, whereas 20.6% of 68% with normal BPs had nocturia
- By self-report, 34% endorsed ≥ 1 voids, 46% had nocturia by voiding diaries (1 void-34%, 2 voids-8%, 3 voids-4% and 4 voids-2%). Frequency by self-reported correlated strongly with voiding diary (r=.93, p<0.01).
- Trend towards right arm PP being an independent predictor of nocturia (p= 0.11).
- Nocturia was unrelated to left arm BPs and diastolic BPs from either arm as well as gender.
- Odds of having elevated BP was 19.4 times higher among subjects with nocturia than among those without (prior barbershop study of 35-49 year old men: OR 2.5x).

Conclusions

- Preliminary data suggest that nocturia is relatively common in adolescents and is strongly related to BP elevation in adolescents who have fewer confounding variables for nocturia such as BPH, bladder prolapse, chronic heart failure, and diabetes mellitus.
- The prevalence of nocturia may be underestimated in the pediatric population.
- Our data pose several significant clinical and public health implications:
 - The present study findings are consistent with prior studies that have established an association between nocturia and elevated BP.
 - A history of nocturia can be simple, inexpensive method of identifying adolescents at higher risk of having hypertension.
 - There is growing appreciation of the negative consequences of sleep disruption in adolescents, however nocturia has not been listed as a contributing factor.
 - Multidisciplinary collaborative efforts (cardiology, HTN, urology, and pediatrics) carry the potential for innovation and transformation of healthcare.

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Supporting Healing Inside and Out: Dermatologist-led skin and hair care empowerment for survivors of gender-based violence
Rachel Sally, MS4, NYU Grossman School of Medicine

The global burden of gender-based violence (GBV) is a significant public health concern. Many women with a history of trauma experience homelessness as they navigate recovery and encounter numerous barriers to accessing medical attention. Low self-esteem and persistent stress may decrease adoption of self-care routines. A common theme in healing from GBV is improving self-image and empowering health and self-care. Our group developed Skincare Empowerment and Education with Dermatologists (SEEDs) with the aim of promoting dermatologic knowledge in a vulnerable population, thus boosting their self-esteem and supporting their healing. Our partner was Womankind, an NYC-based organization serving survivors of GBV, particularly women of color. The SEEDs meeting was held in a private, nonclinical setting and hosted by people who identify as women to bolster feelings of safety. Twenty-four women attended. Educational topics presented by board-certified dermatologists included photoprotection in skin of color, vulvar dermatology, skin changes in pregnancy, acne, and alopecia. Product donations allowed participants to take home high-quality skincare kits. The goal of SEEDs was to promote wellness and self-care through skin and hair care understanding, and feedback from our attendees suggests outcomes in line with this. Many participants expressed that they would attend more events like this and felt it was a positive experience. We believe encouraging an open forum has an additional benefit of promoting medical engagement and trust. We hope to encourage others to pursue creative ways of connecting with their communities and working with underserved populations, especially women of color and survivors of gender-based violence.

Rutgers University NJMS Human Rights Initiative Asylum Clinic Operations Assessment
Kareena Sagar, MS2, Rutgers New Jersey Medical School

Background: The Human Rights Initiative (HRI) at Rutgers New Jersey Medical School (NJMS) was created in 2018 to provide asylum seekers with forensic evaluations and educate physicians on evaluating/documenting human rights abuses.

Objective: To better understand HRI's community impact, we examined client demographics and case outcomes. We also assessed our workflow and challenges with performing evaluations, aiming to improve our clinic.

Methods: 41 of 42 total referred cases from March 2020 until September 2022 were reviewed for demographic information and data on clinic operations. Results: Of the 41 clients, 26 (63%) were female and the average age for all cases was 35 years old. Most case applicants originated from Central America (51%) and South America (21%). Applicants were largely located in New York (75%) and New Jersey (22%). An interpreter was required in 74% of cases, with Spanish as the most frequently used language (77%). Most prevalent reasons for seeking asylum were political opinions, family or domestic violence, and gang violence. The average time from case referral to affidavit submission was 47 days. Reported outcomes of 14 cases include 6 that were granted asylum, 1 denied, and 7 pending.

Conclusions: The HRI Asylum Clinic has significantly broadened its community impact since inception by accepting a growing number of cases with a high success rate. Future areas of study include additional avenues to aid the community and identifying barriers for case acceptance.

Developing a Verbal Autopsy Program In Northwest Syria

Ahmad R. Saleh, MS4, SUNY Downstate College of Medicine

Background Health Information System (HIS)-Unit is a Syrian-led civil society organization operating from Gaziantep, Turkey in the Northwest Syria (NS) through collaboration with several health care facilities. Since NS is a conflict zone with no official vital registry data reported on mortality and cause of death (COD), YSPH is helping develop a Verbal Autopsy (VA) training program. Training Material Our team spent about a month developing training modules to provide a comprehensive understanding on the content and implementation of VA. We provided a multisession training series with the following components: VA Background and Surveys The first step in this project is survey choice. As of recently, there were two widely used surveys: WHO and PHMRC-Short. Both surveys are validated and provide accurate data on COD. However, both have advantages and disadvantages to be considered like the survey length of WHO and the absence of CoVID-19 questions in the PHMRC-Short survey. Interviewers and Supervisors Training Relying on multiple resources, we developed a full training document for both VA interviewers and supervisors. This document includes their roles and responsibilities, sensitivity training, possible challenges and solutions, and ethical training. Our training was designed to be delivered through both a theoretical and practical lens through several simulation activities. Technical Aspect In brief, mobile tablets will be used where surveys can be completed offline and uploaded to a server when online access becomes available. Aggregated data can then be downloaded and analyzed using software. The analysis provides detailed reporting on COD.

Analyzing the outcomes and success of a medical school student-run political asylum clinic and its implications on public health
Anuradha Shetty, MD(c), SUNY Downstate College of Medicine

Purpose of Research: Every year, thousands of human rights abuse victims flee their home countries for political asylum in the US. Traversing an unintuitive legal system, asylees often rely heavily on their own testimony, in which government attorneys may exploit minor inconsistencies and that judges often view skeptically. However, a forensic affidavit offers objective evidence of prior human rights abuses. Applicants denied asylum are deported or go underground in the US and thus are at high risk for poor health outcomes, abuse, and death.

Methods: Pro bono asylum clinics run by medical schools bridge the gap between asylees and forensic evaluations. We analyzed the content and outcomes of affidavits produced by the Downstate Asylum Clinic from 2007–2021.

Results: Of the 75 affidavits analyzed, 35 had a legal outcome; of these, 32 were granted asylum/WOR. This 91% success rate is nearly double the national rate of 46% during the same timeframe, illustrating that forensic evaluations substantially increase the likelihood of being granted asylum. The most prevalent reported trauma types were physical assault, threats of violence/death to oneself, and verbal/emotional abuse. Our biggest obstacle to providing evaluations was evaluator availability.

Conclusion: Medical student and resident participation in forensic asylum evaluations — including examining clients, note-taking, and drafting the affidavit — can save significant time for the evaluators, enabling them to take on more cases. Increasing the number of evaluations promotes public health, as those granted asylum remain in the US where they can access employment, live without fear for their safety, and have better access to healthcare.

Examining Mental Health Among the Asylum Seeker Population at New Jersey Asylum Clinic Muhammad Siddiqui, M2, Rutgers New Jersey Medical School

Asylum seekers are a community at much higher risk for suffering depression, anxiety, and post-traumatic stress disorder (PTSD). The American Psychiatric Association reports that nearly one in three asylum seekers and refugees endorse these symptoms. In this study, we examine the causes of trauma and prevalence of PTSD and major depression among the asylum seeker population that presented to the Rutgers New Jersey Medical School (NJMS) Asylum Clinic between March 2020 and August 2022. Two validated assessments for PTSD and depression were employed during psychological evaluations at the clinic, the Harvard Trauma Questionnaire-5 (HTQ-5) and the Hopkins Symptom Checklist-25 (HSCL-25).

From 24 records reviewed, 20 scores for the HTQ-5 and HSCL-25 scales were collected. More than half of our clients met the criteria for PTSD, while 85% met the criteria for major depression in need of treatment. Reasons for seeking asylum most frequently included fleeing domestic violence, gang violence, and religious persecution. No single cause for seeking asylum was predictive of significantly higher or lower scores on either scale. We wanted to better understand those presenting at the NJMS Asylum Clinic. As the number of asylum seekers grows, these results suggest that there is a strong need for trauma-informed care and efforts to connect patients with long-term mental health support to best meet their needs.

Improving Colorectal Cancer Screening Rates at the Brownsville Multi-Service Family Health Centers

Abhayvir Singh, MS2, SUNY Downstate College of Medicine

Abstract Colorectal cancer is among the leading causes of premature deaths in Brownsville, Brooklyn and residents die at a disproportionately higher rate compared to the rest of NYC. The Brownsville Multi-Service Family Health Center (BMS) is a Federally Qualified Health Center (FQHC) with 5 clinical sites located throughout the community, providing primary and specialty care services for uninsured and underinsured people. The colorectal cancer screening rate at BMS for 2021 was 51.7%, while the national average among the FQHCs was 41.9%. The purpose of this performance improvement project was to follow-up with patients in order to improve screening rates throughout BMS clinic sites. Data from patient conversations was used to explore reasons for nonadherence with screening recommendations.

Analysis of patient follow-up revealed the primary reasons for nonadherence with colorectal cancer screening include lack of understanding of screening process, missed clinician referral, workflow errors, and fear over colonoscopy procedure. Proposed solutions to increase screening rates apply multicomponent interventions that recognize the role of city, state, national policies to ensure accessibility of preventative care to all adults. A comprehensive approach can save lives and improve prognosis of a disease that disproportionately affects Brownsville residents.



Improving Colorectal Cancer Screening Rates at the Brownsville Multi-Service Family Health Centers

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Abstract

Colorectal cancer is among the leading causes of premature deaths in Brownsville, Brooklyn and residents die at a disproportionately higher rate compared to the rest of NYC. The Brownsville Multi-Service Family Health Center (BMS) is a Federally Qualified Health Center (FQHC) with 5 clinical sites located throughout the community, providing primary and specialty care services for uninsured and underinsured people. The colorectal cancer screening rate at BMS for 2021 was 51.7%, while the national average among the FQHCs was 41.9%. The purpose of this performance improvement project was to follow-up with patients in order to improve screening rates throughout BMS clinic sites. Data from patient conversations was used to explore reasons for nonadherence with screening recommendations. Analysis of patient follow-up revealed the primary reasons for nonadherence with colorectal cancer screening include lack of understanding of screening process, missed clinician referral, workflow errors, and fear over colonoscopy procedure. Proposed solutions to increase screening rates apply multicomponent interventions that recognize the role of city, state, national policies to ensure accessibility of preventative care to all adults. A comprehensive approach can save lives and improve prognosis of a disease that disproportionately affects Brownsville residents.

Introduction

The Brownsville Multi-Service Family Health Center is a Federally Qualified Health Center (FQHC) with 5 clinical sites serving residents of Brownsville, East New York, and Ocean Hill. BMS has a mission statement to “promote healthy social and physical environments in Brownsville and East New York, while increasing community access to health care and social determinants of health.” By adopting a framework of “Move. Eat. Live.” BMS seeks to address community health with a focus on wellness in addition to primary care. Preventative care is a cornerstone of the practice at BMS. As with other FQHCs, BMS must report preventative and clinical care measures to the Health Resources and Services Administration of the U.S. Department of Health and Human Services in order to receive funding. This project analyzes colorectal cancer screening at BMS and how to improve the screening rates for patients who are non-adherent with the recommendations. Data from individual patient conversations is used to create an understanding for why patients of BMS, majority of whom are residents of Brownsville, Brooklyn are not able to complete colorectal cancer screening.

Methods

- Identified screening-eligible (by age) patients and those nonadherent with screening recommendations (FIT, colonoscopy, CT colonogram).
- Patient data was generated from Athena [the electronic health record system], from January - June 2022 (3,937 patients in total, 2,019 patients “nonadherent”)
- Conducted chart review to determine whether patients received a clinician recommendation for screening, and completion of any colorectal cancer screening test.
- Contacted patients over telephone to ask reasons for nonadherence. Conversation first started by asking about most recent performance and patients were asked to recall receiving a FIT kit or GI referral. In addition, also asked patients about their understanding of the screening process.
- Reminded patients to send in FIT kit, arranged for new kits to be mailed out if patients misplaced, enquired about colonoscopy referral and status.
- Colonoscopy was the targeted screening strategy, yearly FIT (Sunrise and Quest Diagnostics lab kits) offered as available and efficacious alternative test options.
- Contacted colonoscopy providers for missing results in patient charts. BMS partner providers include GI specialists at Brookdale University Hospital and Medical Center, University Hospital at Downstate, Kings County Hospital Center, Kingsbrook Jewish Medical Center, Brooklyn Hospital Center, in addition to private providers.

Results

Premature death

Cancer and heart disease are the leading causes of premature death (death before the age of 65) in Brownsville, similar to the rest of NYC. However, Brownsville residents die prematurely at a disproportionately higher rate. Lung cancer, breast cancer (among women) and colorectal cancer are the three leading causes of cancer-related premature death in Brownsville.

NYC's premature mortality rate (death before age 65) decreased 19% from 2006 to 2015. However, longstanding disparities persist. People living in high-poverty neighborhoods and Black New Yorkers are dying before age 65 at higher rates.

TOP CAUSES OF PREMATURE DEATH

rate of death before age 65 per 100,000 people (number of deaths)

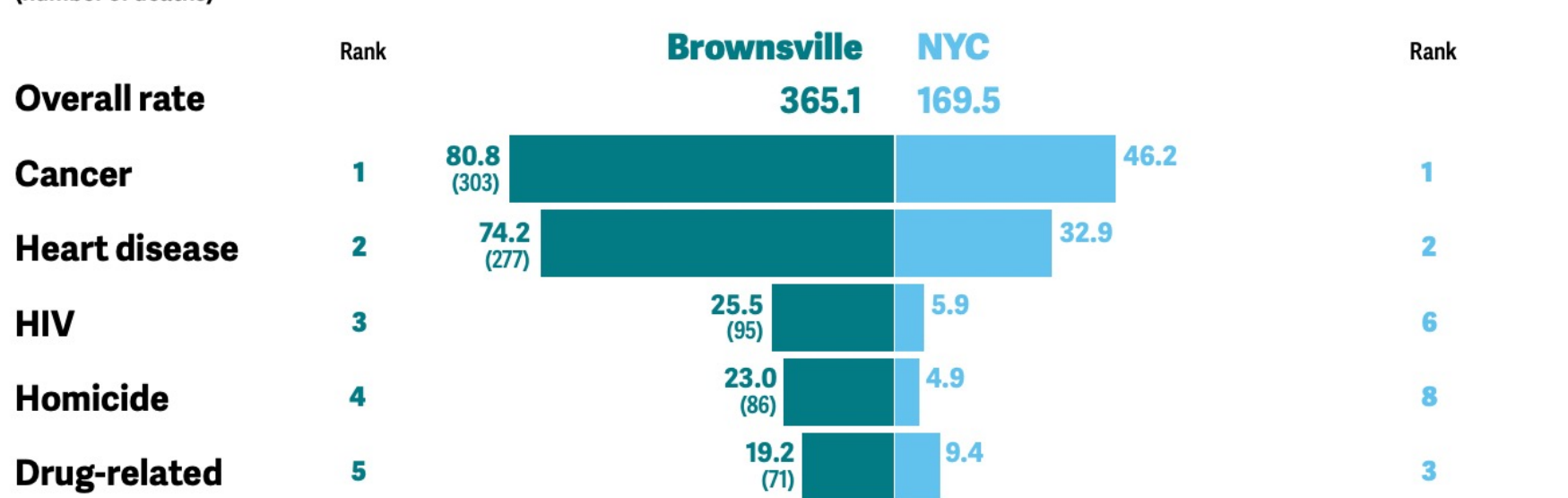


Figure 1. Data from the NYC Department of Health shows us that residents of Brownsville, Brooklyn are disproportionately impacted by the top causes of premature death. Cancer accounts for 80.8% of premature deaths in Brownsville, Brooklyn compared to 46.2% in the rest of NYC. Among the different cancers, colorectal cancer is the third leading cause of mortality.

Recommendation Summary

Population	Recommendation	Grade
Adults aged 50 to 75 years	The USPSTF recommends screening for colorectal cancer in all adults aged 50 to 75 years. See the "Practice Considerations" section and Table 1 for details about screening strategies.	A
Adults aged 45 to 49 years	The USPSTF recommends screening for colorectal cancer in adults aged 45 to 49 years. See the "Practice Considerations" section and Table 1 for details about screening strategies.	B
Adults aged 76 to 85 years	The USPSTF recommends that clinicians selectively offer screening for colorectal cancer in adults aged 76 to 85 years. Evidence indicates that the net benefit of screening all persons in this age group is small. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the patient's overall health, prior screening history, and preferences.	C

Figure 3. FQHCs adhere to the U.S. Preventive Services Task Force (USPSTF) guidelines. These recommendations apply to asymptomatic adults 45 years or older who are at average risk of colorectal cancer (ie, no prior diagnosis of colorectal cancer, adenomatous polyps, or inflammatory bowel disease; no personal diagnosis or family history of known genetic disorders that predispose them to a high lifetime risk of colorectal cancer [such as Lynch syndrome or familial adenomatous polyposis]). In early 2021, USPSTF announced a change to the colorectal cancer screening guidelines by expanding the recommended ages to 45 to 75 years (previously, it was 50 to 75 years). This was the result of an increase in the incidence of colorectal cancer in younger population groups and is aligned with the screening recommendations of the American Cancer Society.

Outcome	Baseline (N= 150)	
	n	%
Patients eligible for screening*	150	100%
Clinician referral^	129	86.0%
Patient screening completion	21	14.0%

Table 1. Physician Recommendation and Patient Completion of Colorectal Cancer Screening at Baseline versus Follow-up. This table offers a preliminary glimpse of the patient population that was contacted for this study. The Athena electronic health record system identified 2,019 total patients out of which 150 were contacted. Since Athena generated patients based on non-adherence to screening, all patients were thus eligible for screening. Clinician referral refers to patients being given a FIT kit for screening or GI appointment for colonoscopy. Out of the 150 patients contacted, 129 patients both recalled receiving clinician referral and had the documentation in their chart. Out of the 150 patients contacted, 23 patients had completed their screening recommendations and results were missing from their charts either due to administrative error or hold-up.

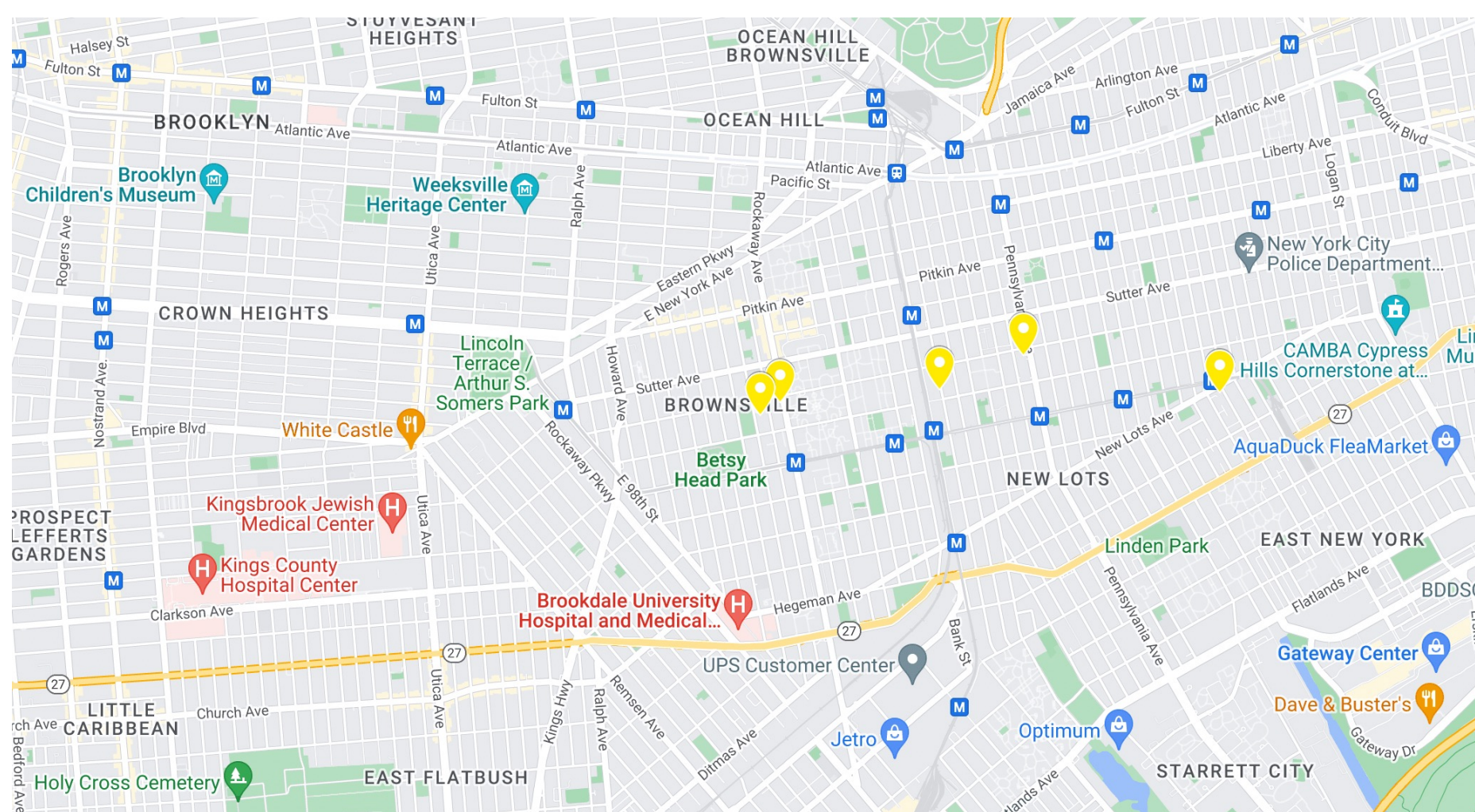


Figure 2. BMS clinical sites are located throughout the community of Brownsville, with the main site situated centrally. A majority of patients live within a walking distance of the five different locations and had minimal problems accessing the sites for appointments or dropping off FIT kits for completion of screening. This map also shows the location of Brookdale University Hospital and Medical Center, Kingsbrook Jewish Medical Center, and Kings County Hospital Center, all of which serve residents of central Brooklyn but are located peripherally to the community of Brownsville.

BMS CLINICAL MEASURES – UDS Measures June 16, 2022 *6/1/2022 compared to 2021

Measures	BMS 2019	BMS 2020	BMS 2021	BMS YTD 5/5/22	BMS YTD 6/16/22	2020 UDS Nation
Colorectal Cancer Screening	60.3%	50.5%	51.7%**	44%	46% ↑	40%

Green upward arrow = Trending upwards compared to prior month (5/5/22)

Red number = Not yet at goal. The goal is for 2022 most recent performance (46%) to exceed 2021 performance (51.7%)

Figure 4. These clinical measures are a snapshot of what BMS submits to the Health Resources and Services Administration in order to receive funding as an FQHC. The measures demonstrate a clear decline in screening rates because of the COVID-19 pandemic. Prior to COVID, the 2020 colorectal cancer screening rate at BMS was 50.5%, which was higher than the FQHC national average of 40%. As of June 2022, the screening rate at BMS is 46%, which is trending in an upward direction but still not yet exceeding the pre-COVID measures. Clinical quality improvement forms an important part of the practice of BMS because of the federal funding incentive to show upward trends.

Reason	Number (n)	Percent (%)
Lack of patient understanding of screening process	41	27.3%
Patient did not recall CRC screening discussion, receiving stool cards	28	18.7%
Administrative, workflow error (results missing)	26	17.3%
Colonoscopy delayed due to COVID-19 surge	23	15.3%
Fear/anxiety over colonoscopy procedure	18	12.0%
Misplaced stool cards	11	7.3%
Adversity to setting off cascade of events	2	1.3%
Financial barriers	1	0.7%

Table 2. Primary Reasons for Patient Nonadherence with Colorectal Cancer Screening. Primary reason is the first reason the patient provided for why they did not complete FIT or colonoscopy. A patient may say they were fearful of colonoscopy but first said they did not know what the camera procedure is, thus demonstrating a primary lack of understanding of screening process. From conversations, 27.3% patients revealed a lack of understanding of the screening process. This does not refer to a lack of knowledge because patients were aware of what is meant by the terms colorectal cancer, screening, and stool sample. Instead, patients lack the understanding of how to complete the screening process, whether it be what to do with the stool kit and/or who to contact for GI appointment scheduling. Administrative workflow errors are a barrier to screenings. The fear/anxiety and the adversity to setting off cascade of events that require medical follow-up are also a concern and cause for improvements in patient health literacy.

Discussions

The results provide us with specific data for why patients from the community of Brownsville, Brooklyn are having problems completing colorectal cancer screening recommendations. Patient conversations showed a high level of community knowledge regarding colorectal cancer and colonoscopy. This may be an attribute to the increased role of PSA's and celebrities disclosing their screening journey in influencing patient decisions. BMS clinicians are also doing an incredible job covering preventative care topics during patient visits. Many conversations highlighted the importance of the patient-clinician relationship, and the trust providers can build in being the ultimate factor that patient's take into consideration before following through with recommendations. However, the clinician has the difficult task of covering many different things in a small amount of time. In a setting like BMS, an inner-city clinic that serves an underserved population, medical providers are over-burdened with high volume of patients. This calls into attention the need for increased resources to be allocated to BMS for additional services to be provided to patients that can allow for follow-up regarding health recommendations.

Conclusion

The results of this study call attention to the role of patient follow-up. A vast majority of patients seen at BMS are provided information regarding colorectal cancer screening. In this random sample of 150 patients that were non-adherent with screening, 86% of patients recalled their clinician talking to them about the subject. However, the problem is located outside of the confines of the clinic where cancer screening is lost to follow-up. Proposed solutions to both improve the colorectal cancer screening rates at BMS and consequently the community health profile of Brownsville, Brooklyn call for evidence-based multicomponent interventions and quality improvement strategies that center on the addition of patient navigators to the clinical setting. Allocating resources to expand staffing will allow to overcome barriers preventing colorectal cancer screening while also assisting patients with pre-visit planning, patient education, and administrative tasks. Optimization of the electronic health record system will allow for accurate information regarding screening status. Preventative care saves lives and city, state, and federal policy changes can change the trajectory of declining screening rates.

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Patients without borders, from Activism to Advocacy

Annabelle S. Slingerland, PhD(c)

While many activists fight for their rights at those perceived to hinder such, advocates may successfully fight for a solution that bypasses those. Exemplary to study its elements, is Henk Fievet, a Dutch father of seven who had lost his job following heart disease in the 70s.

The methodology combines history anthropology science and technology backgrounds for the context of the time and the presentism lens. The material arises from the Dutch, UK and USA libraries, national, institutional, media and personal archives as well as oral histories of patients, professionals, policy makers and media to reconstruct what happened in the separate entities and why.

The results showed parading coffins through the streets, occupying parliament, did not move professionals or policy makers. Yet, his subsequent airlifts seven years later to Houston and London and the centres modelled after successful ones abroad, did. These remained up in the air for a mere seven years and the centre still thrives. Community health appeared to be strongest by bringing focus in their need, their beyond expectation abilities to obtain information from all sources, talk to the various stake holders including insurance companies and internationals, bring the kaleidoscopic picture in, everyone's gain, and using factual emotional appeal well.

It concludes how advocacy of ordinary responsibility taking men, magnetise their community, patients and subsequently policymakers and professionals, for structural solutions implemented in sustainable systems.

The Association of Congestive Heart Failure on In-Hospital Lengths of Stay, Morbidity, and Financial Burden Following Primary Total Knee Arthroplasty.
Tatyana Young

Purpose: The aims of this study were to determine whether patients with CHF undergoing primary TKA have higher rates of: (1) in-hospital lengths of stay (LOS); (2) morbidity; (3) financial burden.

Methods: A retrospective query using the 100% Parts A and B of the Medicare claims was performed. Cohorts of interest were identified using International Classification of Disease, Ninth Revision and Current Procedural Terminology. Inclusion criteria for the study group consisted of patients undergoing primary TKA with CHF, whereas patients without CHF served as the comparison cohort. CHF patients were matched to controls in a 1:5 ratio by age, sex, and various medical comorbidities to minimize any potential confounding. Logistic regression analyses were used to calculate the odds-ratios (OR) on the association of CHF on complications, whereas Welch's t-tests were used to compare in-hospital LOS and costs between the cohorts. A p-value less than 0.004 was considered to be statistically significant. Results: The query yielded 1,101,169 patients (CHF = 183,540; Case-Matched = 917,629). CHF patients had longer in-hospital LOS (5- vs. 4-days; $p < .0001$) and had a higher incidence and odds of developing 90-day medical complications (49.22 vs. 7.45%; OR: 6.89; $p < 0.0001$) following primary TKA. CHF patients incurred higher day of surgery (\$12,362.44 vs. 11,872.96, $p < .0001$) compared to their matched counterparts.

Conclusion: With the increasing prevalence of CHF worldwide, healthcare professionals can utilize the information provided in this study diminish the postoperative effects associated with CHF patients.