Testimony of Vincent Boudreau, PhD
President of the City College of New York

Hearing with New York City Council Committee on Higher Education
Oversight – CUNY School of Medicine
Remarks – Friday, December 3, 2021

I am pleased to be here, and pleased for the opportunity to present the work of the CUNY School of Medicine to this committee. I am especially pleased to say that you will soon hear from the new dean of our school, Dr. Carmen Green. The CSOM has, for some time, worked under the leadership of an interim dean, and before that, was led by a dean who also served the college as provost—thus dividing his attention and energy. For this reason, I think of Dr. Green as almost the founding dean of the school, or at least the first dean who has had the attention and authority to enact a founding vision for the school.

She will shortly describe the mission and accomplishments of the school, and we are proud of them. I would like to leave you with two concerns. First, historical changes in the funding formula for medical schools have impacted the CUNY School of Medicine. Second, we are eager to expand our clinical placements across the Health and Hospitals network, because we see the CSOM as the school best positioned to staff our public hospitals. If this testimony is an opportunity to ask for some assistance from the council, these are two areas where we could use help.

Testimony by Carmen Renee Green, MD,
Professor and Dean of the CUNY School of Medicine
Bert Brodsky Chair
Medical Professor, Community Health and Social Medicine
Professor, Colin Powell School of Global and Civic Engagement
City College of New York

Hearing with New York City Council Committee on Higher Education
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Good morning, Chairperson Barron and Committee. I am Dr. Carmen Renee Green, MD. Two months ago, I became the Dean of CUNY School of Medicine (CUNY SoM), located in Harlem where I also live. Thank you for your ongoing support. I came from the University of Michigan where I was a tenured full professor in two schools and three departments. I am honored to be the Dean and thank you for the opportunity to provide this update.

As the Chief Administrative and Academic officer for the School, I am responsible for leading the clinical, education, research, and social missions. I lead a high-quality faculty-driven medical education enterprise; facilitate research and scholarship for both students and faculty; oversee operations and infrastructure; and cultivate philanthropy to support outstanding learners who are *healers and leaders*.

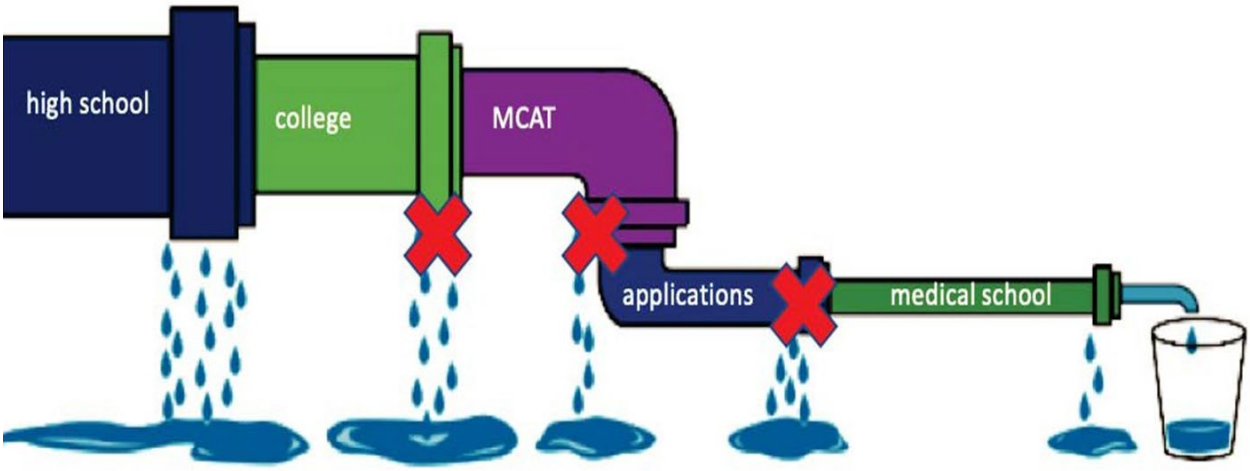
The CUNY School of Medicine has both a Master's level Physician Assistant Program and an accelerated seven-year BS to MD (BS/MD) program. We have graduated two classes of exceptional physicians. Today I will focus my prepared remarks on physician preparation.

In an aging and diversifying society where people of color often die before their time, more health professionals are needed. Primary care physicians are desperately needed, especially in underserved areas. Although the number of people applying to medical schools has dramatically increased, the traditional pipeline continues to leak, especially for minorities. The number of physicians who are underrepresented minorities in medicine such as Black/African-Americans, Hispanic/Latino Americans, and Native Americans, continues to lag behind the representation seen within an emerging minority majority society. At historic lows, the most underrepresented are black men who are <3% of physicians. Overall, we have successfully removed barriers to careers in medicine for those who typically are left out and behind.

CUNY SoM students intrinsically understand the social determinants of health and deeply care about underserved communities. They bring this knowledge to their patients and the communities they serve, often in communities similar to where they were raised. We select high school students from each of the five borroughs and across New York state.

The Medical College Admissions Test (MCAT) is a significant barrier for underrepresented minorities. Unlike most medical schools we **do not** use the Medical College Admissions Test (MCAT) for entry. Instead, we use a holistic admissions process with excellent results. We are an extremely selective medical school with only 7% of applicants granted admission.

The CUNY SoM brings additional value to the cost equation with the lowest tuition of all NY medical schools. I also note, most CUNY SoM students are first generation and qualify for significant financial aid. In fact, nearly half have an expected family contribution of zero making them eligible for SNAP and other financial assistance. Yet, they disproportionately go into primary care and serve in physician shortage areas. Unfortunately, 84% of our graduates also carry a large and unequal debt burden; an average of $178,000 upon graduation.



Our goal is to be both MCAT AND DEBT free.

The CUNY SoM has an authentic and ongoing commitment to diversity and serving the people. As my high school Latin teacher taught me, *Res ipsa loquitur*, the numbers or things speak for themselves. Thirty-four percent (34%) of CUNY SoM faculty are underrepresented minorities themselves. Our numbers are significantly higher than all CUNY professional schools, all NY medical schools, and the national average for medical schools.

The majority or 57% of CUNY SoM students are underrepresented in medicine. We are number five in the country in graduating black physicians; just behind the four historically black colleges and universities (HBCU) which have much larger entering classes. We are also a national leader in graduating Hispanic/Latino physicians. Our Black Male Initiative is unparalleled, yielding more black men in medicine than our counterparts.

Over seven years we create doctors. And, the CUNY SoM pass rate on the licensure exam is similar and slightly better than the national average. Our attrition rate is also similar to national norms. We are developing initiatives to further reduce these numbers. Overall, we have changed the landscape, enhanced the primary care workforce, and successfully fixed the leaky pipeline. We have created a national model with very few leaks.

We are proud to be the only public medical school in Manhattan. Hence, we are New York City's medical school. Yet, the CUNY SoM exists within an extremely competitive academic marketplace. We educate students with significant financial needs on an ultra-lean, tuition dependent operating budget. Access to clinical sites continues to be challenging and will determine our ability to grow. While many schools pay for clerkships, we do not. We are thankful for like-minded hospital partners, who embrace our mission, value our students' community roots and understand our students willingly stay and serve in the New York community. Nonetheless, we could use more partners.

I firmly believe this is the most important medical school in New York and a national treasure. However, both our philanthropic support and physical footprint are constrained. We lack scholarships for students and funds to recruit additional faculty who are master teachers, distinguished scholars, and master clinicians. Our research footprint is small and additional investment is needed. The plan is to change this paradigm. We will continue to identify mission congruent partners who want to invest in a public medical education and research enterprise that is relevant to and benefits New York and its diverse communities.

Now, a few brief comments on implicit bias. I have published on the topic and how it impacts learners and patients. Specifically, it contributes to variability in clinician decision making leading to health and healthcare disparities, and worse outcomes for minority, vulnerable, and marginalized populations.

Beginning in the freshman year, all CUNY SoM students receive an annual lecture on implicit bias and narrative medicine. We also provide education on micro-aggressions, bystander training, health and healthcare disparities, cultural competence, and the intersection of the social determinants of health including race, gender, and sexual orientation. We also provide information on these topics to faculty and staff, including a lecture on implicit bias every year for the admissions committee. Recently we performed a full curricular review to insert content regarding power, privilege, inequality, and social justice to enhance student learning.

In sum, we have a wonderful triumphant story to tell about CUNY SoM, and about our amazing students and alumni as well. It is an honor to appear before this committee and to tell our story.

I am happy to address your questions.

Testimony Provided by Carmen Renee Green, MD,
Professor and Dean
CUNY School of Medicine

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APPENDICES

Carmen Renee Green, MD is Dean of the City University of New York (CUNY) School of Medicine, located at the historic City College of New York. She is also Bert Brodsky Chair, Medical Professor of Community Health and Social Medicine, and Professor in the Colin Powell School of Global and Civic Engagement.

Dr. Green received her MD from Michigan State University College of Human Medicine (MSU CHM) and was elected to *Alpha Omega Alpha (AOA)* National Honor Medical Society. She completed an Anesthesiology residency, subspecialty training in Ambulatory and Obstetrical Anesthesia, and a Pain Medicine fellowship at the University of Michigan Health System (UMHS) as well as the National Institutes of Health (NIH) National Institute on Aging Butler-Williams Scholar program, von Hedwig Ameringen Executive Leadership in Academic Medicine (ELAM) fellowship, and Mayday Pain & Society fellowship. Dr. Green was a Robert Wood Johnson Health Policy fellow at the National Academy of Medicine (NAM) of the National Academies. Working in the Health Education Labor and Pensions Committee and the Children and Families Subcommittee. she helped draft the *National Pain Care Policy Act,* incorporated in the *Affordable Care Act* and was thanked in the *Congressional Record* by Senator Kennedy for contributions to the FDA reauthorization, *i.e.* including gender and race variables to assess outcomes.

Dr. Green is a tenured Professor of Anesthesiology, Obstetrics & Gynecology, and Health Management & Policy at the University of Michigan's Schools of Medicine and Public Health, an attending physician in the Back and Pain Center, holds faculty appointments at the Institute for Social Research and Institute for Health Policy and Innovation, and is a faculty associate in the Program for Research on Black Americans, Depression Center, and Cancer Center where she was elected to *Phi Kappa Phi* Honor Society. Green is also an elected fellow of the New York Academy of Medicine, Gerontological Society of America, and Association of University Anesthesiologists. She is a faculty associate in the Program for Research on Black Americans, Depression Center, and Cancer Center. The inaugural Associate Vice President and Associate Dean for Health Equity and Inclusion at the UMHS, she is the Executive Director of the Healthier Black Elders Center and Co-Director of the Community Core for the Michigan Center for Urban African American Aging Research. Dr. Green was the founding chair for the American Pain Society's Special Interest Group on Pain and Disparities and chair of the Public Policy Committee.

At the nexus of public health and healthcare quality, equity, and policy, her health policy relevant and health services research agenda focuses on pain and the social determinants of health. She is the author of germinal and seminal papers that poignantly reveal unequal treatment, disparities, variability in decision-making, and diminished health care quality; revealing suboptimal access to health and pain care across the life course for women, minorities, and low-income people. An innovator, she often uses narrative medicine and photo voice techniques to promote empathy and healing. Dr. Green published a selective review focusing on the unequal burden of pain in *Pain Medicine* which remains the most cited article in the journal's history and was the guest editor for the its special issue on disparities. She was the first to identify hospital security errors.

Dr. Green received several honors including UMHS Employee of the Year, U-M Woman of Color of the Year for Human Relations, Consumer Checkbook's Top 100 Doctors, Top 1% of Pain Doctors by US News and World Reports, Who's Who in America, U-M Harold R. Johnson Diversity Service Award, John Liebeskind Pain Management Research Award, Elizabeth Narcessian Award for Outstanding Educational Achievements, and MSU CHM Distinguished Alumni Award. Her federal and state board service includes NAM's Health Care Services Board, Michigan Governor's Pain and Symptom Advisory Committee, US Secretary of Health and Human Services (HHS) Interagency Pain Research Coordinating Committee and HHS Oversight Committee for the National Pain Strategy (Disparities Committee Co-Chair) as well as NIH's Advisory Committee for the Eunice Shriver National Institute of Child and Human Development, Advisory Committee for Research on Women's Health, and National Center for Medical Rehabilitation Research. Dr. Green has made invited presentations across the globe including the US Congress and Rockefeller Center in Bellagio, Italy. She has worked across the health professional pipeline to achieve a critical mass of minorities and women in academic medicine, biomedical sciences, and higher education. Her former students lead, teach, and inspire others.

An avid swimmer and genealogist, Carmen enjoys travel, photography, college football, and time with friends and family. She began writing poetry, plays, and books as a teen. Carmen also enjoys the creative arts, attending operas and recitals, and recently appeared as the Narrator and Lincoln in Aaron Copeland's *Lincoln's Portrait* with the U-M Life Sciences Orchestra at the historic Hill Auditorium (Ann Arbor).

CARMEN RENÉE GREEN, MD
EXECUTIVE CURRICULUM VITAE

CITY UNIVERSITY OF NEW YORK (CUNY) POSITIONS
CUNY School of Medicine: Dean of the CUNY School of Medicine
Bert Brodsky Chair
Medical Professor, Community Health and Social Medicine
Professor, Colin Powell School for Civic and Global Leadership - City College of New York

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Fax: 212 650-6184
Email: carmeng@med.cuny.edu

UNIVERSITY OF MICHIGAN (UM) POSITIONS
Professor Emerita, Anesthesiology (UM Medical School; UMMS) - pending
Professor Emerita, Obstetrics and Gynecology (UMMS) - pending
Faculty Associate, Research Center for Group Dynamics (UM Institute for Social Research)
Faculty Associate, Institute for Health Policy and Innovation (UM)

SELECTED ADMINISTRATIVE ACCOMPLISHMENTS

The University of Michigan is one of the world's premier research universities with 19 schools and colleges nationally ranked for excellence in education, research, and clinical activities. The UM wholly owns **UMHS** - a large, integrated, and matrixed academic medical center. **UMMS,** its elite public medical school receives >$418M in annual NIH funding.

UM, UMHS (aka Michigan Medicine), & Medical School. Acknowledge expert in pain and pain care disparities. Associate Vice President/Associate Dean for Health Equity & Inclusion and Chief Diversity Officer. Cabinets: Executive Leadership Group, CEO, Dean, and Senior Management Team. Led turnaround and start-up. Created vision, mission, and strategic plan for transformational approach to diversity, equity and inclusion for patients, staff, students, and faculty. Designed business and financial practices. Started institutional health equity research and inclusion programs. Reengineered pipeline programs. Assisted in recruiting faculty and executive officers (Chief Human Resource and Chief Communications Officers). Invigorated fundraising and minority alumni engagement. Led UMHS to national award for leadership in LGBT care (Healthcare Equality Index). Created national advisory board. Generated data, papers, and policy to improve healthcare quality, health, pain care and programs for those at risk for educational and health disparities.

Interdisciplinary Clinical, Translational, Health Services, & Community-based Research Leader. Seminal publications on pain care disparities. Active researcher: PI, Core leader, and Co-I (*e.g.* NIH funded Michigan Center for Urban African American Aging Research: Co-Director, Community Core and Director, African-American Aging Summer Immersion for Science Teachers; and NIH funded CTSA: Director, Health Disparities Research Core and PI, Health Disparities Summer Immersion Program for minority health professional students). Member of NIH's NCMRR advisory Board, NICHD Council, and Advisory Board for Research on Women's Health, and American Cancer Society's Council on Extramural Affairs. Chair, Myalgic Encephalitis NIH expert review panel. Service on three editorial boards.

Clinical Leader & Advocate. Practicing and board certified ambulatory and OB anesthesiologist (Top Anesthesiologist/ Doctor) and pain medicine physician (US News & World Report top 1%). Inaugural institutional leader for UMHS pain management which led to a successful JCAHO accreditation experience. Medical Director, Acute Pain Services.

Education Leader & Innovator. Delivered international, national, and local lectures to the community, policy makers, learners, and health professionals (*e.g.* Rockefeller Bellagio Center, US Congress). Taught in ELAM and AAMC's junior women and minority faculty development programs. Served in roles focused on undergraduate and graduate medical education, research, and mentoring. Incorporated social sciences and narrative medicine in presentations. PI for novel funded pipeline programs across the biomedical and health sciences pipeline.

National Health Policy. Mayday Pain and Society Fellow. Robert Wood Johnson Health Policy Fellow at the National Academy of Medicine (NAM; formerly Institute of Medicine) of the National Academies. Health policy analyst: US Senate Health, Education, Labor & Pensions Committee and Children & Families Subcommittee. Drafted legislation within

Affordable Care Act. Served on NAM Healthcare Services board and coordinated reviews; HHS advisory panels' Inter-agency Pain Research Coordinating and Oversight Committees, Co-chair, National Pain Strategy; HHS Advisory Panel on Medicare Education for CMS. Presented at Congressional briefings, NIH, and NAM. Elected memberships: *Alpha Omega Alpha*, NY Academy of Medicine, Association of University Anesthesiologists, and Gerontological Society of America (fellow). AAA media rating with national awards for excellence in patient care, educational, scientific, and public service.

Community Engagement. Advocate for the most the underserved and health disparity populations. Increased minority matriculation into medical school 96%. Executive Director, Healthier Black Elders Center. Member, UMHS Development Leadership Advisory Group for *Victors for Michigan* Campaign ($4B). Service to community organizations and boards

ACADEMIC PREPARATION AND QUALIFICATIONS

I am a board-certified anesthesiologist with subspecialty training in ambulatory and obstetrical anesthesiology as well as fellowship training and board certification in pain medicine. I did additional postdoctoral fellowships in health services research, aging, pain policy, and health policy. Thus far, my academic career as a clinician, educator, and researcher has been at the UM. I have joint faculty appointments in three departments, two schools, and two institutes. Upon receiving tenure, my tenure package was highlighted to the UM Regents (one of the highest UM honors). My research on pain care disparities is considered seminal, has received international attention, and shaped national health policy.

EDUCATION

Year	Degree	Institution
1979	Diploma	Luke M. Powers Catholic High School Flint, MI
1983	B.S. (Biology)	University of Michigan (UM) – Flint; Flint, MI
1987	M.D.	Michigan State University College of Human Medicine; East Lansing, MI

GRADUATE MEDICAL EDUCATION

Date	Position	Institution
1/1988–12/1989	Intern (Internal Medicine)	Michigan State University College of Human Medicine (MSU CHM), Saginaw, MI
1/1989–6/1989	Resident (Internal Medicine)	MSU CHM, Saginaw, MI 7/1989–
6/1992	Resident (Anesthesiology)	UM Medical Center. Ann Arbor, MI
7/1991–6/1992	Clinical Anesthesiology Year 3: Advanced Clinical Track, Obstetrical Anesthesia, Ambulatory Anesthesia, and Research	
7/1992–6/1993	Pain Management Fellow	Multidisciplinary Pain Center UM Medical Center, Ann Arbor, MI
3/2000–11/2001	Health Services Research Fellow	Association of American Medical Colleges (AAMC) Health Services Research Institute, Washington, D. C.
7/2002	Butler-Williams Scholar	National Institute on Aging Summer Institute on Aging Research NIH, Airlie, VA 7/2004–
6/2005	Leadership Fellow	Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM), Drexel University College of Medicine, Philadelphia, PA
9/2004–8/2005	Pain Policy Fellow	Mayday Pain and Society Fellowship, Mayday Fund, NY, NY
9/2006–8/2007	Health Policy Fellow (full-time)	Robert Wood Johnson Health Policy Fellowship National Academies of Science, Engineering & Medicine (NASEM) National Academy of Medicine (NAM) Washington, DC
1/2007–8/2007	Health Policy Fellow (full-time)	U. S. Senate Health, Education, Labor, and Pensions Committee (Chair–Kennedy); Children and Families Subcommittee (Chair-Dodd) Washington, DC
9/2007–8/2009	Health Policy Fellow	Robert Wood Johnson Health Policy Fellowship, NAM of the NAS, Washington, DC

SPECIAL TRAINING

Date	Course
8/1994	Association of American Medical Colleges (AAMC) Minority Faculty Professional Development Seminar, Washington, DC
12/1996	AAMC Junior Women in Medicine Professional Development Seminar, Santa Fe, NM
3/1997	Statistics: A review, Center for Statistical Consultation and Research, UM, Ann Arbor, MI
7/1997	Self-Administered/Mail Surveys; SOC 988, Institute of Survey Research, UM

11/1997	Clinical Pain: Measurement Design and Analysis, Center for Statistical and Research Consultation, UM
6/1999	Measurement, Design, and Analysis for Health Outcomes Research, Harvard School of Public Health, Harvard University, Boston, MA
7/1999	Introduction to Survey Sampling, Institute of Survey Research, UM, Ann Arbor, MI
9/1999	Physicians in Management Workshop, American College of Physician Executives, Philadelphia,
6/2000	"Using Focus Groups in Your Research: Basic Techniques, Challenging Issues, and Practical Tips," Academy of Health Services Research and Policy, Los Angeles, CA
6/2000	"Introduction to Cost-Effectiveness Analysis in Healthcare," Academy of Health Services Research and Policy, Los Angeles, CA
6/2001	Advances in Methods for Monitoring Healthcare Outcomes from the Patient Point of View," Academy of Health Services Research and Policy, Atlanta, GA
6/2001	"More Than Just a Conversation: Using Qualitative Interviews to Answer Health Services Research Questions," Academy of Health Services Research and Policy, Atlanta, GA
4/2005	"Emerging Issues in Philanthropy for Academic Medicine," ELAM, Philadelphia, PA
2013-2015	Insight into Philanthropy; Philanthropy for Medical Science Research; Philanthropic Practices for Medical Professionals; Philanthropic Practices for Deans and Other Academic Leaders

ACADEMIC APPOINTMENTS

Year	Position
1/1993–7/1996	Lecturer, Multidisciplinary Pain Center, Dept of Anesthesiology, UMMS 7/1996–
9/2003	Assistant Professor, Anesthesiology, Department of Anesthesiology, UMMS, **9/2003–**
9/2009	**Associate Professor, Anesthesiology with Tenure, Dept of Anesthesiology, UMMS**
2001–	Faculty Associate, Center for Research Ethnicity, Culture, and Health, Department of Health Behavior and Health Education, UM School of Public Health
11/2006–	**Faculty Associate, Program for Research on Black Americans, Research Center for Group Dynamics, UM Institute for Social Research**
9/2008–9/2010	Associate Professor, Health Management and Policy, Dept of Health Management and Policy, UM School of Public Health
9/2009–	**Professor, Anesthesiology with Tenure, UMMS**
9/2009–	**Professor, Obstetrics and Gynecology, UMMS**
4/2010–	Faculty Associate, Depression Center, Department of Psychiatry, UMMS
2010-	Faculty Associate, Comprehensive Cancer Center, UMMS
9/2010–	**Professor, Health Management and Policy UM School of Public Health**
9/2014–	**Faculty Associate, UM Institute for Health Policy and Innovation**

ACADEMIC LEADERSHIP AND ADMINISTRATIVE QUALIFICATIONS

Accomplished and thoughtful academic and administrative leader with a track record of innovation. I have held clinical, educational, and clinical leadership positions at the department, school, health system, and university level as well as leadership positions in my professional societies. I have a breadth and depth of experience in nurturing change, successfully managing change, and leading turnarounds and start-ups. I have experience creating vision statements and strategic plans, implementing strategic plans, and yielding positive outcomes. Known for exceptional relationship and excellent communication skills, I have experience serving in and working with advisory boards (national, professional, and community), faculty, patients, staff, and students in university, college, and community settings. I am a recognized leader in promoting diversity and inclusion, eradicating disparities, and ensuring equitable access.

ADMINISTRATIVE APPOINTMENTS

Year	Position
1996–5/2006	Associate Director for Medical Student Education, Department of Anesthesiology, UMHS
7/1997–5/2006	**Medical Director, Acute Pain Services, Department of Anesthesiology, UMHS**

7/1998–5/2006	Coordinator, Midwest Anesthesiology Resident's Conference, Dept of Anesthesiology, UMMS
5/2000–9/2004	**Chair, Pain Management Steering Committee, UMHS**
2000-2004	**UMHS Institutional Lead for JCAHO Pain Initiative**
5/2003–8/2009	Director, Pain Medicine Research, Dept Anesthesiology, UMHS
10/2003–2007	Co-Director, Investigator Core, Michigan Center for Urban African American Aging Research (MCUAAAR; joint center with Wayne State University), Institute for Survey Research, UM
8/2006–9/2007	Sabbatical
8/2006–9/2009	**Robert Wood Johnson Health Policy Fellow, NAM of the NAS, Washington, DC**
9/2007–11/2009	**Director, UM Clinical and Translational Science Award's (CTSA) Health Disparities Research Program, Michigan Institute for Clinical and Health Research (MICHR)**
10/2007–	Director, Dissemination and Health Policy Core, Michigan Center for Urban African-American Aging Research (MCUAAAR), Institute for Survey Research (ISR), UM
8/2009–	**Co-Director, Community Liaison Core, MCUAAAR**, ISR, UM, Ann Arbor, MI
10/2009– **1/2015**	Executive Director, The Healthier Black Elders Center, MCUAAAR, ISR, UM **1/2013– Associate Vice President and Associate Dean for Health Equity and Inclusion**, UMHS/ UMMS
7/2015–6/2016	Sabbatical

Previous Positions

1983–1985	**Coordinator for Medical Student, Cristo Rey-Pediatric & Migrant Clinic**, Lansing, MI
1980–1983	Research Assistant for Dean of Student Services, University of Michigan-Flint
1980–1983	Peer Academic and Health Counselor, University of Michigan-Flint

AWARDS & FELLOWHIPS

I have participated in highly competitive and selective fellowships and am an elected member of prestigious organizations. I have won awards for my leadership in the clinical, educational, research and public missions at the department, university, community, and national level. My students have also won awards for their scholarship.

Date	Honors/Awards
1981	Winner, National Urban League Liggett Foundation Essay/Scholarship
1983	MSU CHM: Dean's Scholarship
1987	Recipient, National Medical Fellowship Charles B. Johnson Memorial Award for Excellence in Surgery
1987	***Alpha Omega Alpha (AΩA)*** **National Honorary Medical Society, MSU CHM**
1988	Regional Finalist, White House Fellows, Washington DC
1992 - 1993	Recipient, Stuart Travel Award, Third Prize, Society for Ambulatory Anesthesia Research Award
1992	Recipient, Employee of the Month (first physician), UMHS
1993- 1994	**Recipient, Employee of the Year (first physician) for the UM Medical Center -** *"For outstanding performance, good spirit, cooperation, concern and contributions to the hospitals,"* UMMC
1999	**Recipient, UM Woman of the Year in Human Relations Award, Women of Color in the Academy** - *"In recognition of significant contributions in the area of human relations related by demonstrating warmth, concern, and strength of character without regard to race, age, economic level or university status"*
2000	Honorable Mention, American Society of Anesthesiologists (ASA) Art Exhibit—Literature
2001	Recipient, Token of Appreciation from Medical Students (TAMS) Award
2002	**Recipient, UM Harold R. Johnson Diversity Service Award** – *"outstanding contributions that have advanced the institutional diversity of the university community"*
2002	Recipient, "America's Top 100 Doctors"
2003	**Awarded tenure, University of Michigan Medical School, Department of Anesthesiology**
2004	**Recipient, UM Dept of Anesthesiology: 2003 Researcher of the Year Award**

2004	**Recipient, UM Dept of Anesthesiology: 2003 Project of the Year Award for Coordinating the Midwest Anesthesia Residents' Conference**
2004	Recipient, Best Poster Award, American Academy of Pain Medicine 2004 Annual Meeting
2004	**Selected for Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Fellowship** -*develops the professional and personal skills required to lead and manage in today's complex healthcare environment, with special attention to the unique challenges facing women in leadership positions*
2004	**Selected for Inaugural Mayday Pain & Society Fellowship**
2004–2008	**Recipient, "Top 100 Doctors" - Consumer's Checkbook**
2005	**Nominated, Kaiser Permanente Excellence in Teaching Award**
2005	Selected as the Inaugural NIA Resource Centers for Minority Research (RCMAR) Visiting Scholar
2005	**Elected to Association of University Anesthesiologists (AUA)**
2006 -	Recipient, "Who's Who in America"
2006	**Selected for National Academy of Medicine of the National Academies Robert Wood Johnson Health Policy Fellowship** - administered by the NAM; *designed for exceptional mid-career scientists is the nation's most prestigious fellowship at the nexus of health science, policy and politics*
5/2006	Selected for the Governor's Advisory Committee on Pain and Symptom Management (did not serve due to Robert Wood Johnson Health Policy Fellowship Commitment)
2006 -	Recipient, "Who's Who in America"
5/8/2007	**Thanked in the *Congressional Record*** by Senator Edward M. Kennedy (*Chair—Health, Education, Labor, and Pensions; for contributions to reauthorizing the FDA (S.1082; Food and Drug Administration Revitalization Act of 2007*)
2007–2008	Selected as an Ambassador for the Robert Wood Johnson's Fellowship Programs "America's Top Anesthesiologists"
2008	Recipient, "Who's Who in Michigan"
2008	**Recipient, American Academy of Pain Management's John C. Liebeskind Pain Management Research Award**
2009	**Selected for the Advisory Panel on Medicare Education (APME) to the Secretary of Health and Human Services (HHS), The Centers for Medicare & Medicaid Services (CMS)** - *advised the HHS and the Administrator of CMS on opportunities to enhance the federal government's effectiveness in implementing a national Medicare education program*
2009	**Selected for the Mayday Special Committee on Pain and the Practice of Medicine – Mayday Fellowship Advisory Committee, The Mayday Fund**
2009	Selected for C-Change Cancer Competency Advisory Committee for the Pain and Palliative Care Initiative
2009	Selected for Blue Cross Blue Shield of Michigan (BCBSM) Foundation's Grants Advisory Panel
2009	**Recipient, 7th Annual MSU CHM's Distinguished Alumni Award**
2009	**Recipient, American Pain Society 2009 Elizabeth Narcessian Award for Outstanding Educational Achievements**
2009	**Elected Fellow, New York Academy of Medicine – "***for the highest levels of achievement and leadership to improve the health of the public"*
2010	**Elected Fellow, Gerontological Society of America (GSA) –** *"outstanding achievement and exemplary accomplishments to the field of gerontology"*
2010	Spokesperson, Society for Women's Health Research national campaign on Osteoarthritis
2010	Spokesperson, American Cancer Society and America Geriatric Society's national education program on cancer pain
2011	**Selected for the U.S. Secretary of Health and Human Services' Interagency Pain Research Coordinating Committee**
2011	**Selected for the State of Michigan's Advisory Committee on Pain and Symptom Management**
2011	**Selected for the American Cancer Society's Council on Extramural Affairs**
2013	Selected as the public lecturer for the UM's 27th Martin Luther King Jr. Symposium, UMHS
2013	**Elected into Phi Kappa Phi Honor Society**
2016	**Recipient, American Academy of Pain Medicine 2016 Patient Advocacy Award for Outstanding Educational Achievements** - *"outstanding achievements in professional education in the field of pain"*

Honors and Awards for Mentored Faculty and Students

1995 Faculty mentor for Joann Cohen, M.D., First place Midwest Anesthesia Residents' Conference (MARC)
1998 Faculty mentor for Sharon Minott, MD - First place MARC
1998 Faculty mentor for Timothy Stypinski, BS - First place MARC
1999 Faculty mentor for Christopher Ciarallo, BA - First place MARC
2000 Faculty mentor for Rebecca Dunkailo, BA - First place MARC
2003 Faculty Mentor for Cecilia Calhoun - awarded Summer Biomedical Research Fellowship
2005 Faculty mentor for Meredith Miller, MD - First place MARC
2005 Faculty mentor for Thalia Palmer, MD - First place MARC
2005 Faculty mentor for James Bevenour, MD - First place Michigan Society of Anesthesiologists
2006 Faculty mentor for James Bevenour, MD - First place MARC
2006 Faculty mentor for Spencer Bertram, MD - First place MARC
2006 Faculty mentor for Julia Caldwell, MD - First place MARC
2006 Faculty mentor for Glen Gehrke, MD - First place MARC
2007 Mentored Julia Caldwell, MD - American Pain Society's Young Investigator Award
2008 Faculty mentor for Khady Ndao-Bumblay, PharmD, MSc - Center for Research, Ethnicity, Culture, and Health Award for Excellence in Racial/Ethnic Health Disparities Research, School of Public Health, UM
2008 Faculty mentor for Molly Fuentes, BS - Honorable Mention for the Blue Cross Blue Shield of Michigan Foundation's 2008 Excellence in Research Award for Students
2009 Faculty mentor for Laura Montague, BS - Honorable Mention for the Blue Cross Blue Shield of Michigan Foundation's 2009 Excellence in Research Award for Students
2011 Faculty mentor for Sonya Miller, MD - Selected as a pilot scholar for the MCUAAAR
2014 Faculty mentor for Erica Odukoya, MPH - Honorable Mention for UM School of Public Health Research Day
2015 Faculty mentor for Julie Madden, PhD - Best poster award at the 2015 Controlling Cancer Summit, London, England
2020 **Faculty mentor for Nicole Hadler – Second prize for American Psychiatric Association Medical Student Essay contest**

MEMBERSHIPS, SERVICE, AND LEADERSHIP

I have a demonstrated commitment to community engagement and high-quality and affordable healthcare. I have provided significant and ongoing service. I have extended my leadership to the community, university, professional societies, scientific organizations and governmental entities. My service includes providing expert consultation and peer review for individuals and scientific organizations. I have served on advisory boards and councils for the NIH, Secretary of Health and Human Services, CMS, and national organizations such as the NAM, Blue Cross Blue Shield Foundation of Michigan and American Cancer Society.

Selected Memberships in Professional Societies

Academy of Health Service Research
Academy Health
***Alpha Omega Alpha (ΑΩΑ)*, National Honorary Medical Society**
American Academy of Pain Management
American Academy of Pain Medicine
Association for the Advancement of Science
American Association of University Professors
American College of Healthcare Executives
American College of Physician Executives
American Geriatrics Society
American Medical Association
American Pain Society
American Public Health Association
American Society of Anesthesiologists
American Society of Regional Anesthesia and Pain Management
Association of University Anesthesiologists
Detroit Musicians Association
Gerontological Society of America
Hastings Center

International Association for the Study of Pain (IASP)
IASP Older Persons Special Interest Group
IASP Sex and Gender Special Interest Group
Midwest Pain Society
Michigan State Medical Society
Michigan State University Jonathan L. Snyder Society
National Association of Negro Musicians, Lifetime member
MSU CHM Alumni Association, Lifetime member
National Medical Association
New York Academy of Medicine
Phi Kappa Phi Honor Society
Society for Executive Leadership in Academic Medicine
Society for Women's Health Research
Washtenaw County Medical Society

Selected Committee, Organizational, and Volunteer Service

International

2005–2008	Member, International Association for the Study of Pain's Scientific Program Committee
2010	Organizer, International Association for Pain
2012	IASP Pain Symposium (Planning Committee), Berlin Germany

Governmental–Federal and State

2000	Site Reviewer, NIH's Research Centers in Minority Institutions, Ponce School of Medicine, Puerto Rico Site Reviewer
2002	Site Reviewer, NIH's Site Research Centers in Minority Institutions, Meharry Medical College, Nashville, Tennessee
2005	Member, Veterans Administration Pain Research Working Group
2008	Member, Consensus panel member for new Treatment Improvement Protocol for the Management of Chronic Pain in People in Recovery from Substance Use Disorders for the Center for Substance Abuse Treatment – SAMHSA
2009–2011	**Member, Advisory Panel to the U.S. Secretary of Health and Human Services (HHS) on Medicare Education (APME), The Centers for Medicare & Medicaid Services (CMS)**
2010	Member, Organizing Committee for the Multidisciplinary Biobehavioral Rheumatic Diseases Workshop, NIH, Bethesda, MD
2010	Member of Organizing Committee, NIH Conference – Pain and musculoskeletal disorders: Narrowing the gap between translational pain research and pain care
7/2011–6/2013	**Member, Governor's Advisory Committee on Pain and Symptom Management** - *charged with addressing issues pertaining to pain and symptom management, to gather information from the general public and making recommendations to the legislature*
8/2011–7/2014	**Inaugural Member, U.S. Secretary of Health and Human Services' Interagency Pain Research Coordinating Committee of the NIH**
8/2011–7/2015	**Member, National Center for Medical Rehabilitation Research (NCMRR)/NIH Advisory Board** - *advises the directors of NIH, NICHD, and NCMRR on matters and policies relating to the Center's programs*
2012–2013	**Member, Governor's Advisory Health Professional Committee on Pain and Symptom Management** - *charged by the Governor of the State of Michigan to deal with issues pertaining to pain and symptom management*
2012–2015	**Member, National Advisory Board Member and Liaison to the Eunice Shriver NICHD/NIH -** *advise, assist, consult with, and make recommendations to the Secretary of Health and Human Services and the Director, Eunice Kennedy Shriver NICHD on matters related to the activities carried out by and through the Institute and the policies respecting the activities*
2013–2015	**Member, Oversight Working Group, Interagency Pain Research Coordinating Meeting, NIH -** *charged with developing a summary of advances in pain care research supported or conducted by Federal agencies relevant to the diagnosis, prevention, and treatment of pain and diseases and disorders associated with pain; identify critical gaps in research on the symptoms and causes of pain; make recommendations to ensure that the activities of the NIH and other Federal agencies are free of unnecessary duplication of effort; make recommendations on how best to disseminate information on pain care; and make recommendations on how to expand partnerships between public and private entities to expand collaborative, cross-cutting research*

2013–2015	**Member, NIH/Health and Human Services (HHS) National Pain Strategy Working Group -** *charged by the Assistant Secretary of Health with addressing the development of the population health level strategy for pain prevention, treatment, management, and research as recommended in the NAM Report: "Relieving Pain in America"*
2013–2015	**Co-chair, NIH/HHS' National Pain Strategy Public Health: Care, Prevention, and Disparities Working Group -** *charged by the Assistant Secretary of HHS to create a comprehensive population health level strategy for pain prevention, treatment, management, and research*
2013–2015	**Chair, NIH Pathway to Prevention Panel and Working Group on Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome -** *ME/CF: charged by NIH, Office of Disease Prevention, Office of Research on Women's Health, and the Trans-NIH Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome Working Group for an evidence based methodology workshop*
3/2014-7/2015	Special Guest, NIH, Advisory Committee on Research on Women's Health (*ACRWH)*
2014–2015	**Co-Chair, NIH/HHS' National Pain Strategy Public Health: Disparities Working Group -** *charged by the Assistant Secretary of Health with addressing the development of the population health level strategy for pain prevention, treatment, management, and research as recommended in the NAM report, "Relieving Pain in America"*
9/2015 –	**Member, NIH, ACRWH** - *ARWH; Congressionally mandated as a mechanism for eliciting advice and recommendations on priority issues affecting women's health and sex differences research. In this role, the ACRWH advises the ORWH director on appropriated NIH research activities on women's health; reviews the women's health research portfolio for NIH; surveys goals for scientific career development; and assesses the inclusion of women and minorities in NIH clinical research*
2015 -	Member, ACRWH Raising the Bar Workgroup
2017 -	Member, NIH ORWH Strategic Planning Committee
2018 -	Member, NIH All of Us Research Program, Priorities Workshop (Precision Medicine Initiative)
2018	**Chair, Uniformed Services University School of Medicine/Henry M. Jackson Foundation for Military Medicine, Pain Research & Management Scientific Peer Review committee**
2018	Member and Speaker, NIH Discovery and Validation of Biomarkers to Develop Non-Addictive Therapeutics for Pain
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (03)
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (04)
2019-2020	**Member, NAM Committee on the Assessment of the Available Scientific Data Regarding the Safety and Effectiveness of Ingredients Used in Compounded Topical Pain Creams**
2020 -	Member, Healthy Women Chronic Pain Advisory Board
2020 -	Consultant (*ad hoc*), Foundation for Anesthesia Education Research (FAER)
2020-	***Member, Johnson & Johnson Pain Management Scientific Advisory Committee***
2021-	***Member, American Cancer Society Research Oversight Advisory Committee***
2021-	***Project Georgia African American Maternal Health Advisory Committee***
2021-	***Member, NINDS Division of Clinical Research at the NIH Data & Safety Monitoring Board (DSMB) for the Early Phase Investigation Network (EPPIC-Net)***

National

1992–1994	Co-Director, Current Controversies in Ambulatory Anesthesia Conference, UM, Ann Arbor, MI
1993–2002	Society for Ambulatory Anesthesia: Publications, Education, and Scientific Review Committees
1998–	**American Society of Anesthesiologist's (ASA)** • Member, Committee on Pain Medicine (1988-2002) • Member, Committee on Diversity (2002-4) • Member, Committee on Practice Parameters, Task Force for updating Practice Guidelines for Acute Pain Management in the Perioperative Setting (2003, 2011)
2000-2002	Author, American Board of Anesthesiology questions on pain management for ABA Pain Exam
2000–	**American Pain Society (APS)** • Member, Annual Scientific Meeting Committee (2000, 2004, 2010, 2011)

- Member, Special Interest Group on Ethics (2002-2003)
- **Founding Chair, Art Committee (2004-6)**
- **Founding Chair and Immediate Past Chair, Special Interest Group Pain and Disparities (2005-9)**
- **Chair and Organizer, Pre-conference workshop - Disparities in pain care: from the laboratory to clinical practice (2005)**
- Member, Special Interest Group Task Force (2005-6)
- Member, Nominating Committee (2005)
- Member, Membership Committee (2008)
- **Chair, Public Policy Committee (2009-15)**
- Member, Awards Committee (2010)
- Member, Communications Committee (2011-4)
- **Chair, Geriatrics Special Interest Group (2012-3)**

2001– **Gerontological Society of America (GSA):** Member, Minority Aging Task Force; Member, Clinical Medicine Scientific Review Committee; Member, Membership Committee

2002–2003 Member, Pfizer National Advisory Board for Geriatric Pain Medicine

2004–2006 **National Pain Foundation**

- **Board member**
- **Chair, Research Committee**
- **Chair, Disparities Committee**

2004–2010 Society for Executive Leadership in Academic Medicine

2005 **American Academy of Pain Medicine**

- Ethics Committee (2005)
- Communications Committee (2005)
- Scientific Abstracts Committee (2016-)
- Leadership Development Task Force (2016-)
- **Lead, Diversity and Equity Strategic Plan Development- AAPM Population 2030 Strategic Plan (2016-)**

2006 **Co-Director, Racial and Ethnic Disparities in Pain Treatment: Converting Research to Policy Conference, University of Pennsylvania and Philadelphia VA, Philadelphia, PA**

2006- **Hedwig van Ameringen Executive Leadership in Academic Medicine**

- Leadership Fellow (2004-2005)
- Coordinator, Women of Color in the Academy Task Force (2006)
- Member, ELAM Alumnae Association Advisory Board (2010-2012)

8/2007 **Organized Mini-medical School on Pain Management briefing, U.S. Senate Health, Education, Labor, and Pensions Committee, U.S. Senate, Washington, DC**

2007–2013 Center for Healthcare Quality and Transformation

- **Board member (2007-2009)**
- Member, Research and Policy and Advisory Committee (2009-2013)

2007– National Academies of Science, Engineering & Medicine

- **Member, NAM's Health Care Services Board (reappointed for 2nd term 2010; 2007-2013)**
- **Reviewer and Review Coordinator (2008-2019)**
- **Member, Committee to Assess the Safety and Effectiveness of Compounded Pain Cream Ingredients (2019)**

2006- **Robert Wood Johnson Foundation**

- **RWJ Health Policy Fellow (2006-2009)**
- Organized RWJ Fellowship Alumni Retreat, NAM of the National Academies, Washington, DC (2008)
- Created and Founding Chair, RWJ Health Policy Fellows Lifetime Achievement Award (2008)

2008 Michigan State Medical Society's Future of Medicine Essential Benefits Work Group

2008- New York Academy of Medicine: Awards Committee (2009–2016)

2004- **Mayday Fund**

- **Inaugural Fellow, Mayday Pain and Society Fellow (2004-2005)**
- **Member, Mayday Special Committee on Pain and the Practice of Medicine (2009)**
- **Member, Mayday Special Committee on Pain and Policy (2010)**
- Member, Mayday Fellowship Advisory Committee (2011-5)

2009 C-Change Cancer Competency Advisory Committee for the Pain and Palliative Care Initiative

2009–2010 **Chair of Planning Committee, Resource for Minority Aging Research annual GSA Pre-conference Workshop – Minority Aging Research: From Science to Informing Policy**

2010 – 2014 Advisory Board Member, Achieving a Critical Mass of Women Biomedical Faculty: Impact of three U.S. Programs

2010 Reviewer, Academy Health Student Research Committee, Academy Health

2010 Member, Scientific Program Committee, Midwest Pain Society

2011– 2014 **Member, American Association for the Advancement of Science (AAAS), Board Committee on Opportunities in Science (COOS),** Washington, DC

2011 Member, Deep South Resource Center for Minority Aging Research (RCMAR) Expert Advisory Panel

2011 –2017 **Member, American Cancer Society Council for Extramural Grants**

2013– 2015 Member, AAMC Initiative on Evaluating the Research Enterprise - Health Equity Panel, Washington, DC

2014– Member, Academy Health's Diversity Round Table Panel, Washington, DC

2014–2016 Member, David E. Rogers Award Selection Committee, AAMC, Washington, DC

2014– Member, American College of Healthcare Executives, Chicago, IL

2014– Member, Aetna/Academy Health Fellowship Advisory Committee, Washington, DC

2016- Member, American Academy of Pain Medicine Leadership Development Task Force, Chicago, IL

2017- Member, Michigan State University College of Human Medicine Alumni Board

2018 Chair, MSU CHM Alumni Board Philanthropy Subcommittee

2020 - Member, Healthy Women Chronic Pain Advisory Board

2020 - Consultant (*ad hoc*), Foundation for Anesthesia Education Research (FAER)

2020- Member, Resource Centers in Minority Aging Research Scientific Advisory Board

2020- Member, Johnson & Johnson Pain Management Scientific Advisory Committee

2021- Member, American Cancer Society Research Oversight Advisory Committee

2021- Member, National Academy of Medicine Healthy Longevity Catalyst Award Competition Innovation Reviewer

University, Medical School, School of Public Health, and Institute for Social Research

1980–1983 Member, Academic Performance Committee, UM–Flint

1981- 1983 Member, Biology Department Chair Search Committee, UM-Flint

1983–1984 Member, Selection Committee for Regents Honorary Doctorate

1992–2001 Member, Quality Improvement Team, Quality Assurance Committee

1997–2001 Chair, Quality Assurance Subcommittee on Postoperative Nausea/Vomiting and Pain Control

1994-2012 Member, Anesthesiology Research Committee

1994-2006 Associate Director, Medical Student Education; Member, Education Committee

1994-2006 Coordinator, Midwest Anesthesiology Residents Conference

1995 Member, Women of Color in the Academy Speaker Series Committee

1995–1997 Member, President's Task Force for Violence Against Women

1996 - Mentor, Undergraduate Research Opportunity Program

1997 Chair, Speaker Committee, The African American Health Care Summit Planning Committee

1997-2006 Founding Director, Medical Student Summer Anesthesiology Research Preceptorship **1997–2006 Medical Director, Acute Pain Service**

1997-2005 Member, Anesthesiology Executive Committee; Chair, Administrative Task force (1999)

1997–2000 Member, Medical School Admissions Committee

1997–1999 Member, Michigan Institute for Women's Health

1997–1999	Member, Medical School Curriculum Committee: Component III & IV
1999–2000	**Chair, Executive Vice President for Medical Affairs Advisory Committee**
1999–2001	Member, Institutional Review Board Committee
1999–2002	Member, Medical Student Career Development Committee
1999–2000	Chair, Opioid Task Force for Executive Committee for Clinical Affairs
1999–2006	Member, Medical Student Mentoring and Career Development Committee
2000	Mentor, United Asian American Medical Student Association
2000-2008	Selection Committee, RWJ Clinical Scholars UMMS and Health and Society Scholars UM School of Public Health
2000–2000	Member, Search Committee for Assistant Medical School Dean for Diversity and Faculty Affairs
2000–2004	**Chair, JCAHO Pain Management Steering Committee**
2003–	Mentor, Health Sciences Scholars Program
2003	Faculty Advisor, Medical Students interested in Anesthesiology
6/2004	Member, Comprehensive Cancer Center in the Socio-Behavioral Program, UMMS
2004–2005	Member, Harold B. Johnson Diversity Award Selection Committee
2004–2006	Member, Michigan Visiting Nurses Association Board of Directors 2004–
2006	Member, Provost's Faculty Committee on Education for a Diverse Democracy
2005–2006	Faculty Advisor, Provost's Voices of Michigan Faulty Staff Communication Committee
2005–2006	Member, Health Colloquium Advisory Committee
2005–2009	**Clinical and Translational Science Award CTSA) - Michigan Institute for Clinical Health Research (MICHR):** • **Director, Health Disparities Research Program** • Member, Scientific Executive Committee • Member, Operating Committee • Member, Community Engagement Council • Member, Pediatrics Clinical Research Committee
2006	**Member, National Center for Institutional Diversity (NCID), ADVANCE Advisory Committee, UM**
2008–2009	**Member, Provost's Search Committee for Dean of Kinesiology**
2008–2017	**Member, Medical Benefits Advisory Committee (MBAC)**
2008–2011	**Elected Member, UM Senate Assembly**
2008–2010	Member, Minority Health and Health Disparities International Research Training Program, Center for Human Growth and Development, UM
2009–2012	**State of Michigan Advisory Board NCID—Urban Community College Transfers Project**
2009–2010	Member, Michigan Meetings, "The Economy and Cancer Disparities"
2010–2013	**Member, UM Provost's Academic Affairs Advisory Committee**
2011–2013	**Reviewer of promotion packages for the Provost and Executive VP for Academic Affairs**
2011–2012	Member, Center for Education for Women Scholarship Selection Committee
2011–2013	**Member, Long Term Disability Program Review Committee 2011–**
2014	**Member, Faculty Development and Mentoring Committee, UMMS**
2012–2014	Member, Society 2030 Consortium, UM, Ann Arbor, MI
2012–2013	**Member, Provost's Faculty Hiring Manual Committee -** focuses on recruiting and hiring for diversity and excellence; http://advance.umich.edu/resources/handbook.pdf
2012–	Member, The UM Women in Academic Medicine Leadership Advisory Committee, UMMS
2013–2015	**Member, NSF Advance Advisory Board, UMMS**
2013–2014	Member, Chief Communications Officer Search Committee, UMHS
2013–2014	Member, Development Leadership Advisory Group, UMHS 2013–
2015	Member, Hospitals and Health Center's CEO Cabinet, UMHS
2013–2015	Member, Dean's Cabinet, UMMS
2013–2014	Member, UMHS's Executive Group
2013– 2015	Member, Admissions Executive Committee, UMMS
2013–2014	**Member, Provost's, Vice Provost's, and Associate Dean's Group Subcommittee on Diversity**
2014–2015	Member, UMHS Chief Human Resources Officer Search Committee 2013–
2015	Member, Martin Luther King Day Health Sciences Planning Committee, UM

2014–2015	**Member, Vice Provost and Associate Deans Group Subcommittee on Diversity – developed the strategic plan for UM campus wide strategic plan for diversity**
2014-2015	Member, Clinical Learning Environment Review (CLER) for Accreditation of Graduate Medical Education Task Force, UMHS

SELECTED VOLUNTEER SERVICE WITH COMMUNITY ORGANIZATIONS

1983–1985	Student Government, Treasurer 1984-85 MSU CHM, East Lansing, MI
1988	Assistant Coach and Judge, Luke M. Powers Catholic High School Forensics Team, Flint, MI
1997–1998	Member, Michigan Health Care Initiative, Ann Arbor, MI
1997–1996	Volunteer, African American Health Care Summit, Ann Arbor, MI
1998–2006	Member, Community Dental Center Board, Ann Arbor, MI
2004	Member, Michigan Visiting Nurses Association Board of Directors, UM, Ann Arbor, MI
2007–	Food Pantry Volunteer and Grant writer for Saint Luke's New Life Center, Saint Agnes Catholic Church, Saint John Vianney Catholic Church, Flint, MI
2008–2010	Member, SafeHouse Center Board of Directors, Ypsilanti, MI

EDUCATIONAL QUALIFICATIONS

A lifelong learner, I am expert in health and healthcare and pain and pain care disparities and inequities, the social determinants of health, women's and minority health, aging, and diversity, equity and inclusion. I am an active clinical educator, innovator, and advocate. My commitment to the arts in medicine has promoted healing and understanding. I mentor learners across the biomedical and health professions pipeline. My participation in highly selective fellowship programs promoted my expertise in health and pain care policy. I have successfully translated knowledge to health professionals, the community, and policy makers (*e.g.* US Congress, NAM) via invited oral (*e.g.* Keynotes, Visiting Professor) and written presentations in a variety of venues across the globe. I am recognized for my ability to inspire and mentor for excellence and diversity. I have built successful pathway and novel leadership programs that are the genesis of inter-professional education and health care teams. I have provided expert consultation on building a critical mass for those who are underrepresented in the academy, biomedical sciences, and health professions (*e.g.* women and minorities). I have helped launch exceptional individuals who excel as professors, clinicians, teachers, and leaders across the world.

Visiting Professorships, Seminars, and Extramural Invited Presentations

Creative Works and Performances

2000	**Honorable Mention, American Society of Anesthesiologists Art Exhibit—Poetry/Literature**
2005, 2006	American Pain Society Art Exhibit – Creative Works
2015	***Soloist: Narrator and Lincoln*, Lincoln's Portrait by Aaron Copeland, UMHS' Life Sciences Orchestra Concert, Hill Auditorium (Ann Arbor, MI)**
2020	***Soloist: Journey toward the Light*, Rona is that you? 8:46, and other selected poems and prose by Carmen R. Green, Detroit Musicians Association (Detroit, MI)**

State, Federal, and Congressional Briefings and Testimony

10/2006	**"Socio-demographic factors and pain management: The case for disparities in pain care," Indiana Senate and House of Representatives, Indianapolis, IN**
11/2007	**"National pain policy: Tackling barriers to proper pain management," Invited Guest, National Pain Care Policy Act of 2007, Energy and Commerce Committee, Health Subcommittee, U.S. House of Representatives, Washington, DC**
4/2008	**"Unequal burdens and unheard voices: Unraveling disparities in pain care quality," Guest speaker, Pharmaceutical Access Symposium, Congressional Black Caucus Health Braintrust, Washington, DC**
3/2009	"Disparities, pain, and health care quality: The thieves stealing our economic advantage," Guest speaker, Wolverine Caucus Programs, Lansing, MI
7/2011	**"The science of inclusion: Racial, gender, and aging influences on pain," Guest speaker, Office for Research on Women's Health, NIH, Bethesda, MD**

5/2012 **"Chronic pain: The challenges and opportunities for the rehabilitation community," Guest speaker, National Center for Medical Rehabilitation Research Council, NIH, Bethesda, MD**

4/2015 **"Pain care disparities: Addressing the unequal burden through knowledge and policy," Guest speaker, 12th Annual National Leadership Summit on Health Disparities, Congressional Black Caucus Health Braintrust, Washington, DC**

9/2016 **"Unequal burdens and unheard voices: Disparities in Pain Management" Guest speaker, Advisory Committee for Research on Women's Health, NIH, Bethesda, MD**

7/2019 ***"Chronic pain assessment and treatment: The role of biomarkers," Guest Speaker, Social Security* Administration *at the National Disability Forum, Washington, DC***

2021 "Perspectives on the intersection of mental health and pain care for older adults, Guest speaker, National Center on Older Adults, Washington DC

2021 The impact of social determinants of health on chronic pain and pain management, NIH Pain Consortium Symposium, Washington DC

International Presentations

2/1998 "Pain management for outpatient anesthesia," Puerto Vallarta, Mexico

2/1998 "Economic issues in pain management," Puerto Vallarta, Mexico

10/2003 **"Unequal burdens and unheard voices," Guest speaker, "Pain narrative and suffering symposium," Rockefeller Foundation, Bellagio, Italy**

5/2004 "Pain medication availability in minority and Caucasian neighborhoods in Michigan: A preliminary analysis," Vancouver, BC, Canada

8/2005 "Sleep quality in African and Caucasian Americans with chronic pain," International Association for the Study of Pain, World Congress, Sydney, Australia

8/2008 "A longitudinal examination of cancer pain: severity, quality and impact on quality of life," International Association for the Study of Pain, World Congress, Glasgow, Scotland

8/2008 "Neighborhood SES, race, education, and chronic pain in working aged blacks and whites." International Association for the Study of Pain, World Congress, Glasgow, Scotland

08/2010 "Factors related to the chronic cancer pain experience among cancer survivors" International Association for the Study of Pain, World Congress, Montréal, Quebec, Canada

08/2020 "Social Inequalities and Pain," Canadian Pain Society

Commencement and Convocation Addresses

1979 "Scholarship, service, and community: The need to be more than friendly," Keynote and Address to the Class of 1979, Luke M. Powers Catholic High School Honors and Convocation, Flint, MI

1983 "Maintaining spirituality and high academic standards in changing times," Keynote, National Honor Society, Luke M. Powers Catholic High School

2015 **"Data, facts, and truth: The power of stories to eliminate healthcare inequities in our time," 51st Michigan State University College of Human Medicine Commencement Address, E. Lansing, MI**

Named, Plenary, Keynote, and Visiting Professor Presentations

2003 "The impact of patient and physician characteristics on pain management," Visiting Professor, Department of Anesthesiology, Wayne State University, Detroit, MI

2003 "Multidisciplinary acute pain management," Visiting Professor, Department of Anesthesiology Grand Rounds, Wayne State University, Detroit, MI

2005 "Unequal burdens, unheard voices: Disparities in health due to pain," Plenary, American Pain Society, Boston, MA

2005 **"Unequal burdens, unheard voices: Evidence for disparate pain care," Keynote, Physician Medical Foundation, Oakland, CA**

2005 "Unequal burdens, unheard voices: Evidence for disparate pain care," Keynote, Student National Medical Association, U of Nebraska Medical Center, Omaha, NE

2005 **"Unequal burdens and unheard voices: The case for disparities in pain care," Blaustein Lecture, Johns Hopkins University, School of Medicine, Baltimore, MD**

2006 "Unequal burdens and unheard voices: Making the case for disparities in pain care," Visiting Professor, Geriatrics Center, U of New Mexico

2006 "Unequal burdens and unheard voices: Why disparities in pain care are important to the internist," Visiting Professor, Dept of Internal Medicine, U of New Mexico

2006 "Acute postoperative pain management: The role of multidisciplinary approaches," Visiting Professor, U of New Mexico School of Medicine, Dept of Anesthesiology

2006 "Disparities in health and pain care: Time for multidisciplinary approaches and interdisciplinary research," Visiting Professor, U of New Mexico School of Medicine, Dept of Anesthesiology Grand Rounds, Albuquerque, NM

2006 "Unequal burdens and unheard voices: The role of narrative and new health policy in understanding disparities in pain care," Keynote-Sackler Lecture, Tufts Univ, Boston

2006 "Leveling the playing field: Disparities in the quality of pain care," Keynote, Forum on Disparities in Pain Care, Philadelphia, PA

2008 "Shocking and inhumane: When will we address injustices in health?" Keynote for Black History Month, Student National Medical Association, MSU CHM

2008 "Pain, disparities, and policy: Opportunities and challenges for anesthesiology," Visiting Professor-Anesthesiology, Johns Hopkins University Medical School, Baltimore, MD

2008 "Research and policy: Opportunities to hear the unheard voices and to address the unequal burden of health disparities," Keynote, Summer Undergraduate Biomedical Research Program Graduation Ceremony, Rackham School of Graduate Studies, UM, Ann Arbor, MI

2008 "Pain, disparities, and practice: Opportunities to improve health policy and health care quality," Keynote, American Academy of Pain Management annual meeting, Nashville, TN

2009 "From shamans to doctors: The village and leadership needed to create a health care system with justice for all," Selected to give the Distinguished Alumni Address, MSU CHM

2009 "The health care bubble through the lens of disparities and pain," Visiting professor, Drexel University College of Medicine, Philadelphia, PA

2009 "The health care bubble through the lens of pain research, practice, and policy," Visiting professor, University of North Carolina School of Public Health, Health Management and Policy, Institute of Gerontology, Chapel Hill, NC

2009 "Pain care disparities, research, practice and policy: An update for pharmacists," Keynote, Pain Management Symposium, Wayne State University College of Pharmacy, Detroit, MI

2010 "The pain care bubble: The role of disparities, research, practice, and health policy," Visiting professor, U of Washington, Department of Anesthesiology and Pain Medicine, Seattle, Washington

2010 "Unequal burdens and unheard voices: Disparities, pain, and health care quality," Keynote, Pain Society of Oregon 11th Annual Clinical Meeting, Portland, OR **2010 "The unequal burden and unheard voices of pain: Creating a health care system with justice for all," Dean's lecture, U of California Davis, Sacramento, CA**

2011 "Pain and health care disparities: Improving the health of an aging and diverse society," Keynote, Deep South RCMAR (Morehouse University School of Medicine, Tuskegee University, and U of Alabama at Birmingham)

2011 "The role of mentoring to improve age related health disparities," Keynote, Deep South RCMAR (Morehouse University School of Medicine, Tuskegee University, and U of Alabama at Birmingham), Birmingham, AL

2011 "Unequal burdens and unheard voices: Creating a health care system with equity for all," Keynote, National Dental Association's Women's Health Symposium, Baltimore, MD

2011 "The science of inclusion: Racial, gender, and aging influences on pain," Invited speaker, Sex Differences and Pain Research Office of Research on Women's Health (ORWH), Women's Health Seminar Series, NIH. Bethesda, MD

2011 "Pain and the science of inclusion: Racial, gender and age influences on health care quality and policy," Keynote, Health disparities and pain: Research and community impact, Weill Cornell Medical College, NY, NY

2012 "The unequal burdens and unheard voices of cancer: The scientific and ethical implications of health disparities," Keynote; The First Bioethics Conference on Cancer Health Disparities

Research, Bioethics Shared Resources group of the Morehouse School of Medicine/Tuskegee University/University of Alabama at Birmingham Comprehensive Cancer Center Partnership in Collaboration with Tuskegee University National Center for Bioethics in Research and Health Care. Tuskegee, AL

2012 "360 degrees of living well with pain," Healthier Black Elders Annual Health Reception Keynote, Wayne State University, Detroit, MI

2012 "The unequal burdens and unheard voices of cancer and pain: Using narratives, research, and policy to promote health equity and the science of inclusion," Closing Plenary, Kathleen Foley Palliative Care Retreat. Park City, UT

2013 "The history of health and pain care disparities," Grand Rounds-Anesthesiology, U of Alabama at Birmingham

2013 "Pain care and health care policy: A primer," Grand Rounds-Anesthesiology, U of Alabama at Birmingham

2013 "Building capacity: The hypotheses, mentor, and environments needed to promote inclusion and health equity for all," Grand Rounds, Minority Health and Health Research Center, U of Alabama at Birmingham, Birmingham, AL

2013 "Pain and palliative care disparities: The unequal burden and unheard voice," 46th Annual Great Lakes Oncology Nursing Conference, American Cancer Society, Troy, MI

2014 "Unequal burdens and unheard voices: Achieving the dream for health care equity for all," Grand Rounds-Internal Medicine in honor of the Rev. Dr. Martin Luther King, U of Iowa

2014 "Pain care and health care policy: A primer," Grand Rounds, Center for Pain Medicine and Regional Anesthesia, Department of Anesthesia, University of Iowa, Iowa City, Iowa

2015 "Talk health care equity: When will we address injustices in health?" Keynote, Student National Medical Association Graduation Banquet, MSU CHM

2015 "Unequal burdens and unheard voices: The pursuit for equity and inclusion in pain care" Closing keynote, Arizona State University, Scottsdale, Arizona

2016 "Unequal burdens and unheard voices: Disparities in Pain Management" Plenary Speaker for Challenges and Disparities for Underserved Populations Receiving Palliative Care. Palliative Care in Oncology, American Society of Clinical Oncology, San Francisco, CA

2017 "Unequal burdens and unheard voices: The pursuit for equity and inclusion in pain care," Keynote, 2017 Culturally Responsive Health Care in Iowa conference, University of Iowa, Iowa City, Iowa

2019 "The opioid crisis: Rethinking policy and law," Panelist, American University, Washington, DC

2019 "Racial and ethnic disparities, live pain experiences, stigma," Keynote Speaker for 2019 Healthy Women Conference. Science, Innovation & Technology Summit. Chronic Pain in Women: Focus on Treatment, Management and Barriers, Turf Valley Resort, Ellicott, MD

2020 "Rethinking comprehensive chronic pain care in a diversifying society." Napa Pain Society Keynote

2020 "Rethinking comprehensive chronic pain care in a diversifying society," Napa Pain Society, Keynote

2020 "The Unequal Burdens and Unheard Voices: The History of Disparities in Pain Care," Visiting Professor, University of Tennessee, Department of Psychology, Knoxville, TN

2021 "The Unequal Burdens and Unheard Voices of Chronic Pain: Causes and Consequences," Visiting Professor, University of Pittsburgh, VA Pittsburgh Health Care System Center for Health Equity Research, Pain Center (Clinical arm: Challenges in Managing and Preventing Pain (CHAMPP) Clinical Research Center

2021 "Implicit Bias and Unequal Voices: What It Is and How It Affects Patients?" American Society of Addiction Medicine

National Presentations

1997 "Economic issues in pain management," Children in Pain Seminar, Dearborn,

1997 "Interdisciplinary pain management & patient advocacy," Children in Pain Seminar

1997-2000 **AAMC: Junior Women in Medicine Professional Development Seminar & Minority Faculty Career Development Seminar,** Faculty: Kansas City, MO/Santa Fe, NM/Reston, VA/Bethesda, MD

- **"Characteristics of productive researchers and their environments,"**
- **"Special challenges of minority women faculty in medicine"**
- **"How to be a good mentee?"**

1997 "The new anesthetic formulary: What adjuvants should I add to my practice?" ASA, Atlanta, GA

2000 "Implementing the new JCAHO pain standards: Trials and tribulations," Operating Room Pharmacy Association, Atlanta, GA

2001 "Pain management clinical forum: Problem based learning," ASA, Dallas, TX

2002, 2003 "Pain, age, gender and ethnicity," Kaiser Permanente Pain Management Symposium, San Francisco, CA, Las Vegas, NV

2003 "The multidisciplinary approach to pain management: A primer for surgeons," American Society for Peripheral Nerve Surgery, Kauai, HI

2003 "Functional restoration following devastating injuries: Using multidisciplinary pain management approaches to improve outcomes," American Society for Peripheral Nerve Surgery, Kauai, HI

2003 "Pain management: Current clinical issues and opportunities for the underserved minority patient in pain," National Medical Association, Philadelphia, PA

2003 "Clinical decision-making in pain management: Contributions of physician and patient characteristics to variation in practice," Guest speaker, National Medical Association annual meeting, Philadelphia, PA

2003 "Chronic pain management: Race, gender, and age," Guest speaker, One Voice – Many Faces: United Against Cancer, Sponsored By Deep South Network for Cancer Control, Gulfport, MS

2003 "Chronic pain: Cultural and gender influences," Guest speaker, Midwest Pain Society, Chicago

2003 "Chronic pain management: Race, gender, and age," Guest speaker, Mini-medical School for Pain Management, One Voice – Many Faces: United Against Cancer, Deep South Network for Cancer Control, Gulfport, MS

2004 "Racial disparities in pain care," American Academy of Pain Medicine, Orlando, FL

2004 "Racial, age, and gender-related disparities in health and quality of care among patients with chronic pain: Creating a new health services research agenda," Guest speaker, Resource Centers for Minority Aging Research annual meeting, Charleston, SC

2004 "The unequal burden of pain: A quality of life and public health issue," Guest speaker

- Intercultural Cancer Council 9th Biennial Symposium on Minorities, Washington, DC
- Charles R. Drew University School of Medicine and Science, Los Angeles, CA

2004 "Racial differences in pain," Guest speaker, Kaiser Permanente Pain Management Symposium, Pain and the Primary Care Provider, Newport Beach, CA

2004 "Diversity issues in pain," Guest speaker, Kaiser Permanente Pain Management Symposium - Pain and the Primary Care Provider, Newport Beach, CA

2004 "Disparities in pain care: Patient and physician variability," Partners for Understanding Pain, Washington, DC

2004 "Disparities in pain care: The impact on minority elders," Moderator; "How do healthcare provider's attitudes and decision-making influence care," GSA, Washington, DC

2005 "Recognizing professional bias in selecting pain treatment," / "Disparities in pain care," Moderator; "Racial, ethnic, and cultural influences on chronic pain management," Speaker, American Academy of Pain Medicine annual meeting, Palm Springs, CA

2005 "The case for disparities in chronic pain care: From the laboratory to clinical practice," Moderator and speaker, American Pain Society, Boston, MA

2005 Visiting Scholar, Resource Centers in Minority Aging Research, Native Elder Research Center, U of Colorado Health Sciences Center, Denver, CO

- "Multidisciplinary acute and chronic pain management: Mini-medical school"
- "Unequal burdens, unheard voices: Racial disparities in pain care"

2005 "Social perspectives in pain management: The role of race in disparities in pain care," Guest speaker, American Alliance of Cancer Pain Initiatives, St. Louis, MO

2005 "Alumni Reflections," NIH/NIA Summer Aging Research Institute, Panelist, Queenstown, MD

2005 "Unequal burdens, unheard voices: The role for narratives in pain care disparities," Guest speaker, Psychiatric Issues Conference, East Tennessee State University College of Medicine, Johnson City, TN

2005 **ECRI Institute**, Guest speaker, ECRI Conference, Philadelphia, PA

- "The epidemiology of pain: The silent epidemic and public health crisis,"
- "Chronic pain as a health system priority: How evidence could improve policy & practice"

2005 **"Why black elders experience more pain and less relief," National Press Foundation, Reporting on the health challenges of black seniors, Detroit, MI**

2006 "Unequal burdens and unheard voices: The case for disparities in pain care," Health Colloquium, Institute of Gerontology, Wayne State University, Detroit, MI

2006 "Recognizing professional bias in selecting pain treatments," Faculty, Meet the Professor Roundtable, American Academy of Pain Medicine annual meeting, San Diego, CA

2006 "Disparities in health and pain care: Time for multidisciplinary approaches and interdisciplinary research," Guest speaker, National Hospice and Palliative Care Organization annual meeting, Washington DC

2006 "Leadership beyond the basics: promoting cultural sensitivity," Panelist, Society for Executive Leadership in Academic Medicine (SELAM) annual meeting, Bryn Mawr, PA; Aspen, CO

2006 "Through our lens," Moderator, Hedwig van Ameringen Executive Leadership in Academic Medicine, Guest speaker, Bryn Mawr, PA

2006 "Leveling the playing field: disparities in pain care," Guest speaker, American Alliance of Cancer Pain Initiatives annual meeting, Phoenix, AZ

2006 "Unequal burdens, unheard voices: Disparities in the quality of pain care," Guest speaker, American Academy of Pain Management annual meeting, Orlando, FL

2006 "The role of socio-demographic factors on pain management outcomes: Making the case for disparities in pain care," ASA, Chicago, IL

2006 "Race, ethnicity, pain, and disparities: Systems and policy factors," Association of Clinical Pharmacists, Washington, DC

2007 "Unequal burdens and unheard voices: Awakening health policy," Guest speaker, NAM of the National Academies, Washington, DC

2007 "Unequal burdens and unheard voices: The case for disparities in pain care and new health policy," Guest speaker, Wake Forest University School of Medicine, Winston-Salem, NC

2007 "Health care access/coverage," Moderator, Robert Wood Johnson Human Capital Synergy Conference, National Academy of Medicine of the National Academies of Science, Washington, DC

2007 "Reflections on a year on the hill," Robert Wood Johnson Health Policy Fellowship Alumni meeting, NAM of the National Academies of Science, Washington, DC

2008 "Differences or disparities: The role of gender in the pain experience," Guest speaker; "Racial and ethnic disparities in the pain experience: Time for the new research and policy," Guest speaker, Western Pain Society and Pain Society of Oregon Conference, Portland, OR

5/2008 "Hidden settings for health disparities in pain: Uncovering the truth and policy implications," Speaker, American Pain Society annual meeting, Tampa, FL

2008 Exploratory Workshop: Mechanisms and Management of Pain in the Elderly, NIH/NIA & Pain Consortium, NIH, Bethesda, MD

- "The role of race, ethnicity, and gender on an increasingly aging society," Guest speaker
- "Complexity of pain in the elderly," Speaker
- "Treatment and management of pain in the elderly," Moderator and Discussant

2008 "Cost of health care," RWJ Foundation Health Policy Fellowships Program, Alumni Retreat, NAM, Washington, DC

2009 "Health care reform and policy through the lens of pain research, practice, and policy," Guest speaker, Second Annual Pain Management Workshop, Minot, ND

2009 "Differences or disparities: the role of gender in the pain experience," Guest speaker; "Racial and ethnic disparities in the pain experience: Time for the new research and policy," Guest speaker,

Western Pain Society Annual Clinical Meeting "Practical Pain Management: Multi-Disciplinary Strategies for Success," Englewood, CO

2009 "Social determinants of health and health disparities," Panelist, Academy Health Annual Research Meeting, Chicago, IL

2010 "Efficacy and impact of pain agreements/contracts in the treatment of pain," Guest speaker, Center for Practical Bioethics, Kansas City, MO

2010 "The role of gender in the pain experience," Guest speaker, Pain Society of Oregon 11th Annual Clinical Meeting, Portland, OR

2010 "Pain assessment challenges in a cognitively impaired elder," Guest speaker, 23rd Annual Issues in Aging Conference, Troy, MI

2010 "Differences or disparities: The unequal burden and unheard voices of women living with pain," Guest speaker, Society for Women's Health Research Science Conference, Washington, DC

2010 "Examining disparities, pain care, and health policy," Guest speaker, Midwest Pain Society 34th Scientific Session, Northwestern University Medical Center, Chicago, IL

2010 "Disparities and pain: Examining research, practice, and policy," Guest speaker, 2010 American College of Rheumatology/Association of Rheumatology Health Professionals Conference, Atlanta, GA

2010 Making your research count: Strategies for informing minority aging policy, GSA Preconference Seminar, New Orleans, LA

- **"Overview of policy: Opportunities and challenges for minority aging policy relevant research," Speaker**
- **"Pain and palliative care in older diverse adults," Speaker**
- **"Elevator speech presentations" Your key points in 30 seconds or less," Speaker**

2010 "Ethnic and racial influences on pain care," Guest speaker, Multidisciplinary Biobehavioral Rheumatic Diseases Workshop, NIH, Bethesda, MD

2011 "Pain and health care disparities: Improving the health of an aging and diverse society." Deep South RCMAR at the University of Alabama-Birmingham – Tuskegee, AL

2011 "Cancer, pain and disparities: From research to practice to policy." American Pain Society, Austin, TX

2012 "The Impact of race, ethnicity, age, and gender on chronic pain overlapping pain conditions," Guest speaker, Exploratory Workshop: Chronic Overlapping Pain Conditions, NIH/NIDCR, NIH/NINDS, & NIH Pain Consortium, NIH, Bethesda, MD.

2012 "Global aging and pain: Research, Disparities, and Policy Considerations." American Pain Society, Honolulu, HI

2012 "Workshop: Making your research count: Strategies for informing policy." American Pain Society, Honolulu, HI

2012 "APS special session: The NAM Report: Transforming pain in America: The role of the American Pain Society." Honolulu, HI

2012 "Improvements in Pain Control," NAM of the National Academies Board on Health Care Services, Washington D.C.

2012 "Racial and ethnic differences and disparities in pain: The state of the science of inclusion," Summit on the Science of Eliminating Health Disparities, National Harbor, MD

2012 "NIH Resource centers for minority aging research: Building capacity to address health disparities of older adults," Summit on the Science of Eliminating Health Disparities, National Harbor, MD.

2013 "Unequal burdens and unparalleled opportunities: Achieving the dream for health and pain care," Martin Luther King, Jr. Symposium, Health Sciences Program, UM (http://www.youtube.com/watch?v=I_l6mT95B9s)

2013 "Pain and palliative care disparities: The unequal burden and unheard voice," Great Lakes Oncology Nursing Conference, American Cancer Society, Troy, MI

2013 "Optimal Aging and Women's Health Research at the NIH, NIA, and Beyond," Co-chair, GSA, New Orleans, LA

2013 "Conquering Pain and Fighting Attention: Policy Imperatives to Combat a Growing Health Crisis," Panelist, Research! America, Washington, DC.

2013	"History and importance of health and pain care disparities," GSA, New Orleans, LA
2013	**"Minority Health and Disparities," Moderator, National Academy of Medicine of the National Academy of Sciences Board on Health Care Services, Washington, DC**
2014	"Unequal burden of pain: Opportunities for healthcare policy," APS, Tampa, FL
2014	"Unequal Burdens and Unheard Voices: One Scholar's Pursuit for Health and Pain Care Equity," GSA, Integrating Research, Education, and Practice (REP) Symposium, Washington, DC
2021	"Can I get a yellow card: Black-white racial disparities in hospital security calls, Emory University Hospitals Patient Advocates

RESEARCH QUALIFICATIONS

I am a health services researcher with an H-index of 37. My research experience extends from clinical trials to community-based research. My health policy relevant research agenda examines how social determinants impact differences and disparities in health and pain care at the individual, institutional, and population level. The RWJ Foundation, Lance Armstrong Foundation, BCBS of Michigan Foundation, Kaiser Foundation Fund, Aetna Quality Care Fund, Harford Foundation, and NIH have supported my research. My germinal and seminal scholarship on access to quality pain care, variability in decision-making, and disparities in outcomes are highly cited (including NAM reports), covered widely by the media, have influenced national health policy, and led to federal legislation. I have served on three editorial boards, am a senior editor, was editor for a special edition of *Pain Medicine*, and am a reviewer and review coordinator for the NAM. I am also an active reviewer for scientific journals, funders, and national organizations. I serve on scientific advisory boards and councils including the NIH and American Cancer Society.

Editorial Positions, Boards, and Peer-Review Service

Editorial Boards

2002–	Editorial Board, *Pain Medicine*
2004–2005	**Guest Editor, *Pain Medicine*, Special Issue for Disparities in Pain Care**
2004–	Editorial Board, *Journal of Pain*
2004–2007	Editorial Board, *Journal of Opioid Management*
2008–	**Senior Editor, *Pain Medicine***
2020-	Editorial Advisory Board, *Practical Pain Management*

National Academies of Science, Engineering & Medicine – National Academy of Medicine

2008	**Review Coordinator –Toward Health Equity and Patient Centeredness: Integrating Health Literacy, Disparities, and Quality Improvement, Workshop Summary**
2009	**Review Coordinator –The U.S. Oral Health Workforce in the Coming Decade, Workshop Summary**
2010	Reviewer-Future Directions for the National Healthcare Quality and Disparities Reports
2011	**Review Coordinator –Public Engagement and Clinical Trials: New Models and Disruptive Technologies**
2012	**Review Coordinator –Ten Years Later: How Far Have We Come in Reducing Health Disparities?**
2015	**Review Coordinator - Advancing Health Equity for Native American Youth**
2018	**Review Coordinator – Increasing African American Males in the Medical Profession: Proceedings of a Workshop**
2019	Reviewer – The Role of Nonpharmacological Approaches to Pain Management: Proceedings of a Workshop
2019-2020	**Member, Committee to Assess the Safety and Effectiveness of Compounded Pain Cream Ingredients (2019)**
2021-	***Member, National Academy of Medicine Healthy Longevity Catalyst Award Competition Innovation Reviewer***

Selected Books and Journals

Acta Anaesthesiologica Scandinavica ***Anesthesia and Analgesia***

Anesthesiology
Annals of Long-term Care
Archives of Diseases in Childhood
Archives of Internal Medicine
Arthritis Care and Research
Cancer
Cancer Medicine
Clinical Care and Aging
Clinical Journal of Pain
DRUGS
Emergency Medicine Australia
Ethnicity and Disease
Health Affairs
Health Services Research
International Journal for Gynecology and Obstetrics
Journal of Comparative Effectiveness Research
Journal of Health Care for the Poor and Underserved
Journal of Legal Medicine
Journal of Pain
Journal of Pain and Symptom Management
Journal of Palliative Care
Journal of the American Geriatrics Society
Journal of the American Medical Association
Journal of the American Medical Women's Association
Journal of General Internal Medicine
Journal of the National Medical Association
Journal of Women's Health
Pain
Pain Medicine
Rehabilitation Psychology
Social Behavior and Personality
Social Problems
Social Science and Medicine
Teaching and Learning in Medicine
University of Michigan Press

Funders

2004	Alzheimer's Association
2006	Veteran's Administration Merit Review
2000	NIH, Research Centers in Minority Institutions (RCMI), Ponce Medical School, Ponce, PR
2002	NIH, Research Centers in Minority Institutions (RCMI), Meharry Medical College, Nashville
2004	NIH, ZRG1 BBBP-F (03)(M) Trauma and Anxiety Special Emphasis Panel
2006	Department of Defense
2005	NIH, General Clinical Research Center Clinical Trials
2006	Health Research Board – Ireland
2007	NIH, Clinical and Translational Science Awards Scientific Review
2006	Office for Vice President for Research Faculty and Grants Award Program
2008	Substance Abuse and Mental Health Services Administration
2009	Canada Foundation for Innovation (CFI) Leading Edge/New Initiatives Fund, Toronto, Ontario
2009	C-Change, Washington, DC
2010-2015	Mayday Fund
2011	NIH/NCCAM Special Emphasis Panel/Scientific Review Group 2011/05 ZAT1 PK (16)
2011– 2017	American Cancer Society
2012–2015	NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development,
2015	NIH/ NIMHD Endowment Program Review Group Special Emphasis Panel/Scientific Review Group 2016/01 ZMD1 TMV (J1) 1
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (03)
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (04)

Research interests

- Health care utilization and access to pain care, and provider variability in pain management decision-making
- Safety, quality, and outcomes in acute, chronic, and cancer pain management. Pain management education
- Health care and pain care policy
    - Older adult health, minority health, and women's health
    - Health care reform, access, and coverage
    - Health care disparities, quality and equity
    - Hospital security standby request errors
- Diversity in learning environments, educational equity, health equity, and inclusion science
- Medical humanities and narrative medicine
- Hospital Security Errors

Publications

Peer-Reviewed Journals and Publications

1. **Green CR**, Pandit SK, Tait AR, Schork MA, Levy L, Kothary SP: Intraoperative ketorolac has a narcotic sparing effect in women after diagnostic laparoscopy but not after laparoscopic tubal ligation. *Anesthesia and Analgesia***.** 1996; 82:732-7.
2. **Green CR**, Pandit SK, Schork MA: Preoperative fasting time: Is the traditional policy changing? Results of a national survey. *Anesthesia and Analgesia.* 1996; 83:123-8.
3. **Green CR**, deRosayro AM: Cervical epidural for the management of pain associated with digital vasculitis secondary to rheumatoid arthritis. *Journal of Regional Anesthesia.* 1997; 22:199-201.
4. #*†Salzberg-Moore, **Green CR**, Wang FL, Pandit SK, Hurd WW: The role of irrigation in the development of hypothermia during laparoscopic surgery. *American Journal of Obstetrics and Gynecology.* 1997; 176:598-602.
5. Lau WC, **Green CR**, Faerber GJ, Tait AR, Golembiewski J: Intrathecal sufentanil for extracorporeal shock wave lithotripsy provides earlier discharge of the ambulatory patient than subarachnoid lidocaine. *Anesthesia and Analgesia*. 1997; 84:1227-31.
6. **Green CR**, deRosayro AM: Selection factors in pain management fellowship programs: A survey of directors. *American Journal of Anesthesia*. 1998; 25:21-24.
7. Lau WC, **Green CR**, Faerber GJ, Tait AR, Golembiewski JA: Determination of the effective therapeutic dose of intrathecal sufentanil for extracorporeal shock wave lithotripsy. *Anesthesia and Analgesia*. 1999; 89:889-92.
8. **Green CR**: An Overview of acute postoperative pain management: Past, present, and future*. Pharmacology in Anesthesia Practice.* 1999; 1(1):2-12.
9. **Green CR**, Flowe-Valencia H, Rosenblum L, and Tait AR: Do physical and sexual abuse differentially affect chronic pain states in women? *Journal of Pain and Symptom Management.* 1999; 18(6):420-6.
10. †Green JA, **Green CR**: Calciphylaxis treated with neurolytic lumbar sympathetic block: Case report and review of the literature. *Regional Anesthesia and Pain Medicine.* 2000; 25(3):310-12.
11. Haefner, HK, Khoshnevisan, MH, Bachman, JE, Flowe-Valencia, HD, **Green CR**, Reed, BD: Use of the McGill Pain Questionnaire to compare women with vulvar pain, pelvic pain and headaches. *Journal of Reproductive Medicine.* 2000; 45(8):665-71.
12. Lau WC, Adhikary GS, Tait AR, Mathai MK, Fleischmann MD, Golembiewski JA, **Green CR**: Intrathecal sufentanil with low dose lidocaine for cystoscopy, ureteral stent, and extracorporeal shock wave lithotripsy enhances recovery when compared to intrathecal lidocaine with epinephrine*. American Journal of Anesthesia.* 2000; 27(8): 473-76.
13. †Stricker LJ, **Green CR**: Resolution of the refractory symptoms of primary/secondary erythermalgia with intermittent epidural bupivacaine. *Regional Anesthesia and Pain Medicine.* 2001; 26(5):488-90.
14. **Green CR**, Wheeler JC, Marchant B, Guerrero, E: Analysis of the physician variable in pain management. *Pain Medicine.* 2001; 2(4):317-27.
15. **Green CR**, Flowe-Valencia H, Rosenblum L, Tait AR: The role of childhood and adulthood abuse among women presenting for chronic pain management. *Clinical Journal of Pain*. 2001; 17:359-64.
16. **Green CR**, Wheeler JC, LaPorte F, Marchant B, Guerrero E: How well is chronic pain managed? Who does it well? *Pain Medicine.* 2002; 3(1):56-65.
17. **Green CR**, and Tait AR: Attitudes of health care professionals regarding different modalities used to manage acute postoperative pain. *Acute Pain.* 2002; 4(1):15-21.
18. **Green CR**, deRosayro AM, Tait AR: The role of cryoanalgesia for chronic thoracic pain: Results of a long-term follow-up. *Journal of the National Medical Association.* 2002; 94(8):716-20.
19. *__Green CR__, Wheeler JC, LaPorte F: Clinical decision making in pain management: Contributions of physician and patient characteristics to variations in practice. *Journal of Pain.* 2003; 4(1):29-39.
20. †__Green CR__, Wheeler JC, LaPorte F: Physician variability in the management of acute postoperative, and cancer pain: A quantitative analysis of the Michigan experience. *Pain Medicine.* 2003; 4(1):8-20.
21. **Green CR**, Baker TA, Smith EM, Sato Y: The effect of race in older adults presenting for chronic pain management: A comparative study of black and white Americans. *Journal of Pain.* 2003; 4(2):82-90.
22. **Green CR**, Baker TA, Sato Y, Washington TL, Smith EM: Race and chronic pain: A comparative study of young black and white Americans presenting for management. *Journal of Pain.* 2003; 4(4):176-183.

* Top requested article 2009 & 2010

†Article with student or trainee

23. ‡^+**Green CR**, Anderson KO, Baker TA, Campbell LC, Decker S, Fillingim RB, Kaloukalani DA, Lasch KE, Myers CD, Tait RC, Todd KH: The unequal burden of pain: Confronting racial and ethnic disparities in pain. *Pain Medicine.* 2003; 4(3):277-94
24. **Green CR**, Baker T, Ndao-Brumblay SK: Patient attitudes regarding health care utilization and referral: A descriptive comparison in African- and Caucasian Americans with chronic pain. *Journal of the National Medical Association*. 2004; 96(1):31-42.
25. **Green CR**, Ndao-Brumblay SK, Nagrant AM, Baker TA, Rothman E: Race, age, and gender influences among clusters of African American and White patients with chronic pain patients. *Journal of Pain.* 2004; 5(3):171-182.
26. Stevenson JG, Pearlman M, **Green CR**, Newland S, Grondin L, Thompson M, Golembiewski J, Campbell D: Altering meperidine-prescribing patterns in a university teaching hospital. *Joint Commission Journal on Quality and Safety.* 2004; 30(5):277-281.
27. Ashburn M. Caplan, RA, Carr DB, Cannic RT, Ginsberg B, **Green CR**, Lema MJ, Nickinovich DG, Rice LJ: Practice guidelines for acute pain management in the preoperative setting: An updated report by the American society of anesthesiologist's task force on acute pain management. *Anesthesiology.* 2004; 100:1573-1581.
28. **Green CR**: Racial disparities in access to pain treatment. *Pain Clinical Updates.* 2004; 12(6):1-4.
29. **Green CR**, Tait RC (Editors): Disparities in Pain Care. *Pain Medicine, Special Issue*. 2005; 6:1-102.
30. **Green CR**: Native Americans and disparities in pain care. *Pain Medicine.* 2005; 6(5):398-399. *Letter to the Editor.*
31. **Green CR**, Tait, RC, Gallagher, RM: The unequal burden of pain: Disparities and differences. *Pain Medicine.* 2005; 6(1):1-2.
32. †Baker, TA, **Green CR**: Intrarace differences among black and white Americans presenting for chronic pain management: The influence of age, physical health, and psychosocial factors. *Pain Medicine*. 2005; 6(1):29-38.
33. §**Green CR**, Ndao-Brumblay SK, West B, Washington T: Differences in prescription opioid analgesic availability: Comparing minority and white pharmacies across Michigan. *Journal of Pain.* 2005; 6(10):689-699.
34. Ndao-Brumblay SK and **Green CR**: Racial differences in the physical and psychosocial health among black and white women with chronic pain. *Journal of the National Medical Association.* 2005; 97(10):1369-1377.
35. Todd, KH, **Green CR**, Bonham VL, Haywood C, Ivy E: Sickle cell disease related pain: Crisis and conflict. *Journal of Pain.* 2006; 7(7):453-458.
36. **Green CR**, Todd KH, Lebovits A, Michael F: Disparities in Pain: Ethical Issues. *Pain Medicine*. 2006; 7(6):530-533.
37. **Green CR**: The quality of cancer pain management for racial and ethnic minority Americans: Unequal burdens and unheard voices. *Journal of Cancer Pain and Symptom Palliation.* 2006; 2(1):19-27.
38. †Fuentes M and **Green CR**: The association between race, neighborhood SES, and chronic pain in black and white elders. *Journal of the National Medical Association.* 2007; 99(10):1160-1169.
39. **Green CR**: Racial and ethnic disparities in the quality of pain care: The anesthesiologist's call to action. *Anesthesiology.* 2007; 106(1): 6-8. *Editorial*.
40. Poleshuck E, **Green CR**: Socioeconomic disadvantage and pain. *Pain*. 2008; 136 (3):235-238.
41. †Eden SV, Heisler M, **Green CR**: Racial and ethnic disparities in the treatment of cerebrovascular diseases: Importance to the practicing neurosurgeon. *Neurocritical Care.* 2008; 9(1):55-73.
42. **Green CR**, Montague L, Hart-Johnson T: Consistent and breakthrough pain in diverse advanced cancer patients: A longitudinal examination. *Journal of Pain and Symptom Management* 2009; 37(5):831-847.
43. **Green CR**: The health care bubble through the lens of pain research, practice, and policy: Advice for the new president and congress. *Journal of Pain.* 2008; 9(12):1071-1073. *Editorial*.
44. †Caldwell JA, Hart-Johnson T, **Green CR**: Body mass index and quality of life: Examining blacks and whites with chronic pain. *Journal of Pain.* 2009; 10(1):60-67.
45. †Montague L, **Green CR**: Cancer and breakthrough pain's impact on a diverse population. *Pain Medicine*. 2009: 10(3):549-561.
46. **Green CR**, Ndao-Brumblay SK, Hart-Johnson T: Sleep problems in a racially diverse chronic pain population. *Clinical Journal of Pain* 2009; 25(5):423-430.

‡ Article accompanied by an editorial; #1 cited article in journal's history (2004-)

§ Top cited paper in journal in 2005-2006 + Article accompanied by editorial ^ Top cited article in Pain Medicine

47. [**]Anderson KO, **Green CR**, Payne R: Racial and ethnic disparities in pain: Causes and consequences of unequal care. *Journal of Pain* 2009; 10(12):1187-1204.
48. Berland DW, Rodgers PE, **Green CR**, Harrison RV, Roth RS. Managing Chronic Non-Terminal Pain Including Prescribing Controlled Substances. Ann Arbor, MI: Office of Clinical Affairs, UMHS, 2009. Available from the Agency for Healthcare Research and Quality at www.guideline.gov [practice guideline] or at http://cme.med.umich.edu/pdf/guideline/pain.pdf
49. *Ndao-Brumblay SK, **Green CR**: Predictors for complementary and alternative medicine use in chronic pain patients. *Pain Medicine* 2010; 11(1):16-24.
50. **Green CR**, Hart-Johnson T: The impact of chronic pain on the health of black and white men. *Journal of the National Medical Association* 2010; 102(4):321-331.
51. **Green CR**, Hart-Johnson T: The adequacy of chronic pain management prior to presenting at a tertiary care pain center: The role of patient socio-demographic characteristics. *Journal of Pain* online 19 April 2010.
52. Hart-Johnson TA, **Green CR**: Physical and psychosocial health of elderly women with chronic pain: Comparing clusters of clinical and non-clinical samples. *Pain Medicine* 2010; 11(4):564-574.
53. **Green CR**, Hart-Johnson T: Cancer Pain: An Age-based Analysis. *Pain Medicine* 2010; 11: 1525-1526.
54. **Green CR**, Hart-Johnson T, Loeffler DR: Chronic pain in cancer survivors: Examining disparities and quality of life. *Cancer* 2011; 117:1194-2003.
55. [+]Anderson E, Arnold R, Christopher M, Duensing L, Gilson A, **Green CR**, Haywood C, Passik S, Payne R, Rich B, Robin L, Shuler N. A rose by any other name: Pain contracts/agreements. *American Journal of Bioethics.* 2010; 10(11):5-12.
56. **Green CR**: Being Present: The Role of Narrative Medicine in Reducing the Unequal Burden of Pain. *PAIN* 2011 Feb 8.
57. Chadiha LA, Washington OGM, Lichtenberg PA, **Green CR**, Jackson JS. Building a participant resource pool: A process evaluation of a community partnership recruitment strategy in the Healthier Black Elders' Initiative. *The Gerontologist.* 2011; 51(1):106-115.
58. Hart-Johnson T, **Green CR**: The impact of sexual or physical abuse history on pain-related outcomes among blacks and whites with chronic pain: Gender influences. *Pain Medicine*. 2012; 13(2): 229-242.
59. **Green CR**, Hart-Johnson: The association between race and neighborhood socioeconomic status in younger black and white adults with chronic pain. *Journal of Pain*. 2012; 13(2): 176-186.
60. Martikainen I, Pecia M, Love T, Nuechterlein E, Cummiford C, **Green CR**, Harris R, Stohler C, Zubieta J: Alterations in endogenous opioid functional measures in chronic back pain. *Journal of Neuroscience*. The Journal of Neuroscience 2013;33(37):14729-14737.
61. Martikainen I, Nuechterlein E, Peciña M, Love T, Cummiford C, **Green CR**, Stonler C, Zubieta JK. Sensory and affected symptoms in chronic back pain are associated with O_2/O_3 receptor functions in the ventral endogenous opioid system function in the amygdala.
62. [+]****Green CR**, Cowan P, Elk R, O'Neill K, Rassmussen A. NIH Pathways to Prevention Workshop: Advancing the research on Myalgic Encephalitis/Chronic Fatigue Syndrome. *Annals of Internal Medicine.* 2015;162(12):860-865. doi:10.7326/M15-0338.
63. Martikainen I, Nuechterlein E, Peciña M, Love T, Cummiford C, **Green CR**, Stohler C, and Zubieta JR. Chronic back pain is associated with alterations in dopamine neurotransmission in the ventral striatum. *J Neuroscience.* 8 July 2015, 35(27): 9957-9965; doi: 10.1523/JNEUROSCI.4605-14.2015
64. Stein J, Andrews C, Lee P, Musch D, and **Green CR**. Underdiagnosis of sight threatening ocular disease among children of less affluent families with health insurance. *Health Affairs. August 2016 vol. 35 no. 8 1359-1366*
65. Kietzman KG, Troy LM, **Green CR**, and Wallace SP. Pathways to advancing aging policy-relevant research in academic settings. *Gerontology & Geriatrics Education. 37:1, 81-102.*
66. Hall LN, Ficker LJ, Chadiha LA, **Green CR**, Jackson JS, and Lichtenberg, PA. Promoting retention: African American older adults in a research volunteer registry. *Gerontology and Geriatric Medicine. January-December 2016 vol. 2.*
67. **Green CR,** McCullough WR, Hawley JC. Visiting Black Patients: Racial disparities in security standby requests at an academic medical center. *Journal of the National Medical Association. Feb 2018:110, 37-43.* https://doi.org/10.1016/j.jnma.2017.10.009

[**] Top requested article 2010, [†]Article with a student or trainee

68. †Odukoya E, Blackwood RA, Helm C, and **Green CR**. Photo-voice: a novel method for teaching health equity to pre-health students who are underrepresented in the health sciences. *Academic Medicine (Submitted).*
69. **Green CR**, Hart-Johnson T. #BBUM Being Black at the UM: A Snapshot of cultural inclusion/exclusion using a Twitter activist campaign. *Journal of the National Medical Association (Submitted).*
70. †Ismail MA, Eldessouky A, Madden JM, and **Green CR**. The influence of support networks on quality of life and depressive symptoms in older adults with cancer and non-cancer pain. *Journal of Pain and Symptom Management (Submitted).*
71. Martikainen IK, Nuechterlein EB, Pecina M, Love TM, Cummingford CM, **Green CR**, Stohler C, and Zubieta JK. Pain expectation increases dopamine release in nucleus accumbens in chronic low back pain patients and is linked to poorer central pain regulation. *Journal of Neuroscience (Submitted).*
72. †**Green CR**, Gaston-Hawkins LA, Biljani R. Racism, policing, and COVID-19 disparities, Part 1: Discrimination, racism, and xenophobia. *Psychiatric Times.* July 2020
73. †**Green CR**, Gaston-Hawkins LA, Biljani R. Racism, Policing, and COVID-19 Disparities, Part 2: How Do We Justify Racial Disparities in 2020? *Psychiatric Times.* July 2020
74. †**Green CR**, Gaston-Hawkins LA, Biljani R. Racism, policing, and COVID-19 disparities, Part 3: We need action! *Psychiatric Times.* July 2020
75. †Gaston-Hawkins LA, **Green CR.** Leadership in our Midst: The COVID-19 Chronicles from a Public Health Trained Clinical Medical Student. *Academic Medicine* (submitted)
76. †Prabhu, P and **Green CR**. Leadership in our midst: A first-year medical student's reflections on COVID-19 PPE distribution. *Academic Medicine* (submitted)
77. †**Green CR**, Gaston-Hawkins LA, Biljani R. Discrimination, racism, and policing: Recommendations to psychiatrists. *Psychiatric Times.* Sept 2020 (in Press)
78. †**Green CR**, Solario F, Gaston-Hawkins. Racism, policing, and disparities: Recommendations for anesthesiologists. *Anesthesiology.* (submitted)
79. †**Green CR,** Gaston-Hawkins LA, Solario F, Prabhu P. Mental health and well-being, stress, and burnout amongst learners: A selective review. *Current Psychiatry Reports. (submitted)*
80. †**Green CR**, Gaston-Hawkins, Biljani R. We failed her: COVID-19 and the social determinants of health. *Pain.* (Submitted)

Books

National Academies of Sciences, Engineering, and Medicine. 2020. *Compounded Topical Pain Creams: Review of Select Ingredients for Safety, Effectiveness, and Use*. Washington, DC: The National Academies Press. Schwinn D and Miles-Jackson L (Editors) https://doi.org/10.17226/25689.

Book Chapters and Invited Contributions

1. Pandit SK, **Green CR**: General anesthetic techniques. In: International Anesthesiology Clinics, Volume 21, Number 3. Little, Brown and Company, Boston Massachusetts: 55–80, 1994.
2. **Green CR**, Pandit SK: Preoperative preparation. In: Twersky, R (Editor) Ambulatory Anesthesia Handbook. Mosby-Yearbook, St. Louis, Missouri; 171–202**,** 1995.
3. McClain BC, **Green CR**: Pediatric and geriatric medication considerations. In: Tollison CD, Satterwaite JR, Tollison JW (Editors) Practical Pain Management—Third Edition. Lippincott Williams & Wilkins, Philadelphia, Pennsylvania: 288–313, 2002.
4. **Green CR**, McPhail-Pruitt, M: Chronic pain management. In: Anderson, NB (Editor) The Encyclopedia of Health and Behavior. Sage Publications; Vol. 1:184–197, 2004.
5. **Green CR**: Unequal burdens and unheard voices: Whose pain? Whose narratives? In: Carr, DB, Loeser, JD, Morris, DB (Editors) Narrative, Pain, and Suffering, Progress in Pain Research and Management. IASP Press, Seattle, Washington: Vol. 34:195–213, 2005.
6. **Green CR**: Disparities in assessing and managing pain: The role of patient and physician variability in decision-making. In: Satcher D, Pamies P (Editors) Multicultural Medicine and Health Disparities. McGraw-Hill; 343–361, 2005.
7. **Green CR**: Racial, ethnic, and socio-demographic disparities. In: Schatman ME (Editor) Ethical Issues in Chronic Pain Management. Informa Healthcare; 95–110, 2006.

8. Thomas-Goering J, **Green CR**: Diversity and disparities in health care: Why it matters to anesthesiology. In: Johnson J (Editor) Advances in Anesthesia. Vol. 24:149–161, 2006.
9. **Green CR**: The tenth ELAM class (2004–2005) graduates and makes ELAM a STAR! *Society for Executive Leadership in Academic Medicine International News*. 2005.
10. Gordon D, **Green CR:** Hmong immigrants in the Midwest: New challenges in assessing and treating pain. *Midwest Pain Society Update*. 2006.
11. **Green CR**, Bullough AS: Pain and diversity. In: Ebert, M and Kerns, R (Editors) Behavioral and Psychopharmacologic Pain Management. Cambridge University Press. 434-446, 2016.
12. **Green CR**: In: Substance Abuse and Mental Health Services Administration. *Managing Chronic Pain in Adults with or in Recovery From Substance Use Disorders.* Treatment Improvement Protocol (TIP) Series 54. HHS Publication No. (SMA) 12-4671. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011.
13. Green CR, Chadiha LA (Ed) (Winter 2009) Healthier Black Elders Center Community-Based Newsletter.
14. Green CR, Chadiha LA (Ed) (Spring 2010) Healthier Black Elders Center Community-Based Newsletter.
15. Green CR, Omenn GS, Unequal burdens and unheard voices: The need for minority aging research and policy. In: Bulger R (Editor) (June 2010) Health Disparities Policy. *The Institute for Multicultural and Minority Medicine.*
16. Green CR, Chadiha LA (Ed) (Winter 2010) Healthier Black Elders Center Community-Based Newsletter.
17. Green CR: Pain should be getting our attention! In: Center for Healthcare Research and Transformation. (August 2010).
18. Green CR, Chadiha LA (Ed) (Spring 2011) Healthier Black Elders Center Community-Based Newsletter.
19. Green CR, Chadiha LA (Ed) (Winter 2011) Healthier Black Elders Center Community-Based Newsletter.
20. Green CR: Disparities in pain management and palliative care. In: Moore, R (Editor) Handbook of Pain and Palliative Care. Springer; Chap 41, p. 795–808, 2012.
21. Green CR, Prabhu M: Effect of race in older African-American and Caucasian-American presenting for chronic pain management. In: Incayawar, M and Todd, K (Editors) Culture, Genes, and Analgesia: Understanding and Managing Pain in Diverse Populations. Oxford University Press; Chap. 24, 2012.
22. Green CR: Unequal burdens and unheard voices: The health implications of disparities in cancer and pain. In: Benzon HT, Rathmell JP, Wu CL, Turk DC, and Argoff CE (Editors) Raj's Practical Management of Pain, 5th Edition. Elsevier.
23. Harden JT, Green CR: African Americans and healthcare disparities: Minority aging and health disparities research progress. In: Capezuti EA, Siegler EL, Mezey MD (Editors) Encyclopedia of Elder Care, Third Edition. Springer Publishing Company; 24–29, 2013.
24. Green CR: Listening: Can storytelling transform healthcare to enhance quality and ensure equity? In: Larin L (Editor) Inspired to change: Improving patient care one story at a time. Health Administration Press; Chap. 1, 2013.
25. Belmont E, Green CR: A Legal Guide to Life-Limiting Conditions, a publication of The American Health Lawyers Association.

Internet Self-Study CME Activity

2009 Managing Chronic Non-Terminal Pain Including Prescribing Controlled Substances. Co-author. Audience: primary care clinicians and other health care providers who treat adults with this condition. (Available through the UM CME web site: cme.med.umich.edu)

Published Peer-Reviewed Scientific Abstracts

1. **Green CR**, Prasad JM, Kosanovich J: Disseminated mycobacterium chelonei in a renal transplant patient. American College of Physician, Detroit. MI; May 1989.
2. ††**Green CR**, Pandit SK, Kothary SP, Levy L, Mathai MK: Intraoperative ketorolac during laparoscopic tubal ligation demonstrates no fentanyl sparing effect postoperatively. Midwest Anesthesia Residents Conference. Indianapolis, IN; March 1992.
3. ‡‡**Green CR**, Pandit SK, Kothary SP, Levy L, Mathai MK: Intraoperative ketorolac during laparoscopic tubal ligation demonstrates no fentanyl sparing effect postoperatively. Society for Ambulatory Anesthesia. Lake Buena Vista, FL; April 1992.

†† Podium Presentations

4. **Green CR**, Pandit SK, Kothary SP, Levy L, Mathai MK: No fentanyl sparing effect of intraoperative I.V. ketorolac after laparoscopic tubal ligation. *Anesthesiology*. 1992; 77:A7.
5. ‡‡**Green CR**, Pandit SK, Wayne V: Current NPO trends in the United States: Results of a national survey. Society for Ambulatory Anesthesia annual meeting. Scottsdale, AZ; April 1993.
6. **Green CR**, deRosayro AM, Tait AR, Roth RS, Greenwald KM: Cryoanalgesia for chronic thoracic pain: Long term follow-up. *Regional Anesthesia.* 1993; 18(25):46.
7. **Green CR**, deRosayro AM, Tait AR, Roth RS, Greenwald KM: Cryoanalgesia for chronic thoracic pain: Long term follow-up. *Anesthesiology.* 1993; 79:A887.
8. **Green CR**, Pandit SK, Kothary SP, Schork AM, Tait AR: A combination of intraoperative fentanyl and ketorolac during the diagnostic laparoscopy has a narcotic sparing effect in the recovery room. *Anesthesiology.* 1993; 79:A43.
9. **Green CR**, deRosayro AM, Tait AR, Roth RS, Greenwald KM: Cryoanalgesia for chronic thoracic pain: Long term follow-up. International Association for the study of pain. 1993; Paris France.
10. **Green CR**, Pandit SK, Wayne V, Schork AM: Current NPO trends in the United States.: Results of a national survey. *Anesthesiology.* 1993; 79:A1088.
11. Green CR, Cross R, Tait AR: Anesthesiology house officers' attitudes regarding the management of acute Post-operative pain. Results of a pilot study. *Anesthesia and Analgesia.* 1995; 80:S159.
12. **Green CR**, deRosayro AM: Selection factors in pain management fellowship programs: A national survey of directors. *Anesthesia and Analgesia.* 1996; 82:S142.
13. **Green CR**, Kerr CK, Tait AR: Medical Students' Attitudes regarding the management of acute postoperative pain. *Anesthesia and Analgesia.* 1998; 86:S272.
14. **Green CR**, Malviya S, Golembiewski JA, Flowe-Valencia H, Wright CG, Naughton NN: Utilizing continuous quality improvement to evaluate the efficacy and role of intraoperative antiemetics in the prevention of postoperative nausea and vomiting. International Anesthesia Research Society. Los Angeles, CA; March 1999.
15. **Green CR**, Malviya S, Golembiewski J: Assessing the role and efficacy of intraoperative antiemetics in the prevention of postoperative nausea and vomiting (PONV) in a diverse patient population. American Society of Anesthesiologists. Dallas, TX; October 1999.
16. **Green CR**, The appropriateness of naloxone administration during the postoperative period. International Anesthesia Research Society. Honolulu, HA; March 2000.
17. **Green CR**, Wheeler JR: Do physician attitudes regarding pain management lead to the under-treatment of pain? International Anesthesia Research Society. Ft. Lauderdale, FL; March 2001.
18. **Green CR**, Ciarallo CL: Summer anesthesiology student preceptorship provides exposure for first-year medical students? International Anesthesia Research Society. Ft. Lauderdale, FL; March 2001.
19. ‡‡**Green CR**, Wheeler JC: Chronic pain in African American elders: A quality of life and mental health outcomes study. Research Centers for Minority Aging Research annual meeting. Bethesda, MD; April 2001.
20. **Green** CR, Wheeler JC, Marchant B, Guerrero E: Pain management: Which physician and patient characteristics really matter? American Pain Society. Phoenix, AZ; April 2001.
21. **Green CR**, LaPorte F, Baker T, Sato Y, Washington T: The impact of race and ethnicity on the chronic pain experience of young adults. American Pain Society. Baltimore, MD; March 2002.
22. **Green CR**, Baker T, LaPorte F, Sato Y, Smith E: The role of race and ethnicity on the chronic pain experience of older adults. American Pain Society. Baltimore, MD; March 2002.
23. **Green CR**, Wheeler JR, LaPorte F., Marchant B, Guerrero E: Physician variability in the management of acute and cancer pain. International Anesthesia Research Society. San Diego, CA; March 2002.
24. **Green CR**, Baker T, Sato Y: The impact of aging in African Americans presenting for chronic pain management. Gerontological Society of America annual meeting. Boston, MA; November, 2002.
25. **Green CR**, Nagrant AM, Baker TA: The impact of aging in Caucasian Americans presenting for chronic pain management. American Academy of Pain Medicine annual meeting. New Orleans, LA; February 2003.
26. **Green CR**, Baker T, Washington T: Health care attitudes and utilization in chronic pain patients: A comparison of African and Caucasian Americans. American Pain Society annual meeting. Chicago, IL; March 2003.
27. **Green CR**: Referral patterns of chronic pain patients: A comparison of African and Caucasian Americans. American Pain Society annual meeting. Chicago, IL; March 2003.
28. **Green CR**, Baker T, Nagrant A: The impact of race and ethnicity upon women presenting for chronic pain management. American Pain Society annual meeting. Chicago, IL; March 2003.

29. ††**Green CR**, Ndao-Brumblay SK, Baker T: The impact of chronic pain on the health of older women: A comparative study of older African and Caucasian American women. Gerontological Society of America annual meeting. San Diego, CA; November, 2003.
30. **Green CR**, Washington T, Ndao-Brumblay SK: Chronic pain's impact on health status: A comparison of perceived barriers to treatment in older African and Caucasian Americans. Gerontological Society of America annual meeting. San Diego, CA; November 2003.
31. **Green CR**, Ndao-Brumblay SK, Talarico CA, Washington TL: Chronic pain's impact on the health status of elderly women. Biennial Joint Meeting of American Pain Society and Canadian Pain Society meeting. Vancouver, BC, Canada; May 2004.
32. **Green CR**, Lin X, Ndao-Brumblay SK: Sleep quality in Black and Caucasian Americans. Biennial Joint Meeting of American Pain Society and Canadian Pain Society meeting. Vancouver, BC, Canada; May 2004.
33. ‡‡**Green CR**, Talarico CA, Calhoun CL, Kang K, Black A, Ndao-Brumblay SK: Pain medication availability in minority and Caucasian neighborhoods in Michigan: A preliminary analysis. Biennial Joint Meeting of the American Pain Society and Canadian Pain Society meeting. Vancouver, BC, Canada; May 2004.
34. **Green CR**, Ndao-Brumblay SK: The use of complementary and alternative medicine among patients with chronic pain. *Pain Medicine*. 2004; 5(1):119.
35. **Green CR**, Talarico, CA, Ndao-Brumblay, SK: The distribution of pain in elderly women: A descriptive study. *The Gerontologist*. 2004;44:379. Washington, DC, November 2004.
36. ††**Green CR**: Disparities in pain: The impact on minority elders. The role of physician decision-making and attitudes? *The Gerontologist.* 2004;44:423.
37. **Green CR**, Lin S, Ndao-Brumblay: Sleep Quality in African Americans with Chronic Pain. International Association for the Study of Pain, Sydney Australia, World Congress, August 2005.
38. **Green CR**: Disparities in chronic pain management upon initial assessment at a tertiary care pain center. American Pain Society meeting. Boston, MA, April 2005.
39. **Green CR**, Meredith M, Hart-Johnson T, Ndao-Brumblay SK: The impact of an abuse history on the health outcomes of Blacks and Whites with chronic pain. American Pain Society annual meeting. Boston, MA; April 2005.
40. **Green CR**, Ndao-Brumblay SK, Hart-Johnson T: The impact of pain in elderly women: comparing cluster of clinical and non-clinical samples. Gerontological Society of America annual meeting. Orlando, FL; November 2005.
41. **Green CR**, Ndao-Brumblay SK, Hart-Johnson T: The Role of Body Mass Index on Quality of Life Among Black and White People with Chronic Pain. American Academy of Pain Medicine. San Diego, CA; February 2006.
42. **Green CR**, Miller M, Hart-Johnson T, Ndao-Brumblay SK: The impact of an abuse history on the health outcomes of blacks and whites with chronic pain. American Pain Society. San Antonio, TX; April 2006.
43. **Green CR**, Miller M, Ndao-Brumblay SK: Disparities in chronic pain management upon initial assessment at a tertiary care pain center. American Pain Society. San Antonio, TX; April 2006.
44. **Green CR**, Ndao-Brumblay SK: Litigation and race in elder black and white men with chronic pain. Gerontological Society of America. Dallas, TX; November 2006.
45. **Green CR**, Hart-Johnson TA: Determinants of the chronic pain experience in black and white men upon initial assessment. American Academy of Pain Medicine. Orlando, FL; February 2008.
46. **Green CR**, Hart-Johnson TA: A longitudinal examination of cancer pain: Severity, quality, and impact on quality of life. American Pain Society. Tampa, FL; May 2008.
47. **Green CR**, Hart-Johnson TA: Cancer pain severity, quality, and impact on quality of life: A longitudinal examination. Academy Health. Washington, DC; June 2008.
48. **Green CR**, Hart-Johnson TA: A longitudinal examination of cancer pain: Severity, quality and impact on quality of life. International Association for the Study of Pain, World Congress, Glasgow, Scotland; August 2008.
49. **Green CR**, Hart-Johnson TA: The role of aging in the experience of cancer pain. Gerontological Society of America, National Harbor, MD; November 2008.
50. **Green CR**, Hart-Johnson TA: The prevalence of chronic pain in a large representative national sample. American Academy of Pain Medicine, Honolulu, HI; January 2009.
51. **Green CR**, Hart-Johnson TA: A longitudinal examination of neighborhood socioeconomic status and cancer pain. American Pain Society, San Diego, CA; May 2009.
52. **Green CR**, Hart-Johnson TA: A longitudinal examination of neighborhood socioeconomic factors and chronic pain outcomes. American Pain Society, San Diego, CA; May 2009.

53. **Green CR**, Hart-Johnson TA: The course of chronic pain and disparities course over time among patients at a multidisciplinary pain clinic. Academy Health, Chicago, IL; June 2009.
54. **Green CR**, Hart-Johnson T, Loeffler D: Factors related to the chronic cancer pain experience among cancer survivors. American Pain Society, Baltimore, MD; May 2010.
55. **Green CR**, Harrison G, Hart-Johnson T: The role of race and neighborhood socioeconomic status on pain persistence. American Pain Society, Baltimore, MD; May 2010.
56. **Green CR**, Chadiha L: The Impact of the economic downturn on black elders living in Detroit, Michigan. Academy Health, Boston, MA; June 2010.
57. **Green CR**, Hart-Johnson T: Factors related to the chronic cancer pain experience among cancer survivors. International Association for the Study of Pain, World Congress, Montréal, QC, Canada; August 2010.
58. **Green CR**, Stinson, D, Chadiha, LA. The Impact of Pain and the Economic Downturn on Urban Black Elders. Gerontological Society of America (GSA) 63rd Annual Scientific Meeting. New Orleans, LA; November 2010.
59. **Green CR**, Evans J, Morden M, Wells M, Stinson D, Chadiha LA. A Model Program for Educating Middle School Science Educators in Aging. Gerontological Society of America (GSA) 63rd Annual Scientific Meeting, New Orleans, LA; November 2010.
60. **Green CR**, Hart-Johnson, T. Neighborhood SES and Chronic Pain: Impact on Quality of Life of Cancer Survivors. American Pain Society Annual Scientific Meeting, Austin, TX; May 2011.
61. **Green CR**, Hart-Johnson TA. Recruiting Black Cancer Survivors for a Population Based Sample: An Analysis. American Pain Society Annual Scientific Meeting, Austin, TX; May 2011.
62. **Green CR**, Harden JT, Herr K, & Yee, B. Global aging and pain: Research, Disparities, and Policy Considerations. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
63. **Green CR**, Gilson AM, Weber C, & Zelter L. Workshop: Making your research count: Strategies for informing policy. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
64. Savage SR, Inturrisi CE, Kerns R, Saner RJ, **Green CR**, Manworren RC, Gereau RW, & Cruciani RA. APS special session: The Institute of Medicine Report: Transforming pain in America: The role of the American Pain Society. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
65. **Green CR** and Hart-Johnson T: Pain in a large national sample: An examination of age, race, and gender. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
66. **Green CR** and Hart-Johnson T: Demographics, economics, and pain: Their impact on health status in a large diverse national sample. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
67. **Green CR** and Hart-Johnson T: The pain experience in a nationally representative sample of retirement aged US residents. Gerontological Society of America Annual Scientific Meeting, San Diego, CA November 2012.
68. **Green CR**, Hart-Johnson T: The pain experience in a nationally representative sample of retirement aged US residents. 32nd Annual Scientific Meeting of the American Pain Society, New Orleans, LA May 2013. *Journal of Pain*. 2013; 14(4): S102:504.
69. **Green CR**, Hart-Johnson, T: The co-occurrence of pain and cancer in a nationally representative sample of older adults. American Pain Society, Tampa, FL; May 2014.
70. **Green CR**, Hart-Johnson, T: The availability of pain medications by community and region. American Pain Society, Indian Wells, CA; May 2015.
71. Hall LN, Ficker LJ, Chadiha LA, **Green CR,** Jackson JS, and Lichtenberg, PA. Promoting retention: African American older adults in a research volunteer registry. Gerontological Society of America, New Orleans, LA; November 2016.

Mentored Midwest Anesthesia Resident Conference (MARC) – Abstracts available upon request

I have mentored abstracts with >50 pain medicine residents, anesthesiology house officers, and medical students who were presenters at the MARC. Several of these presentations became peer reviewed manuscripts and are noted in the publications section. Many were also accepted for presentations at national meetings. For brevity purposes they are not included but are available upon request.

Grants – Green CR - PI unless otherwise listed

2018-2023 NIH/NIA (5 P30 AG015281) "*Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR),"* PI: Jackson, JS; Investigator: Green, CR $~4M

2014-2017 Kaiser Permanente Foundation, *"Summer Immersion for Science Educators: Developing Novel Mentors for Diversity and Excellence to Eradicate Disparities"* - $110, 000

2012-2018 NIH/NIA (3 P30 AG015281) "*Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR),"* PI: Jackson, JS; Core Investigator: Green, CR Co-Director of Community Liaison Core, Executive Director of the Healthier Black Elders Center, Director of Health Policy and Dissemination $3,791, 504

2013-2018 NIH/NIDCR, *"UM's TMJD and Orofacial Pain Interdisciplinary Consortium (K12),"* PI: Kapila, S; Clauw, D; Investigator: Green CR, $2,789,419

2011-2017 NIH/NIA (4 P30 AG015281), *Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR)*, PI: Jackson, JS; Core Investigator: Green, CR Co-Director of Community Liaison Core, Executive Director of the Healthier Black Elders Center - $2,700,000

2011-2013 NIH/NIA (3 P30 AG015281)/MCUAAAR, *"Exploring Health and Healthcare Among Older Black Women with Disabilities,"* PI: Miller, SR Co-I: Green CR, $20, 004 2009-2014 NIH/NIDA, (R01 DA027494-01), *"Interaction of Smoking and Chronic Pain at Neurochemical and Phenotypic Levels,"* PI: Zubieta, JK Co-I: Green CR, $1,982, 724

2011-2012 UM National Center for Institutional Diversity, *"Leadership in Academic Health Centers: Examining Racial and Ethnic Minority Women's Paths"* $25,000

2009-2010 NIH/NIA (Sub: 3 P30 AG015281), *"African American Aging Summer Immersion for Science Teachers (AASIST),"* MCUAAAR PI: Jackson, JS.; Investigator: Green, CR, $75, 334

2007-2012 NIH (1 UL1 RR024986 NIH/NCRR), Michigan Institute for Clinical and Health Research (MICHR), UM Institutional Clinical and Translational Science Award (CTSA), PI: Clauw, D; Core Investigator; Green, CR; Director, Health Disparities Research Program, $49,591, 566

2007-2011 Lance Armstrong Foundation, *"Chronic Pain in Cancer Survivors: Examining Disparities and Quality of Life,"* $246, 927

2006-2009 Robert Wood Johnson Foundation, *"Robert Wood Johnson Health Policy Fellowship,*" $155, 000

2006–2013 NIH/NIDA (1 R01 DA022520) *"Neurochemistry of Opiate Abuse Risk in Chronic Pain,"* PI: Zubieta, JK; Co-I: Green, CR, $2, 300, 159

2003-2006 Blue Cross and Blue Shield of Michigan Foundation, *"Living with cancer: The quality of cancer pain management in African Americans,"* $135, 294

2002-2004 Aetna Grant-Quality Care Research Fund, *"The Health Outcomes and Quality of Care of African Americans Living with Chronic Pain,"* $149, 997

2002-2003 Claude Pepper Older Americans Independence Center, The Pepper Center, & The Harford Foundation, *"The health status and quality of life of older women living with chronic pain,"* $18,150

2000-2002 NIH Pilot-Year 4, (MCUAAAR Sub NIHAG15281), *"Chronic pain in African American elders: A quality of life and mental health outcomes study,"* $35,050

1998-2001 Aetna Grant-Quality Care Research Fund, "Evidence-based Practice Guidelines Increase Quality and Patient Satisfaction and Decrease Costs of Perioperative Care." PI: O'Reilly, M; Co-I: Green, CR. $360,000

1998-1999 Blue Cross Blue Shield of Michigan Foundation, *"Barriers to Effective Pain Management: Evaluating the Role of Physician Variability in the Management of Acute, Chronic, and Cancer Pain,"* $75,000

1997-2012 NIH/NIA (3 P30 AG015281) "*Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR),"* PI: Jackson, JS; Core Investigator: Green, CR Co-Director of Community Liaison Core, Executive Director of the Healthier Black Elders Center, Director of Health Policy and Dissemination $3,791, 504

1994-1997 UM Medical Center Diversity Grant, $100, 000

CLINICAL QUALIFICATIONS

Throughout my academic career, I have provided clinical care as part of an inter-professional care team while holding concomitant administrative positions. As part of the faculty group practice at the UM Medical Center/UMHS, my clinical activities occur in the pain center and operating rooms (general, ambulatory, and OB). As a Lecturer my clinical effort was 90% plus weekend and overnight call. As an Assistant/Associate/Full Professor I provided 80% to 50% clinical effort (*i.e.*

1 day in pain center and 2 days in the OR) plus call. As Associate Vice President and Associate Dean I provided 1 day a week in the pain center. I currently provide 100% clinical effort in the pain center. I am a consistent advocate for identifying and remediating gaps in healthcare quality. Focused on patient centered care and being a healthcare partner, I integrated culturally sensitive care to promote optimal health and well-being. Whether in migrant clinics or other clinics, my ability to actively listen to patient stories generated important clinical questions for my research and narrative medicine activities.

Certification and Licensure

National Medical Licensure

Current	DEA License No. BG1965384 (Exp. 9/30/22)

State Medical Licensure

Current	State of New York Physician License No313266 (Exp. 08/31/2023)
Current	State of Michigan Physician License No4301052368 (Exp. 4/03/23)
Current	State of Michigan Controlled Substance License No. 5315101383 (Exp. 4/03/23)

Anesthesiology Certifications

Current	American Board of Anesthesiology (ABA) Certification (4/1996); Re-certification not required - Certificate No. 27089
Current	ABA Subspecialty of Pain Management Certification (1/1997–12/2008); Re-certification (1/2009–12/2018); Recertification (1/2020-1/2029) — Certificate No. 27089

Clinical Appointments

1/2013–	Anesthesiologist: Department of Anesthesiology, UM Medical Center/UMHS
7/1992–12/2012	Anesthesiologist: General and obstetrical anesthesiology call; Department of Anesthesiology, UM Medical Center/UMHS
7/1992–12/1993	Anesthesiologist (locum tenens): general and obstetrical anesthesiology call; Howell Community Hospital, Howell, MI
7/1993–	Attending Pain Medicine Physician: acute pain service call; Multidisciplinary Pain Center/ Back and Pain Center, Dept of Anesthesiology, UM Medical Center/UMHS

EDUCATOR'S PORTFOLIO

Teaching Philosophy: I focus on developing a positive relationship with learners. Capable of identifying undervalued students, I am able to get a return on investment that benefits them and the community. By showing learners I have confidence in them and they should have confidence in themselves. **I try to give them the technical means to be confident and the emotional support to make the leap to go wherever their talent, skills, and discipline may take them.** My pedagogy is based upon the Socratic method; promoting critical thinking and using patient stories to encourage empathy. I am committed to giving each learner the tools necessary to construct a solid knowledge base using evidence, strong clinical and technical skills, and a deep appreciation of the art and science of medicine (including narrative medicine). I want to be comfortable any clinician I train can provide high-quality care and treat patients with compassion and respect. I have won awards for my educational activities.

Overview of teaching responsibilities: A firmly established clinician educator, I mentor and teach across the biomedical and health professional pipeline. I frequently provide lectures in the K-20 arena, to undergraduate and graduate students, and house officers and fellows across disciplines and programs in the classroom, at the bed side, and as a visiting professor. I have actively mentored and taught junior faculty, fellows, house officers, and students in clinical care and research. I also provide lectures to community, national, and international audiences and have done so as guest and keynote speakers at conferences and institutions. My current and former mentees are national and international award winners who excel as professors, clinicians, teachers, and leaders.

Accreditation activities: I worked on JCAHO, LCME, CLER and ACGME committees for the UMHS and at department level. Served on academic and clinical competency committees focused on house officer and medical student as well as credentialing committees for anesthesiology, pain medicine and professional societies.

Associate Director, Medical Student Education: (1996–2006) - Department of Anesthesiology**,** UMHS**,** Ann Arbor
Responsibilities: Assisted in organizing clinical experience and the lecture series for medical student rotating through the UM Anesthesiology Department. Developed and organized the Medical Student Anesthesiology Research Preceptorship Program when the number of medical students choosing an anesthesiology residency decreased. First year medical students across the country were selected to participate in an intensive eight-week research program. Organized the lecture series and research projects for student to participate in with a faculty mentor. Many students from this program went on to research fellowships and anesthesiology residency programs.

Coordinator, Midwest Anesthesia Residents' Conference (MARC): (1998 –2006) - Dept of Anesthesiology, UMMS
Responsibilities: I taught residents how to prepare abstracts, poster and oral presentations for the annual meeting. I organized practice session, standardized podium and poster presentations, improved performance and outcomes and increased program participation from four to 40 UM residents, fellows, and medical students. UM won more awards than any other residency program in the Midwest.

- Created and organized grand rounds highlighting resident research leading to a positive cultural change.
- Received Department of Anesthesiology Project of the Year Award in 2003.

Institutional Lead - UMHS
Responsibilities: I built successful educational programs for the JCAHO Pain initiative, OHEI, MICHR, MCUAAAR and professional organizations as detailed in the administrative portfolio.

Institutional Lead for JCAHO Pain Initiative: (2000-2004) - UMHS

House Officer and Staff Education

1. Developed "*Pain Management Pocket Card"* for clinicians. (Revised 2004)
2. A pain management class was included in nursing orientation and remains part of the continuing education program for staff nurses (*e.g.* nursing blitz).
3. Developed an orientation to pain management and a "Pain Management Station" for incoming UMHS clinical trainees and house officers.
4. Developed and implemented a pediatric pain management presentation for pediatric house officers.
5. Developed an on-line clinical competency focused on intravenous hydromorphone administration.
6. Initiated first successful Pain Awareness month in September 2004 at the UMHS.

Diversity, Equity, Inclusion, and Excellence: I built successful pathway programs and have helped to mentor and launch exceptional individuals at UM and beyond. I provided lectures, seminars, and durable materials for the UM, AAMC and other professional organizations on mentoring, recruiting, and hiring for excellence and diversity. I provided expert consultation on building a critical mass of those who are underrepresented in the academy, biomedical sciences, and health professions (*e.g.* women and minorities) and the special challenges of minority women in the academy and leadership as further detailed in the administrative portfolio.

Associate Vice President and Associate Dean for Health Equity and Inclusion: (2013–15) UM, UMHS and UMMS
Key accomplishments during my tenure follow.

Reengineered pipeline programs. Developed pathway and leadership programs to increase the preparation, recruitment, and retention of military dependent, first-generation, non-traditional and under-represented individuals in the health professions (medicine, nursing, pharmacy, public health) as well as medical/graduate students, house officers, and faculty.

1. High school and undergraduate learners. Launched 100 -learners on the health professional path.
   a. Significantly **increased ACT (by four following a two-week program) and MCAT scores** (following an eight-week program).
   b. **Created a novel inter-professional learning experience** using the humanities (*i.e.* photo-voice) to teach health disparities and the art of medicine to high school and undergraduate students.
   c. 100% of summer pathway learners applying to medical school were accepted into top tier medical schools; 96% increase from prior year.
2. Medical student learners.
   a. Developed Pre-Matriculation program (intensive skill building and mentoring for medical students).
   b. Served as a faculty advocate for students during academic review hearings.
   c. Created OHEI scholar program - provides a gap research year while preparing to retake USMLE.

Innovative programs created to address educational and healthcare disparities:

- Kaiser-funded, *Summer Immersion for Science Educators* – for community college professors
- NIH-funded, *African American Summer Immersion for Science Teachers* – for K-12 teachers
- NIH-funded, *Health Disparities Summer Immersion Program* - for minority health professional students
- UMHS funded, *OHEI Scholars Program* - for underrepresented UM undergraduates and medical students

Selected Mentoring

2000-2013	Tamara Baker, Ph.D. - Paul B. Cornelly Center for Research, Ethnicity Culture and Health Post-Doctoral Fellow, UM School of Public Health; Professor, Dept of Psychiatry, School of Medicine, U of North Carolina
2003-	Kayode A. Williams, MD, MBA - Anesthesiology House Officer/Pain Medicine Fellow, UMHS; Associate Professor, Anesthesiology & Pain Medicine, Johns Hopkins School of Medicine, Baltimore
2006-	Sonya Rene Miller, MD - Assistant Professor, Physical Medicine & Rehabilitation, UMHS
2008-	Sokhna (Khady) Ndao-Brumblay, PharmD, M.Sc. - Health Management & Policy Doctoral Student, UM School of Public Health: 2008-
2005-2008	Laura Montague – UM Medical Student and Hartford Scholar
2014-	Francisco Solorio, MD - UM Medical Student and OHEI Scholar, Anesthesiology resident, University of Toledo
2013-2014	Adam Eickmeyer – UM Undergraduate Honors Program Thesis; Coming Out for Change: Inter-disciplinarity's Role in Ameliorating Lesbian, Gay, Bisexual, and Queer People's Health Disparities
2014-	Julie Madden, Ph.D.- Office for Health Equity and Inclusion Postdoctoral fellow
2020-	Rahul Biljani, MD – Interventional Pain Medicine Fellow – Michigan Medicine
2020-	Lauren A. Gaston – Hawkins – UM Medical Student
2020-	Pallavi A. Prabhu – MSU CHM Medical Student
2020-	Nicole Hadler – UM Medical Student

ADMINISTRATIVE AND CLINICAL PORTFOLIO

Overview: The UM is a global premier public research university with a $9.7B endowment and 19 nationally ranked schools and colleges (all in the top ten). UMHS is a large, integrated, and matrixed academic health system. A nationally ranked educational, healthcare service, and research enterprise, it had >$435M in research expenditures and received >$400M in NIH funding for medical school faculty in 2012. Each year UMHS has >2M patient encounters, >$2.3B operating budget, >26,000 employees (including >3,300 faculty, 1,200 residents), 690 medical students, and 1,200 scientists in training.

Attending Anesthesiologist: (1993 – present) - Department of Anesthesiology, UMHS
Responsibilities: Provided perioperative and anesthesia care in the general operating rooms with specialty care in ambulatory and obstetrical anesthesia. Also provided weekly late, overnight or weekend call coverage for general, OB, ophthalmology, and pediatrics. Worked in an inter-professional care team (*e.g.* nursing, surgery, OB/GYN).

- Supervised nurses, staff, house officers, students, and CRNAs in the perioperative arena.
- Led perioperative quality improvement processes on postoperative nausea and vomiting, and pain.

Attending Pain Medicine Physician: (1993 – present) - Back and Pain Center, and Comprehensive Musculoskeletal Center (formerly Center for Interventional Pain Medicine/Multidisciplinary Pain Center), Dept of Anesthesiology, UMHS
Responsibilities: Provided culturally sensitive multidisciplinary pain care, interventional procedures, and medication management for patients with acute, chronic, and cancer pain (including underserved and vulnerable populations). Worked in an inter-professional care team (including psychology, social work, nursing, physical therapy).

- Supervised nurses, staff, house officers, students, and pain fellows.
- Developed a continuous quality improvement process for interventional procedures performed in the pain center.
- Developed a pain medicine journal club.
- Organized medical student elective and rotation in the pain center.

Medical Director, Acute Pain Service (APS): (1997–2006) - Dept of Anesthesiology, UMHS, Ann Arbor
Responsibilities: Responsible for providing high-quality perioperative pain care as well as developing the educational programs, resource materials, policies, procedures, and guidelines supporting care. Supervised care for inpatients with acute, chronic, and cancer pain. Supervised nursing (10 FTE), social work (1 FTE), pharmacy (1FTE), pain management fellows, house officers, and faculty on the APS. Services provided ranged from patient controlled analgesia (PCA), nerve blocks, medication management, consultative services (acute pain, chronic pain, cancer pain, and palliative care), and integrative, complementary, and alternative therapies (*e.g.* music therapy, therapaws, spiritual care). Care was provided for > 7,000 patients a year. These efforts were the genesis of the pain management steering committee and were pivotal for two successful JCAHO visits when pain became a key indicator for institutional healthcare quality (described below).

- Created an inter-professional care team that included medicine, nursing, social work, pharmacy, spiritual care, musical therapy, and therapy dogs.
- Developed a continuous quality assurance program to reduce medical errors and improve patient safety.

Coordinator, Midwest Anesthesia Residents' Conference (MARC): (1998 –2006) - Dept of Anesthesiology, UMMS
Responsibilities: The Midwest Anesthesia Residents' Conference is one of the largest anesthesiology conferences in the U.S. The nation's foremost conference for anesthesiology residents, a different residency program in the Midwest hosts the conference each year. I was responsible for coordinating the UM's participation: encouraging residents to present, assisting them in preparing abstracts, and organizing practice sessions. Podium and poster presentations were standardized thereby improving performance and outcomes. Enhanced faculty participation as mentors, judges, and moderators. Other institutions positively noted the professionalism, poise, and preparation when UM residents presented. When I started coordinating MARC four UM anesthesiology residents participated. Seven years later, 40 UM residents, fellows, and medical students presented, and UM won more awards than any other residency program in the Midwest.

- Created and organized a grand rounds highlighting resident research leading to a positive cultural change.
- Received Department of Anesthesiology Project of the Year Award in 2003.

Chair, UMHS Pain Management Steering Committee (PMSC) and Institutional Lead for JCAHO Pain Institute: (2000-2004)

Responsibilities: In 1999, I provided expert opinion to the JCAHO as they finalized new standards for pain assessment and management. A start-up, I became the first chair for the multidisciplinary *ad hoc* Pain Management Steering Committee; consisting of 40 healthcare professionals. The committee reported directly to the Chief of the Medical Staff (UMHS Office of Clinical Affairs) and was charged with establishing policies and guidelines that promote safe cost effective and high-quality pain management. The committee set pain management policies, monitored outcomes, reviewed adverse events, and provided guidance to the Office of Clinical Affairs to ensure high quality pain care for all patients with acute pain, chronic pain, cancer pain, and pain due to terminal illness. I provided institutional leadership for the JCAHO pain initiative and direct supervision of a nurse administrator (1 FTE) and data manager (1 FTE). The PMSC was the genesis for institutionalizing a permanent Pain and Sedation Analgesia committee (a subcommittee of the Executive Committee on Clinical Affairs). Key achievements follow:

A. Pain Management Policy
   1. Initiated and implemented first comprehensive pain management policy at the UMHS.
   2. **Changed UMHS' culture by incorporating pain assessment into the patient bill of rights.**
   3. Used evidence based guidelines to restrict and/or control meperidine use at the UMHS (designed to reduce medical errors).
   4. Used continuous quality assurance data to optimize hydromorphone use at the UMHS (designed to reduce medical errors). Created evidence based guideline for hydromorphone use.
   5. Developed and implemented an opioid analgesic contract for use at the UMHS.
   6. Developed and implemented an opioid analgesic range orders and administration policy at the UMHS; reducing medical errors.

B. Patient Education
   1. **Developed durable web based materials:** http://www.med.umich.edu/pain/
   2. Initiated and developed an educational bookmark for patients and families, *"Let's talk about Pain."* The bookmark is distributed to all patients upon admission to UMHS.
   3. Initiated "*Pain Management: The Three Rs - A Patient's Guide to Roles, Rights, and Responsibilities."* An Educational Video License was purchased and is shown three times a day on CCTV for UMHS patients and their families.
   4. Developed an educational patient brochure "*Pain management: Understand Your Aches and Pains and Take Control."* This brochure is currently located at patient information kiosks and available for distribution to all inpatients at the UMHS.

C. Staff Education
   1. Developed "*Pain Management Pocket Card"* for clinicians. (Revised 2004)
   2. A pain management class was included in nursing orientation and remains part of the continuing education program for staff nurses (*e.g.* nursing blitz).
   3. Developed an orientation to pain management and a "Pain Management Station" for incoming UMHS clinical trainees and house officers.
   4. Developed and implemented a pediatric pain management presentation for pediatric house officers.
   5. Developed an on-line clinical competency focusing on intravenous hydromorphone administration for attending physicians.
   6. Initiated first successful Pain Awareness month in September 2004 at the UMHS.

D. Quality Improvement
   1. Reviewed pain management data obtained from Press Gainey Survey, patient and family relations, and nursing documentation audits.
   2. Developed and implemented a process for patient interviews and concurrent chart reviews at the physician service level.
   3. **Two successful JCAHO visits yielding continuous accreditation without recommendations**

Co-Director, Investigator Core (2003 – 2007); Executive Director, Healthier Black Elders Center (2009 – present); and Director, Health Dissemination and Policy Initiatives (2009- present) NIH/NIA funded Michigan Center for Urban African American Aging Research (MCUAAAR): UM Institute for Social Research

Responsibilities: The MCUAAAR is a joint program between UM and Wayne State University (Detroit, Michigan). The program is funded by the NIH/NIA's Resource Centers for Minority Aging Research (RCMAR). It is designed to increase

the methodology and number of researchers equipped to perform high-quality empirically based research for an increasingly diverse and aging society. In its fourth 5-year funding cycle, MCUAAAR is one of six national RCMARs and has three cores: methods and measures, investigator development, and community.

Co-Director, Investigator Development Core. Assisted in selecting, mentoring, and training pilot investigators (junior faculty) interested in doing minority aging research. Mentored young investigators in developing their projects, manuscripts, and presentations at scientific meetings.

Director, Health Dissemination and Policy. I conceptualized and developed MCUAAAR's health policy and dissemination initiative. Uniquely positioned, the program uses health policy relevant research to inform pertinent and important research questions, address gaps in policy that may adversely impact minority elders, and disseminate policy to broader audiences.

- Conceptualized and wrote the administrative supplement; *African American Aging Summer Immersion for Science Teachers (AASIST)* which teaches science teachers about minority aging research.
- Developed a one-day GSA pre-conference workshop to help RCMAR scholars and faculty make their research more health policy relevant and to facilitate translation to broader audiences.

Co-Director, Community Liaison Core and Executive Director, Healthier Black Elders Center (HBEC). MCUAAAR's community core uses a community-based participatory research model. HBEC resides at Wayne State University's Institute of Gerontology. Community outreach, research, and education forums are the key underpinnings of the HBEC's core activities designed to engage metropolitan Detroit seniors in research. The HBEC's Community Advisory Board provides guidance for core activities including the recruitment and enrollment of minority elders into a longitudinal research database called the Participant Resource Pool (PRP). By enduring partnerships with community partners, mentoring seniors on how to access aging resources, and making seniors aware of the caliber of HBEC supported research **the PRP has retained >1600 minority elders interested in participating in research** (including clinical trials). Many PRP members are from hard to reach, understudied, and potentially vulnerable populations. They share the goal of understanding and eliminating disparities for minority elders through research, scholarly publications, and disseminating new findings and best practices in Michigan and beyond.

Director: NIH Clinical Translational and Science Award (CTSA) – Health Disparities Research Program: (2007–2009) - Michigan Institute for Clinical and Health Research (MICHR; houses UM's CTSA)
Responsibilities: Wrote the proposal and provided overall vision, direction, and leadership for MICHR's health disparities research program. This unique interdisciplinary program provides education and research as well as consultative services. Created an interdisciplinary program with representation from 10 colleges as well as 18 programs and institutes across the UM. This transformative and innovative program was designed to 1) enrich the clinical and translational research enterprise, and 2) reduce and eliminate health disparities by embedding health disparities within all cores and studies: bench to bedside, bedside to practice, practice to community, and community to policy.

- Facilitated interdisciplinary collaborations for developing research proposals (*e.g.* UM's Program for Research on Black Americans, Comprehensive Cancer Center) and educational programs (*e.g.* seminars, visiting lectures).
- Raised awareness about health disparities and increased research directed at eliminating health disparities.
- Developed junior investigators and faculty.
- Conceptualized and wrote the proposal for the NIH-funded *Health Disparities Summer Immersion Program* which teaches minority undergraduates about health disparities research.

Associate Vice President and Associate Dean for Health Equity and Inclusion: (2013–15) UM, UMHS and UMMS
Overview: Established in 2013, the UMHS Office for Health Equity and Inclusion (OHEI) is a shared service between the UMHS and UMMS. OHEI leads efforts, advises, and coordinates initiatives to enhance inclusion, diversity, and educational and health equity within and across the UMHS; a UM core value. Its primary mission is to change the language and culture of the health system, future health professionals, and scientists to ensure educational and healthcare equity and inclusion, especially the underrepresented, underserved, marginalized, and vulnerable. OHEI was dedicated to research, interventions, dissemination, and policy guidance around the issues of diversity, inclusion, health, and educational equity.

Responsibilities: The inaugural AVP/AD was responsible for one of the seven UMHS strategic priorities. Served as the health system leader in promoting health equity and inclusion, cultivating diversity among current and future faculty, staff, and learners and leaders using evidence- and science-based principles to improve outcomes. Serve as an advisor to leadership on matters of concern to those who are underrepresented in education, healthcare, and health sciences. Promoted

scholarship focusing on healthcare and educational equity and inclusion science while decreasing disparities in the clinical, educational, research, and in administrative arenas. Developed outreach initiatives to other universities.

Results: OHEI intersected with three of the seven UMHS strategic priorities while crossing all missions. A novel start-up, the Office for Health Equity and Inclusion (OHEI) introduced a transformational equity and inclusion model, created and implemented metrics to gauge employee and faculty satisfaction, and designed interventions to eliminate educational and healthcare disparities within a living healthcare system. I was involved in recruiting, developing, and retaining faculty, students, and executive officers; educating and training learners and scientists across the biomedical pipeline; developing, reviewing, and expanding research, clinical, and educational programs; and managing three OHEI programs (*i.e.* pathways, inclusion, and research)., I actively engaged and collaborated with stakeholders (*e.g.* department chairs, colleges, National Advisory Board, and the community). Key accomplishments during my tenure follow.

2. **Led turnaround and start-up.** Developed the vision, mission, goals, and strategic plan; implemented start-up and ongoing plan; identified and renovated office space; recruited and hired faculty, staff, and students; and created a national advisory board.
3. **Created pathways, inclusion, and institutional health care equity research programs** (including metrics).
4. **Designed business and financial practices.** Created operating budget (>$3M and $1.5M faculty retention fund). Provided administrative and fiscal oversight for 20 FTEs, identified additional resources to support goals, and developed communication strategies.
5. **Reengineered pipeline programs.** Developed pathway and leadership programs to increase the preparation, recruitment, and retention of military dependent, first-generation, non-traditional, and under-represented individuals in the health professions (*e.g.* medicine, nursing, pharmacy, public health). Developed programs designed to increased recruitment and retention of medical/graduate students, house officers, and faculty.

1. High school and undergraduate learners. Launched 100 learners on the health professional path.
    a. Significantly **increased ACT (by four following a two-week program) and MCAT scores** (following an eight-week program).
    b. **Created a novel inter-professional learning experience** using the humanities (*i.e.* photo-voice) to teach health disparities and the art of medicine to high school and undergraduate students.
    c. 100% of summer pathway learners applying to medical school were accepted into top tier medical schools; 96% increase from prior year.
2. Medical student learners.
    a. Developed Pre-Matriculation program (intensive skill building and mentoring for medical students).
    b. Served as a faculty advocate for students during academic review hearings.
    c. Created OHEI scholar program - provides a gap research year while preparing to retake USMLE.
3. Faculty. Enhanced recruitment, promotion, leadership, retention, and satisfaction.
4. Developed climate measures. Incorporated questions to assess employee, faculty and house officer satisfaction and climate. Audited data. Assessed factors influencing satisfaction and retention of students and employees including their attitudes, engagement, and termination using qualitative and quantitative data.
5. Employees. Initiated inclusion program which focused on recruitment, retention, termination, and leadership development. Developed new metrics to gauge employee and patient satisfaction. Implemented studies to understand healthcare and educational disparities. Implemented interventions to promote equity and inclusion within UMHS.

6. **Developed an innovative and overarching research agenda**, new lines of inquiry, and interventions to address institutional healthcare inequalities. Developed and tested hypotheses. Implemented studies to understand health care and educational disparities and implemented interventions to promote equity and inclusion within UMHS. Generated new policy, wrote manuscripts, prepared reports, and delivered presentations to leadership and scientific community.

1. Evaluated factors influencing quality of healthcare for minority and marginalized patients including examining security calls and catchment area.
    a. PI for an institutional NIH U-54 proposal to create a national mentoring network for underrepresented individuals in the biomedical sciences.
    b. PI for the Kaiser-funded Health Disparities Summer Immersion for Community College Educators. Provided expert consultation for training grant proposals and manuscripts.
2. Used "big data" to examine institutional disparities for patients and employees. Examined disparities in security calls, healthcare quality by catchment area, readmissions, and termination of employment.

3. Developed inclusion pilots for departments to decrease conscious, unconscious, and implicit biases.
7. **Created and championed the pioneering "*Talk Health Care Equity*"** (www.healthyconversation.org) campaign.
8. Philanthropy. Invigorated fundraising, cultivated donors, and facilitated minority alumni engagement.
9. LGBT healthcare. Initiated change in UMHS visitation policy. For the first time, **UMHS named a national leader in LGBT healthcare equality (Healthcare Equality Index).**

HEALTH POLICY PORTFOLIO

Founding Chair, American Pain Society's Special Interest Group (SIG) on Pain and Disparities (2003–2005)
American Pain Society, Glenview, IL
Responsibilities: Elected the first chair of the Pain and Disparities SIG. Through teamwork, a mission statement and key values were created, and a position statement developed (*e.g.* inclusion of racial and ethnic identifiers). **A highly cited selective review of the literature was written – *The unequal burden of pain: confronting racial and ethnic disparities in care* which remains one of the most cited articles in the journal, *Pain Medicine's* history (>650 citations)**. This paper raised consciousness regarding the impact of pain care disparities. Directed advocacy efforts designed to improve pain care for vulnerable populations. **Created and implemented a governance and strategic plan** to ensure the group's continued success (serves as a model for other American Pain Society's special interest groups). There were ten members when the Pain and Disparities SIG started in 2011 with more than 200 active and engaged members in 2015.

Robert Wood Johnson Health Policy Fellow: (2006 –2009) - NAM of the NAS, Washington, D.C.
Responsibilities: Participated in the premier health policy program in the U.S. during my sabbatical. This highly selective fellowship is administered through the NAM of the National Academies and is designed for mid-career health professionals. After an intensive four-month orientation, I worked in the US Senate. A general overview with specific accomplishments during my Congressional assignment (Jan to Aug 2007) follow:

A. Overview
   1. **Worked as a health policy analyst for the Health, Education, Labor, and Pensions Committee (HELP; Chair – Ted Kennedy) and the Subcommittee on Children and Families (Chair – Chris Dodd).**
   2. Key contact person and staff member for Senator Christopher Dodd on public health, public health insurance (*e.g.* Medicare, Medicaid), private health insurance, substance abuse, Alzheimer's disease, health professionals' workforce issues, disparities, NIH, and AHRQ.
   3. **Worked on the reauthorization of several programs (*e.g.* Better Pharmaceuticals for Children Act, Health Work Force, Substance Abuse and Mental Health Administration [SAMHSA], and Children's Health Insurance Program [CHIP]).**
   4. Worked on drafting and writing new legislative priorities, floor statements, speeches, letters, position statements, articles (opinion-editorials) and policy briefs for many topics including concepts around health care reform. Prepared and organized briefings, committee hearings, and testimony for the Senator and Chair. Wrote and provided healthcare policy analysis for current and emerging healthcare issues, wrote speeches and statements for the *Congressional Record*, wrote questions for hearings, analyzed and reviewed materials for executive branch nominees and wrote questions for nominees to respond to on behalf of the Senator. Briefed the Senator for upcoming hearings and votes.

B. Specific Accomplishments
   1. **Thanked in the *Congressional Record* by Senator Edward M. Kennedy [Chair- Health, Education, Labor, and Pensions (HELP)] for contributions to reauthorizing the Food and Drug Administration (FDA).** This legislation (Kennedy and Enzi; S.1082) focuses on drug and device user fees and ensuring the safety of medical products. First time age, race, and gender variables were incorporated when examining clinical outcomes.
   2. Assisted in developing the Fair Access to Clinical Trials Act, *i.e.* FACT Act (Dodd; S.467) and Food and Drug Safety Act of 2007 (Grassley; S.468). These companion pieces of legislation establish a data bank for clinical trials information and propose creating the center for post-market evaluation and research for drugs and biologics within FDA. Many components were incorporated into final passage of Prescription Drug User Fee Amendments of 2007 and the FDA Revitalization Act.
   3. **Assisted in developing the Pediatric Medical Device Safety and Improvement Act** (Dodd; S.1156), **Better Pharmaceuticals for Children Act** (Dodd; S.830) **and Pediatric Research Improvement Act** (PRIA; Rodham-Clinton; S.993). **This legislation provides incentives (*e.g.* patent extension) for testing different therapeutic modalities in the pediatric population and seeks to improve pediatric research and care.** They were passed in the FDA Revitalization Act. Assisted in preparing a HELP committee hearing and testimony for Senator Dodd addressing these companion pieces of legislation.
   4. **Led initiative to incorporate age, race, and gender variables in clinical outcomes within SAMHSA, FDA, National Pain Care Policy Act** (Capps and Rogers; HR 2994), and **Alzheimer's Breakthrough Act** (Mikulski; S.898). This **embeds the potential to examine potential disparities within statute.** Provided leadership for Minority Health Improvement and Health Disparity Elimination of 2007 Act (Kennedy; S.1526).

5. Assisted in developing the Newborn Screening Saves Lives Act of 2007 (Dodd; S.1858).
6. **Assisted in developing The Medical Education Affordability Act** (Dodd; S.1066). Required the Secretary of Education to revise and extend student loan repayment deferment regulations on the basis of economic hardship for borrowers during postgraduate medical or dental internship, residency, or fellowship programs from three to six years if (as negotiated in the Senate) successful completion is required to begin work in the profession. This bill helped many house officers to choose the specialty of their choice without worries about how to pay back their educational debt during their postgraduate training. Passed within Higher Education Act (HEA).
7. Made a health policy presentation to NAM senior leadership team - *Unequal burdens and unheard voices: Awakening health policy*.
8. **Developed National Pain Care Policy Act** (HR 2994) using a bi-partisan bicameral approach. Legislation seeks to improve the quality of pain care, pain education for patients and families, improve clinician pain care education and training, increase pain awareness by an NAM conference report on pain, establishes the NIH Pain Care Consortium in statute, and addresses disparities in pain care. **This legislation *"Advancing Research and Treatment for Pain Care Management"* became law as part of the Patient Protection and Affordable Care Act in 2010. It also led to an NAM report, and the NIH Interagency Pain Research Coordinating Committee. This legislation ultimately led to the Secretary of HHS developing the National Pain Care Strategy and other initiatives.**
9. **Developed the Children's Compassionate Care Act of 2007**. Led a bi-partisan bicameral team to introduce legislation to improve the quality of pediatric palliative care via research, education, training, and awareness. Demonstration projects and an NAM conference were included.
10. **Incorporated pain into SAMHSA reauthorization for the first time**. Contributed to the reauthorization principles. **Prepared a briefing for the Senate HELP Committee and SAMHSA leadership on the impact of pain** and the need for appropriate pain treatment as well as how pain intersects with substance abuse and mental health. An NAM study on pain, substance abuse, and mental health was proposed to improve the status of the research.
11. **Provided bi-partisan leadership on addressing methadone overdoses within SAMHSA.** Organized a bipartisan briefing for SAMHSA on the subject and worked on legislation to address the issue.
12. Assisted in developing Support for Injured Service Members Act (Dodd; S.1975) expanding the Family and Medical Leave Act (FMLA) to support service members with combat-related injuries to six months. This bill was a direct result of the recommendations from President Bush's Commission on Care for America's Wounded Warriors, and was included within final passage of the Children's Health Insurance Plan (CHIP).
13. Provided health policy analysis for Senator when reauthorizing Children's Health Insurance Program (CHIP). Provided background information and memos, wrote statements for *Congressional Record*, developed press releases and comments, policy analysis, and vote recommendations. A truly memorable experience was being in the well of the US Senate on August 2, 2007 when 68 U.S. Senators cast their votes for reauthorizing CHIP.

Chair, Public Policy Committee: (2011-2015) - American Pain Society, Glenview, IL
Results: Re-designed committee structure. A governance and strategic plan was initiated and implemented. Through teamwork, a mission statement and key values were created, and position statements were developed for the board. Directed advocacy efforts for pain research and access to high-quality pain care.

Public Policy: I have completed policy fellowships that have incorporated media training such as the Mayday Pain and Society Policy Fellowship. I have served on several federal and state governmental advisory boards and councils focusing on research and public policy including the Governor of Michigan, Secretary of Health and Human Services, CMS, NIH, Mayday Fund, and the American Cancer Society. Also provided lectures to these organizations. See page 7.

National Pain Strategy: (2013-2015)-
Overview: As a result of the National Pain Care Policy Act passed within the Affordable Care Act and in response to the NAM Report: "Relieving Pain in America" recommendations the Assistant Secretary of Health at HHS created the National Pain Strategy. The purpose was to develop a population health level strategy for pain prevention, treatment, management, and research. The final report was released in March of 2016. I served in several roles.

- Member, NIH/Health and Human Services (HHS) National Pain Strategy Working Group
- **Co-chair (with Deputy Assistant Secretary J. Nadine Gracia), NIH/HHS' National Pain Strategy Public Health: Care, Prevention, and Disparities Working Group**

- **Co-chair (with Deputy Assistant Secretary J. Nadine Gracia), NIH/HHS' National Pain Strategy Public Health: Disparities Working Group**

National Academy of Medicine: (formerly Institute of Medicine): (2007- present) – National Academy of Science, Washington, DC. I served on the NAM Healthcare Services Board (Reappointed) and have coordinated reviews for NAM books and proceedings as well as served on studies. My scholarship has also been cited in NAM's book, *"Relieving Pain in America*". I also have provided service to the RWJ health policy fellowship programs. See page 18.

Communicating for impact: With a AAA media rating, I often receive requests to contribute to the local and national discourse and to provide expert commentary to the public via the media. My scholarship has also been covered widely by national print, television, and radio including NPR, New York Times, and ABC. I have also written opinion-editorials and blogs. I have over 200 media interactions. A full list of media interactions is available upon request.

RESEARCH PORTFOLIO

Overview: I taught myself how to conduct high quality research by taking classes during vacations. I was mentored by people outside of my discipline and embraced the social sciences. To generate my research questions, my research focuses on **hearing the story of the person wearing the hospital gown and understanding their experience/community**. The genesis of my health services research agenda was curiosity about what makes some patients bend and others break and how the social determinants of health influence the pain care experience. I was undervalued stock and an atypical choice for the tenure track. I worked closely with colleagues on the clinical track to address important clinical questions. I have worked diligently to advance the research careers of individuals, including clinical and tenure track faculty, through my work at the personal, department, center, and institutional level. Over 20 years, I emerged as an expert in pain care disparities and policy, and a leader in minority, women's, and older adult health. My research generated national discussions and brought international attention to the impact of suboptimal pain care and on vulnerable populations, in particular. It has helped to generate federal health policy to promote equity in pain care for all. As a principal investigator and as part of a team, I have been instrumental in developing and expanding the biomedical enterprise at the center and institutional level.

University of Michigan Department of Anesthesiology

Principal Investigator - Michigan Pain Outcomes Study Team

Created a novel interdisciplinary health services research program focusing on acute, chronic, and cancer pain at the individual, population, and institutional level. A public health problem, I focused on health status, and healthcare and pain care disparities across the lifespan and other social determinants of health. My health policy relevant research agenda evolved to include public policy. Studies also focus on healthcare access and utilization, variability in clinician and patient pain management decision-making, and outcomes. My creativity, scholarly works, and presentations were empowered by narrative medicine (*e.g.* photo-voice) and an ability to embrace the medical humanities. My innovative scholarship expanded the disparities landscape and began critical discussions on race, ethnicity, and gender-based disparities in pain care. I led a multi-disciplinary team across institutions in writing a highly cited selective review of the literature which became one of the most cited articles in *Pain Medicine*. Overall, **more than 100 manuscripts, book chapters, and invited papers** have been generated and accompanied by editorials and media attention. The papers **are prototypical of suboptimal assessment, treatment, and outcomes for minorities, women, and low-income people**. This work led to community, keynote and scholarly scientific presentations including presentations for the NIH, NAM, and US Congress. My work has been cited by the NAM, contributed to the National Pain Care Policy Act (within the Patient Protection and Affordable Care Act), and led to the US National Pain Strategy. I have won awards at the department, university, and national level for my scholarship.

Director, Pain Medicine Research: (2003–2011) - Back and Pain Center (formerly Multidisciplinary Pain Center and Center for Interventional Pain Medicine), Department of Anesthesiology, UMHS, Ann Arbor

Responsibilities: Directed and coordinated pain management research for the pain center. I mentored faculty and house officers interested in doing pain research. A quality improvement research agenda focused on medical errors, safety, quality, and outcomes for acute, chronic, and cancer pain care was created. Metrics and databases were developed that were queried to test hypotheses addressing important clinical questions. Similar to an investigator development core, in these roles and as Coordinator for the Midwest Anesthesia Resident's Conference I mentored scholars across disciplines and the biomedical pipeline including clinical and tenure track faculty who currently enjoy productive academic and research careers.

University of Michigan Center Grants

Michigan Center for Urban African American Aging Research (MCUAAAR): MCUAAAR is a joint UM and Wayne State University NIH funded Resource Centers for Minority Aging Research. For 20 years MCUAAAR has developed the methodology and researchers to perform high-quality empirically based research focused on African American elders.

Responsibilities: As **Co-Director of the Investigator Development Core**, I helped select, mentor, and train pilot investigators interested in doing aging research and health policy relevant research among minority elders. As **Director of Dissemination** I conceptualized and wrote the novel NIH funded AASIST proposal - designed to teach high school science teachers about minority aging research. As **Co-Director of the Community Liaison Core**, I was the Executive Director for the Healthier Black Elders Center and worked closely with a community advisory board; assisted in writing manuscripts and grants; used community based participatory research principles to engage the community and promote older minority adult health and well-being in Detroit, MI; developed new research initiatives; increased the size of the participant resource pool (a registry of older minority adults willing to be contacted about research participation opportunities); and increased

the presentation of opportunities to participate in research to older minority adults while increasing their participation in research and clinical trials.

University of Michigan Institutional Grants

Clinical Translational and Science Award (CTSA) – Health Disparities Research Program: I was director for the unique health disparities research program. I conceptualized and wrote the proposal with team members. Created a transformative and innovative program with representation from 10 schools and colleges as well as 18 programs and institutes across UM and its regional campuses to enrich the research enterprise and enhance research productivity. Embedded within each CTSA core and funded studies (*i.e.* bench to bedside, bedside to practice, practice to community, and community to policy) was an innovative health disparities and equity research agenda. Facilitated new interdisciplinary collaborations and joint ventures to develop research proposals. Worked with the investigator development core to mentor faculty and scholars. Designed to enhance translational science and the biomedical pipeline, I conceptualized and wrote the NIH funded proposal – Health Disparities Summer Immersion Program to train those underrepresented in the biomedical pipeline in translational and health disparities research.

Office for Health Equity and Inclusion: As the AVP/AD I was the designated institutional official responsible for diversity for the health system. I worked across the biomedical and health professional pipeline with other institutional officials responsible for faculty, students, and research at the university, health system, and medical school level. The office focused on disparities, diversity, equity, and inclusion in learning environments and the academic health systems to include staff and patients. Metrics and research programs were developed and initiated to evaluate: 1) pathways programs, 2) inclusion programs, and 3) institutional health care equity research (including the agenda focusing on the science of inclusion).

- Created the novel *Talk Health Equity* Campaign and research project.
- Assessed factors influencing satisfaction and retention of students, faculty, staff, and employees including their recruitment, retention, and termination using qualitative and quantitative data.
- Evaluated factors influencing the quality of healthcare for minority and marginalized patients.
    - Disparities in hospital security calls
    - Disparities in readmission following bladder cancer surgery
    - Disparities in health by catchment area

Conceptualized and wrote a novel proposal that focused on teaching community college professor about health disparities while better preparing them to mentor and prepare students who are underrepresented for careers in the biomedical research and health professions. Frequently served as a consultant and submitted NIH (*e.g.* U-54) and foundation grant proposals (*e.g.* American Cancer Society, Kaiser), wrote manuscripts, and implemented studies to understand health care and educational disparities. Implemented interventions to promote health and educational equity and inclusion within a quaternary care health system for patients, staff, students, and faculty.

Research Service: I have provided significant and ongoing leadership and service to individuals and organizations as a peer-reviewer for grants and manuscripts. I have provided peer review for scientific journals, including serving as a senior editor, editor for a special edition, and for the NAM. I serve on several NIH advisory boards and NICHMD council, Secretary of Health and Human Services' Interagency Pain Research Coordinating Committee, and foundations such as the Blue Cross Blue Shield Foundation of Michigan and American Cancer Society Council on Extramural Affairs; the last level of peer review and where final funding decisions are made. I am frequently asked to be an expert consultant or mentor for individual and center grants.

Consulting Positions

2005	PI: Hastie BA; Mentor: Green CR, U of Florida College of Dentistry, Gainesville, FL; American Pain Society, Future Leaders in Pain Management Small Grants Award, Mentored Patient-Oriented Research Career Development Award – K award
2005	PI: Poleshuck E; Mentor: Green CR, University of Rochester School of Medicine Dentistry, Rochester, NY NIH, NIH, Department of Health and Human Services, Mentored Patient-Oriented Research Career, Development Award – K award
2006	PI: Zeltzer L; Consultant: Green CR, David Geffen School of Medicine, UCLA, Los Angeles, CA, NIH, Psychiatry & Biobehavioral Sciences, "Puberty and Gender Differences in Pain Responsivity," – RO1, The role of parents in children's responses: difference by puberty, sex, and pain condition"

2006 PI: Levine R; Consultant: Green CR, Wayne State University, Henry Ford Health System, Detroit, MI, NIH, Complementary and integrative medicine research, "New beginnings in end of life care: integrating complementary and alternative medicine therapies" – NIH Conference grant

2007 PI: Baker T; Consultant: Green CR, U of South Florida, Tampa, FL, NIH, National Cancer Institute Mentored Career Development Award to Promote Diversity – K award

2008 PI: Selig S; Consultant: Green CR, U of Michigan-Flint, UM-Flint Exploratory Center of Excellence-NIH P20 award

2009- PI: Tate D; Consultant: Green CR, UM, NIH, Advanced Rehabilitation Research Training Program

2009 PI: Marceau L; Consultant: Green CR, New England Research Institutes Inc., Watertown, MA
NIH, Does Tracking Chronic Pain via Electronic Diary Reduce Disparities in Care?

2009 PI: Helitzer D; Consultant: Green CR, U of New Mexico, Albuquerque, NIH, Research on Causal Factors and Interventions that Promote and Support the Careers of Women in Biomedical and Behavioral Science and Engineering

2009 PI: Zeltzer L; Consultant: Green CR, David Geffen School of Medicine, UCLA, Los Angeles, NIH, The Impact of Race/Ethnicity in Children's Laboratory Pain Supplement to 5R01DE012754-07

2009 PI: Bowman P; Consultant: Green CR, UM, NIH, Research to Understand and Inform Interventions that Promote the Research Careers of Students in Biomedical and Behavioral Sciences

2010 PI: Chadiha L; Consultant: Green CR, UM, NIH, Michigan Social Work/Nursing Bridges to Doctorate Program

2011 PI: Allman R; Consultant: Green CR, Deep South Resource Center for Minority Aging Research
U of Alabama-Birmingham, AL
Expert Advisory Panel for the Deep South Resource Center for Minority Aging Research

2012 PI: McKinlay J; Consultant: Green CR, New England Research Institute "Towards Greater Understanding of Pain: Multidisciplinary Analyses of Boston Area Community Health Survey (BACH)," Boston, MA

2012 PI: Burgess D; Consultant: Green CR, Minneapolis VA Medical Center: "A Proactive Walking Trial to Reduce Pain in Ethnically Diverse Patients," Minneapolis, MN

2012 PI: Chadiha L; Consultant: Green CR, UM School of Social Work, NIH, Michigan Social Work/Nursing Bridges to Doctorate Program

2013 PI: Balkrishnan R; Consultant: Green CR, UM School of Pharmacy, NIH "Pain medication use and outcomes in elderly Appalachian women with breast cancer"

2014 PI: Edwards-Alesii LY; Consultant: Green CR, University of North Carolina Department of Anesthesiology School of Medicine, NIH, K23

2014 PI: Tate D; Consultant: Green CR, NIH, UM

Brief History of the CUNY SOM

The Sophie Davis School of Biomedical Education (SDSBE) was founded upon CCNY's original mission of the Free Academy, which offered an affordable education to a diverse student population and strived for excellence in its wide-ranging undergraduate and graduate programs. The CUNY School of Medicine was founded upon the Sophie Davis School of Biomedical Education.

In 1970, Dr. Robert Marshak, the President of City College of New York (CCNY), had a vision to create a medical education program for "New York's poor." Professor Thomas Haines, a professor of biochemistry, emerged as a key faculty member to help President Marshak's dream become a reality. On November 24, 1972, the Board of Higher Education established a Center for Biomedical Education at CCNY to house a six-year BS/MD program in partnership with local accredited medical schools. Professor Haines became Acting Director of the Center for Biomedical Education, and was charged with establishing and designing the program, securing necessary funding and collaborative medical schools for student placements, and admitting the first cohort.

In 1973, Dr. Alfred Gellhorn, a leader in medical education, accepted an invitation to come to CCNY to create a "Center of Excellence." With grants from philanthropists Leonard and Sophie Davis (CCNY alumni), Dr. Gellhorn established on a provisional basis the Sophie Davis Center for Biomedical Education with a mission to recruit and train physicians from underserved minority populations and encourage new doctors to work in communities of greatest need. In the fall of 1973, the Sophie Davis Center of Biomedical Education opened its door to the first class of 62 students. Of the 62 students, 30 were women and 53 percent were minorities, fulfilling the intended goals and setting a precedent for future classes to be reflective of the surrounding community.

In 1977, the New York State Board of Regents granted approval to offer the biomedical education program on a permanent basis. Supported by the Commonwealth Fund and by Leonard and Sophie Davis, the biomedical education program was designed to address longstanding challenges of attracting physicians to primary care specialties and to the geographic areas of greatest need. High-achieving high school graduates were admitted to an accelerated five-year curriculum that integrated the requirements for a baccalaureate degree with the content of traditional preclinical medical education. Successful students were subsequently matched to partner accredited medical schools for completion of their clinical (clerkship) training (medical school years 3 and 4) and conferral of the MD degree. In 1978, the Center for Biomedical Education was renamed the Sophie Davis School of Biomedical Education (SDSBE). Since its founding, SDSBE has graduated more than 2,400 students. Ninety-seven percent of program completers received the MD degree.

The Sophie Davis School of Biomedical Education proved to be very successful for over forty years. In 2011, the leadership of the Sophie Davis School and of CCNY embarked on a major strategic planning process to define and determine the course of its future. A steering committee that included faculty, staff and alumni, as well as constituents from healthcare, the community and political leaders, examined the program's strengths, challenges and needs. The principal recommendation from these deliberations was to transform SDSBE from its existing structure into a fully-accredited medical school, with the three-fold aim of (a) enabling the program to further support and maintain its mission of training primary care physicians who practice in medically

underserved communities, (b) ensuring a more seamless transition of our students from the traditional basic science education years to the clerkship phase of their education, and (c) guaranteeing the availability of clerkship slots for its students. In 2012, a panel of external evaluators, including leaders in academic medicine and in BA/MD or BS/MD educational programs, also concluded that the best approach for ensuring SDSBE's sustainability would be to pursue full accreditation as an MD degree–granting program.

A preliminary proposal to develop an accredited MD program was approved by the SDSBE faculty in May 2013 and by CUNY's Board of Trustees in November 2013. In June 2015, the proposed MD program received preliminary accreditation status by the Liaison Committee on Medical Education (LCME) – the accrediting body for U.S. and Canadian allopathic medical schools. Program approval by the New York State Board of Regents was granted in 2016. In February 2016, the school was renamed the CUNY School of Medicine by the CUNY Board of Trustees, and the charter class matriculated into the MD program in the fall of 2016.

In addition to the BS/MD program, the school offers a physician assistant (PA) program leading to the Master of Science degree. Established in 1970 by physicians from New York's Harlem Hospital Center and the Columbia University School of Public Health, the program was created with the vision to train students with backgrounds as military medical corpsmen and persons with comparable civilian health care experience to care for the residents of the local community. In 1978, CUNY adopted the program as an upper-division baccalaureate program of SDSBE; in 2016, the program transitioned to a graduate program. The PA program has maintained its long-standing partnership with Harlem Hospital Center and remains committed to increasing the number of PAs of African American, Latino, and other backgrounds whose communities have been historically underrepresented and underserved in the medical field. To date, the program has graduated more than 1,000 PAs. Ninety-five percent of admitted students have been from the New York metropolitan region, where an overwhelming majority of graduates subsequently practice.

State funding:	$23.8 million
Tuition Revenues:	$12.0 million
Grants and contracts:	$ 2.0 million
Other revenues:	$ 2.8 million
Total revenue:	$41.2 million

Mission

Our mission has remained unchanged over the years to provide access to medical education to talented youth from social, ethnic and racial backgrounds historically underrepresented in medicine and to develop physicians committed to practicing in underserved communities with a special emphasis on primary care.

Admissions and Recruitment

Admission Team

The Office of Admissions includes 6 FTE employees. In total, the administrators and recruiters have more than 35 combined years of experience.

Recruitment

Entry to the 7-year BS/MD program is directly from high school. Recruitment of applicants to the CUNY SOM combines vigilant attention to area high schools, routine participation in various regional and school-based college fairs, longstanding partnerships with a network high school counselors and various enrichment programs, and most recently the initiation of our own pipeline program. The Office of Admissions staff and many current students in the school are involved in these efforts.

Students learn about Sophie Davis/CUNY School of Medicine via several mechanisms. The main way is through college fairs which occur annually in the fall and spring. These programs primarily occurred in person prior to the pandemic and are currently accomplished via virtual fairs. Outreach to students also includes hosting meetings with school counselors and college advisors. During the pandemic the meetings have been virtual. The next one is scheduled for December 2, 2021. These meetings offer opportunity to network with counselors/advisors while answering questions about our program and admissions into Sophie Davis/CUNY School of Medicine.

On November 18, 2021 The CUNY School of Medicine held its annual virtual open house where >300 guests (primarily students) attended. Community based organizations host events that we frequently attend like the annual Harlem Week held each August which includes a day dedicated to college information sessions.

We employ a team of student Medical Ambassadors who also attend college fairs and recruitment events. Participation at these events have included alumni. CUNY hosts an annual college conference attended by school counselors and college advisors representing the five boroughs, Long Island and Westchester. In addition, we have two pipeline programs: The Sophie Davis Health Professions Mentorship Program and the Health Professions Recruitment and Exposure Program (HPREP). These programs offer high school students ranging juniors to seniors, early exposure to careers in healthcare related professions. Enrolled students are tutored, mentored and provided instruction by students enrolled in CUNY School of Medicine and its faculty.

Advertisement of Sophie Davis/CUNY School of Medicine is through accessing our website which includes posting of student and alumni achievements. We advertise CUNY School of Medicine in our brochure which are mailed to students and school counselors. Social media is also a platform for advertisement and we hope to soon hire a professional to expand our presence on Facebook, Instagram and other such outlets. Students volunteering at high schools like A.P. Randolph located on the City College campus, is engagement that is both instructional and promotional.

Pipeline Programs

The CUNY School of Medicine/Sophie Davis Biomedical Education program offers two high school mentorship programs:

The **Health Professions Recruitment and Exposure Program (HPREP)** is recognized nationally in its effort to encourage underrepresented minority students to consider a career in the fields of science and medicine. Founded at Weill Cornell Medical College in the late '80s, the HPREP now exists at universities throughout the country, to provide high school students with the opportunity to explore various healthcare professions. HPREP was established at the CUNY School of Medicine/Sophie Davis Biomedical Education Program in the Spring of 2015.

Our mission is to expose underrepresented minority students from underserved communities to a variety of professions in healthcare, and to empower students to see themselves as exceptional, equipped, and highly capable, while creating opportunities for medical students to serve as leaders in their community. Participants in the HPREP are introduced to various healthcare professions through guest speakers and other activities. Although sessions are held at the Sophie Davis Biomedical Education Program/CUNY School of Medicine located at the City College of New York, in 2020-21 the sessions were held virtually. Student experiences are enriched by presentations in medicine. as they interact with physicians and current medical school students. The goal is to prepare each student with the necessary knowledge, insight, and experience that will support their decision-making regarding their future career. It serves to expose, inspire, recruit, and mentor aspiring minority high school students who are interested in medicine, science, and/or research.

HPREP students will typically engage in activities such as:

- Mentorship
- Visits to the Gross Anatomy Lab, a unique experience for students to learn about Anatomy by examining cadavers
- Clinical skills training such as blood pressure measurement and problem-based learning (PBL) workshops
- Medical lectures provided by CSOM/Sophie Davis students, faculty and staff members
- Networking with the CSOM/Sophie Davis community and gaining knowledge about the CSOM admissions process

The **Health Professions Mentorship Program** is for rising high school juniors who are considering a career in the health field, such as medicine, nursing, physician assistant, occupational therapy, public health, and research. The Health Professions Mentorship Program requires a two year commitment and includes two four-week summer sessions following the sophomore and junior years of high school, as well as monthly Saturday sessions. Students will conduct a community based project in which they will take part in recognizing challenges and developing solutions to health care problems in New York City. Students observe and discuss the social and economic determinants of health and disease, and explore how different health care professionals address these issues to improve the health of communities.

Mentorship sessions include presentations, group seminars, and problem-solving experiences led by CUNY School of Medicine faculty and students. Topics include current health challenges as well as an overview of the specific career paths designed to address them. During the Fall, Winter, and Spring seminars, medical students mentor and help high school students build the knowledge and skills needed to become a successful college student.

A pipeline program designed to provide the initial academic skill development and health care career exposure to high school students who are underrepresented in health professions. Thirty participants are recruited annually from the five New York City boroughs, Long Island, and upstate New York, and must be rising high school juniors. Thirty percent of participants are Hispanic, 33% Black and 2/3 are from economically disadvantaged high schools.

Results:

- Over the past five years, the program has graduated 120 students
- One hundred percent of the graduates enrolled in a college or university
- Sixty percent of the students have pursued a healthcare related major in college
- An average of five students over five years have enrolled Sophie Davis/CUNY School of Medicine
- Approximately 6% of students admitted to the Sophie Davis/CUNY School of Medicine between 2017 and 2021 are graduates of the Health Professions Mentorship Program. The first cohort of pipeline alums will graduate from Sophie Davis/CUNY School of Medicine in 2024.
- Currently, there are twenty-one pipeline alums enrolled at CUNY School of Medicine.

Admissions Process

The Sophie Davis/CUNY School of Medicine utilizes a holistic admissions process that closely follows recommendations of the Association of American Medical Colleges. The program assesses each applicant's unique experiences alongside traditional measures of academic achievement such as grades and test scores. Recruitment activities result in an applicant pool of slightly more than 1,000 applicants annually. Approximately 25 percent of the applicant pool is interviewed following a thorough review of applications, including academic performance, participation in school activities and community service. Invited applicants receive three interviews: one from a current student and two from faculty or staff of the School, including one who is a member of the Admissions Committee. The Admissions Committee ranks applicants based on whole file review and presentation by the interviewer to the full committee.

Our Fall 2021 Entering Class

We continue to be successful in enrolling students from communities underrepresented in the medical field. In addition, other noteworthy statistics are:

- 62 percent of the cohort are females, 38 percent are males
- 75 percent of the class are from groups traditionally underrepresented in medicine (48% Black/African American; 27% Hispanic/Latinx)
- 59 percent of the matriculated students are sons and daughters of immigrants; and 11 percent are immigrants themselves for a total of 70 percent
- 73 percent of the cohort are from the five boroughs of New York City:

- Bronx 7%
- Brooklyn 16%
- Manhattan 26%
- Queens 20%
- Staten Island 4%

25 percent are from Long Island, Upstate New York and Westchester:

- Long Island (Suffolk and Nassau counties) 18%
- Upstate New York and Westchester 7%

2% of the cohort are out-of-state students.

A complete list of high schools from which CUNY SOM students have been recruited is appended at the end of this document.

Sophie Davis / CUNY School of Medicine	**Year of Admission, 2013 through 2021**									**9-Year Average**
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	
Number of Applicants	705	909	1038	1015	1004	1011	1030	1041	1399*	**1017**
Interviewed	224	199	223	249	293	326	279	284	341	**269**
Admitted	94	101	114	113	115	92	104	97	102	**104**
Percentage Admitted	13%	11%	11%	11%	11%	9%	10%	9%	7%	**10%**
Matriculated	74	80	89	90	95	76	73	84	90	**83**
Percent Matriculated	79%	79%	78%	80%	83%	83%	70%	87%	88%	**81%**
African American Male Enrollment	8	6	12	13	10	12	11	9	10	**10**

***** The increase in applications in 2021 is wholly consistent with trends at medical schools across the country. The Association of American Medical Colleges (AAMC) reported an increase of more than 7,500 additional applicants in 2020. According to the AAMC: "Experts don't know exactly what's behind the increase, but they point to several likely factors. Some are rather mundane, including students having more time to focus on applications as college classes moved online. But at least some of this year's applicants are driven by COVID-19 patients' terrible suffering and front-line providers' extraordinary heroism." (https://www.aamc.org/news-insights/applications-medical-school-are-all-time-high-what-does-mean-applicants-and-schools).

ENROLLMENT BY Race/ETHNICITY, Entering classes 2013-2021									
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Black/African American	27	24	29	35	37	30	30	33	43
White	15	11	12	6	13	7	7	10	2
Hispanic/Latinx	19	13	13	21	12	16	11	15	24
Asian	24	30	34	27	32	23	23	24	19
Unknown/Other	1	0	2	0	1	0	2	2	1
Total	86	78	90	89	95	76	73	84	89

Tuition and Financial Aid

The CUNY SOM students pay the CUNY undergraduate tuition of $6,900/year for the first three years of the program (the baccalaureate college years) and $41,000/year for the medical school years (years 4-7). Currently, during the collegiate years of the program (years 1-3), most students approximately 80 receive financial support in the form of need-based federal and state aid, merit-based scholarships, or both.

Among the 259 undergraduate Sophie Davis students in 2020, nearly half (45.9%; n=119) are from low-income households and qualify for New York Tuition Assistance Program (TAP) and Pell grants, as well as need-based programs and benefits such as SNAP. Financial aid data further suggest that an additional 39.7% (n=113) are eligible for Pell based upon relatively low income status. Thus, 85.6% of our undergraduate students are eligible for need-based financial aid. In the 2021 academic year, 79% of the program's undergraduate students received financial aid (loans and scholarships).

For medical school and graduate school years, federal and state grants (e.g. Pell and Tap) are not available. Thus, financial aid for MD students is often in the form of loans. The CUNY SOM Office of Financial Aid and the Office of Student Affairs keep students apprised of funding opportunities through both on-campus and off-campus programs.

Although CUNY SOM has the least expensive tuition of all medical schools in the state, the tuition burden is high, considering the socioeconomic status of students we recruit. In 2020-2021 academic year, we awarded $559,800 in scholarship support to students, primarily through institutional funds; the average award was $10,360. We work continually and diligently to find opportunities to establish scholarships for our students through our development office.

New York's Medical Schools	Tuition, 2021-22
Albany Medical College	$ 57,598
Albert Einstein College of Medicine	$ 56,704
Columbia - Vagelos College of Physicians & Surgeons	$ 66,816
CUNY School of Medicine	***$ 41,600***
Hofstra - Zucker School of Medicine	$ 54,525
Mount Sinai - Icahn School of Medicine	$ 60,405
New York Medical College	$ 56,925
New York University School of Medicine	$ 58,226
SUNY Buffalo - Jacobs School of Medicine & Biomedical Sciences	$ 43,670
SUNY Downstate College of Medicine	$ 43,670
SUNY Stony Brook - Renaissance School of Medicine	$ 43,670
SUNY Upstate Medical University	$ 43,670
University of Rochester School of Medicine & Dentistry	$ 64,000
Weill-Cornell College of Medicine	$ 62,650

Student Demographic Information

Medical School Enrollment by Race/Ethnicity
Academic Year 2021-22

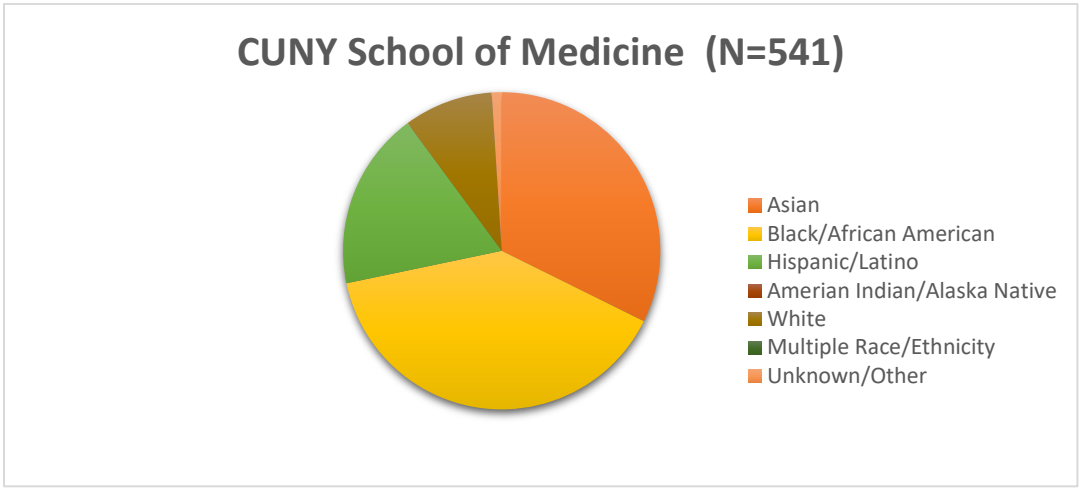
BS/MD Students	CUNY School of Medicine (N=541)	New York Medical Schools (N=8,871)	U.S. Medical Schools (N=95,475)
Asian	32%	27%	23%
Black/African American	39%	8%	8%
Hispanic/Latino	18%	6%	7%
American Indian/Alaska Native	0%	< 1%	< 1%
White	9%	43%	47%
Multiple Race/Ethnicity	0%	10%	10%
Unknown/Other	1%	4%	3%

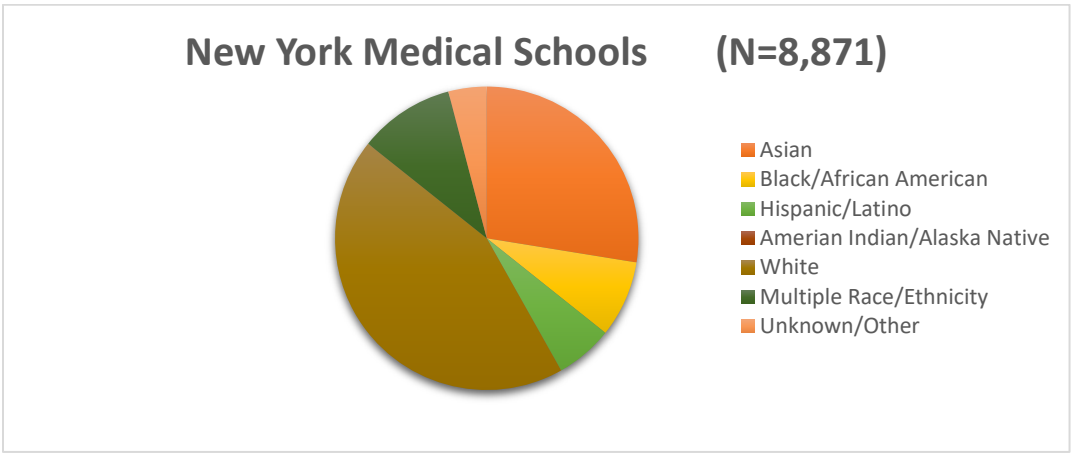
PA Students, Classes of 2020-2024 (N = 169)		Nationally Certified PAs (N = 139,675)*
Asian	34%	6%
Black/ African American	23%	4%
Hispanic/Latino	24%	7%
White	12%	87%
Native Hawaiian/Pacific Islander	0	< 1%
American Indian or Alaskan Native	0	< 1%
Other	0	3%
Multiple Race/Ethnicity	7%	2%
Preferred Not to Answer	0	4%

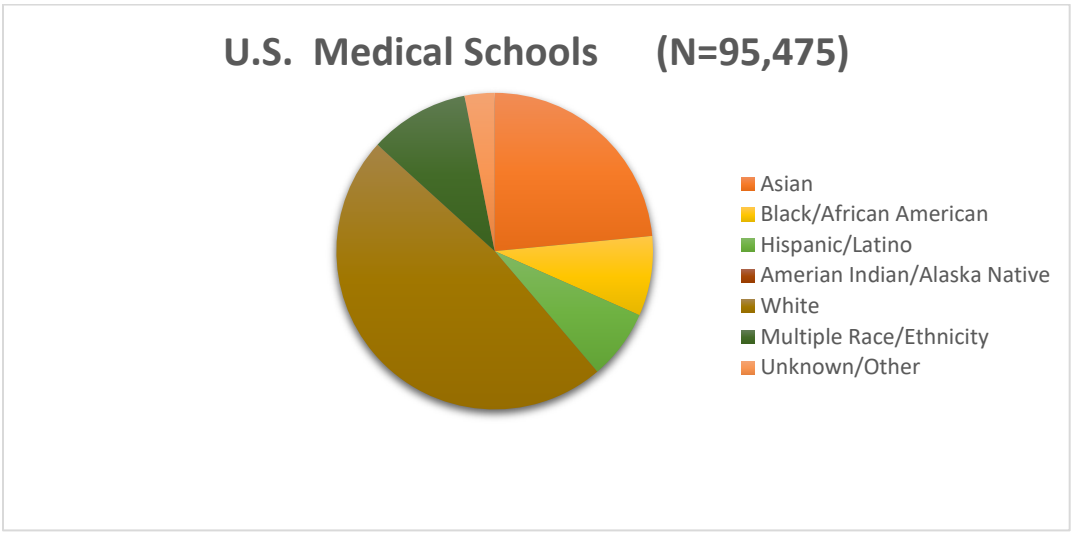
*2019 Data

First Generation Students	BS/MD students	PA students
first generation to attend college	29%	59%
first generation born in the U.S.	69%	58%

Medical School Enrollment by Race/Ethnicity
Academic Year 2021-22







Academic Performance

CUNY SOM MD students have demonstrated academic performance and graduation rates on par with the national mean.

4-Year Medical School Graduation Rates
US Medical Schools (1996-2016)* = 81.6% – 84.1%
CUNY School of Medicine: Class of 2020 = 85% (2% still in progress) Class of 2021 = 82% (8% still in progress)

* Source: Association of American Medical Colleges (AAMC). *AAMC Data Snapshot: Graduation rates and attrition rates of U.S. medical students.* October 2021.

	Class of 2020			Class of 2021		
	Graduated	Resigned/ Dismissed	Still In Program	Graduated	Resigned/ Dismissed	Still In Program
Black/African American	85%	11%	4%	74%	13%	13%
White	93%	7%	0%	91%	9%	0%
Hispanic/Latinx	64%	29%	7%	80%	0%	20%
Asian	91%	9%	0%	87%	10%	3%
Unknown/Other	100%	0%	0%	0%	0%	0%
Total	85%	13%	2%	82%	10%	8%

US Medical Licensure Exam (USMLE)
Pass Rates of First Attempt

	Step 1	Step 2 CK
CUNY School of Medicine (2021)	98.5%	99%
US/Canada Medical Schools (2020)	97%	98%

Residency Match
Percent of MD Graduates Who Matched to Residency Training Programs

	Class of 2020	Class of 2021
CUNY School of Medicine	100 %	92.1%
US Medical Schools (National)	93.7%	92.8%

63% of CUNY SOM's Class of 2021 matched to Primary Care Specialties;
78% matched to residency programs in NYC, Westchester and Long Island.

Faculty Demographic Information

The table below compares faculty demographic for CUNY SOM with AAMC national data for US medical schools (AAMC data) and CUNY's graduate/professional programs. All data are from 2020

2020 Faculty Data	CUNY School of Medicine N=56	U.S. Medical schools* N = 176,449	CUNY Graduate & Professional Schools [b]					CUNY-wide Faculty N=7253
			Graduate Center N=67	Law School N=60	School of Prof'l Studies N=26	School of Journal. N=15	School of Public Health N=46	
	%	%	%	%	%	%	%	%
Asian	13	21	7	20	4	7	15	14
Black/African American	**18**	**4**	**8**	**17**	**15**	**7**	**7**	**12**
Hispanic/Latinx	**16**	**4**	**5**	**7**	**12**	**0**	**9**	**11**
White	50	66	76	53	62	80	67	57
Amer. Indian/Alaska Native	0	0	0	0	0	7	0	0
Italian American[c]	4		4	3	4	0	2	5
Unknown/unreported		**4**						
Female	62.5	42.9	41.3	63.3	84.6	40.0	58.7	49.7

* Source: AAMC Faculty Roster, December 31, 2020

[a] *excludes* multiple race designations

[b] Includes schools where faculty total N > 10

[c] Italian Americans are designated as a protected population within CUNY snapshot, as of December 31, 2020.

Clinical Partners – Clerkship sites

- St Barnabas Health System
- Northwell Health System:
    - Staten Island University Hospital
    - Glen Cove / Southside / Phelps Hospitals
    - Planview Hospital
- Institute for Family Medicine (includes 3 Federally Qualified Health Centers)
- Jacobi Medical Center / North Central Bronx Hospital
- Harlem Hospital Center

Plus, more than a dozen additional ambulatory / community health center partner sites for our undergraduate/pre-clerkship longitudinal clinical training experiences.

High Schools Attended by CUNY SOM Entering Class of 2021

HS Name	Zip code	Borough	Region
University Heights High School	10455	Bronx	Hunts Point and Mott Haven
University Heights High School	10455	Bronx	Mott Haven
Harry S. Truman High School	10475	Bronx	Coop City, Northeast Bronx
Preston High School	10465	Bronx	Eastchester Bay|Southeast Bronx
Bronx High School of Science	10468	Bronx	Jerome Park|Bronx Park and Fordham
DeWitt Clinton High School	10468	Bronx	Jerome Park|Bronx Park and Fordham

HS Name	Zip code	Borough	Region
High School for Medical Professions	11236	Brooklyn	Canarsie and Flatlands
Medgar Evers College Preparatory School	11225	Brooklyn	Prospect Leffert |Flatbush
New Visions Advanced Math and Science III	11235	Brooklyn	Sheepshead Bay|Southern Brooklyn
High School For Medical Professions	11236	Brooklyn	Canarsie and Flatlands
Midwood High School	11210	Brooklyn	Marine Park|Flatbush
Brooklyn College Academy High school	11218	Brooklyn	Borough Park
Brooklyn College Academy	11218	Brooklyn	Borough Park
Medgar Evers College Preparatory School	11225	Brooklyn	Prospect Leffert|Flatbush
Midwood High School	11210	Brooklyn	Marine Park
Fontbonne Hall Academy	11209	Brooklyn	Bayridge
Medgar Evers College Preparatory High School	11225	Brooklyn	Prospect Leffert
Medgar Evers College Preparatory High School	11225	Brooklyn	Prospect Leffert
Science Skills Center	11201	Brooklyn	Downtown Brooklyn|Northwest Brooklyn
Cultural Academy for the Arts and Sciences	11203	Brooklyn	East Flatbush

HS Name	Zip code	Borough	Region
Half Hollow Hills High School West	11746	Long Island	Huntington
Baldwin Senior High School	11510	Long Island	Baldwin
Elmont Memorial High School	11003	Long Island	Elmont
Sanford H. Calhoun High School	11566	Long Island	Merrick
Hicksville High School	11801	Long Island	Hicksville, Oyster Bay
Herricks High School	11040	Long Island	New Hyde Park
The Wheatley School	11568	Long Island	Old Westbury
John F Kennedy High School	11710	Long Island	Bellmore, Hempstead
St. Mary's College Preparatory High School	11030	Long Island	Manhasset
Uniondale High School	11553	Long Island	Uniondale
Uniondale High School	11553	Long Island	Uniondale
Chaminade High School	11501	Long Island	Mineola

Valley Stream North High School	11010	Long Island	Franklin Square
Westbury High School	11568	Long Island	Old Westbury
Valley Stream North High School	11010	Long Island	Franklin Square
Elmont Memorial High School	11003	Long Island	Elmont

HS Name	Zip code	Borough	Region
Stuyvesant High School	10282	Manhattan	Battery Park City|Downtown|Manhattan
City College Academy of the Arts	10034	Manhattan	Inwood|Uptown|Manhattan
A Philip Randolph Campus High School	10031	Manhattan	Hamilton Heights|Uptown Manhattan
Fiorello H. LaGuardia High School for Music and Arts and the Performing Art	10023	Manhattan	Upper West Side|West Side|Uptown|Manhattan
Stuyvesant High School	10282	Manhattan	Battery Park City|Downtown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Central Park East High School	10029	Manhattan	East Harlem|Harlem|Uptown|Manhattan
Ramaz Upper School	10075	Manhattan	Yorkville, Upper East Side
High School for Health Professions and Human Services	10003	Manhattan	East Village|Downtown|Manhattan
Dominican Academy	10065	Manhattan	Upper East Side|Uptown|Manhattan
Central Park East High School	10029	Manhattan	East Harlem|Harlem|Uptown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Loyola School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
New Explorations into Science, Technology and Math	10002	Manhattan	LoDel|Lower East Side|Downtown|Manhattan
Stuyvesant High Sch	10282	Manhattan	Battery Park City|Downtown|Manhattan
Leadership and Public Service High School	10006	Manhattan	Wall Street|Downtown|Manhattan
Inwood Academy For Leadership Charter School	10034	Manhattan	Inwood|Uptown|Manhattan
St. Vincent Ferrer High School	10065	Manhattan	Upper East Side|Uptown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Stuyvesant High School	10282	Manhattan	Battery Park City|Downtown|Manhattan
A. Philip Randolph Campus High School	10031	Manhattan	Hamilton Heights|Uptown|Manhattan

Bard High School Early College Manhattan	10002	Manhattan	LoDel|Lower East Side|Downtown|Manhattan

HS Name	Zip code	Borough	Region
St. Joseph High School	06611	Outside NY/Other (CT)	Trumbull
Gloucester County Institute of Technology (GCIT)	08080	Outside NY/Other (NJ)	Sewell

HS Name	Zip code	Borough	Region
Queens High School of Teaching, Liberal Arts and the Sciences	11426	Queens	Bellerose/Southeast Queens
Aviation Career & Technical Education High School	11101	Queens	Sunnyside/Northwest Queens
Townsend Harris High School	11367	Queens	Flushing|Kew Gardens Hill|Central Queens
York Early College Academy	11433	Queens	Jamaica, St. Albans
Archbishop Molloy High School	11435	Queens	Jamaica
Benjamin N. Cardozo High School	11366	Queens	Fresh Meadows, Utopia
International High School at Laguardia Community College	11101	Queens	Long Island City, Sunnyside, Northwest Queens
Saint Francis Prep	11365	Queens	Fresh Meadows|Auburndale
Energy Tech High School	11106	Queens	Astoria|Long Island City|Northwest Queens
Benjamin N. Cardozo High School	11364	Queens	Oakland Gardens|Northeast Queens
Forest Hills High School	11411	Queens	Cambria Heights|Laurelton|Southeast Queens
Archbishop Molloy High School	11435	Queens	Jamaica
The Renaissance Charter School	11372	Queens	Jackson Heights|West Queens
Forest Hills High School	11375	Queens	Forest Hills
Benjamin N. Cardozo High School	11364	Queens	Oakland Gardens|Northeast Queens
Francis Lewis High School	11365	Queens	Fresh Meadows|Auburndale
Benjamin N. Cardozo High School	11364	Queens	Oakland Gardens|Northeast Queens
Archbishop Molloy High School	11435	Queens	Jamaica

HS Name	HS Zip code	HS_Borough	HS Region
Staten Island Technical High School	10306	Staten Island	South Shore/ Great Kills
Susan E Wagner High School	10314	Staten Island	Bull's Head/Mid-Island
Staten Island Technical High School	10306	Staten Island	Great Kills|South Shore
Notre Dame Academy High School	10301	Staten Island	Silver Lake|Stapleton and St. George

HS Name	HS Zip code	HS_Borough	HS Region
Yonkers Middle High School	10705	Upstate NY/Westchester	Park Hill|Southwest Yonkers
Edgemont High School	10583	Upstate NY/Westchester	Scarsdale
Putnam Valley High School	10579	Upstate NY/Westchester	Putnam Valley
John F Kennedy Catholic High School	10589	Upstate NY/Westchester	Somers/ Westchester
Woodlands High School	10530	Upstate NY/Westchester	Hartsdale, Westchester
Suffern High School	10901	Upstate NY/Westchester	Suffern
Lincoln High School	10701	Upstate NY/Westchester	Northwest Yonkers

CUNY School of Medicine
2021 Graduate Medical Education (Residency) Placements

92% of applicants matched to residency programs.
63% matched to Primary Care Specialties
78% matched in NYC, Westchester, and Long Island

Anesthesiology

Icahn SOM Mount Sinai-Morningside - NY
University of Maryland Medical Center
Westchester Medical Center - NY-2

Dermatology

Emory University SOM – GA

Emergency Medicine

NY-Presbyterian/Queens
Stony Brook Teaching Hospital - NY
University of Connecticut SOM
Zucker SOM - Northwell North Shore/LIJ-NY
Zucker SOM-Northwell Staten Island University – NY

Family Medicine

Geisinger Health System - PA
Montefiore Medical Center/Einstein - NY
NYMC St. Joseph's Medical Center
SUNY HSC Brooklyn
Zucker SOM - Northwell Glen Cove Hosp - NY- 2
Zucker SOM-Northwell Phelps Hospital – NY

Internal Medicine

NYP Hospital-Weill Cornell Med Center
Icahn SOM at Mount Sinai Hospital - NY- 2
Stony Brook Teaching Hospital - NY - 2
SUNY HSC Brooklyn

Zucker SOM - Northwell North Shore/LIJ-NY-3
Zucker SOM-Northwell Staten Island University - NY

Internal Medicine - Primary Care

Icahn SOM at Mount Sinai - Morningside- NY

Obstetrics – Gynecology

Stony Brook Teaching Hospital - NY
Tufts Medical Center - MA
University of North Carolina Hospitals

Orthopedics

George Washington University, DC

Pediatrics

Brown University/Rhode Island Hospital - 2
Nemours Children's Hospital - FL
Stony Brook Teaching Hospital - NY
NYP Hospital - Weill Cornell Med Center - NY
Zucker SOM - Northwell Cohen Children's Hospital - NY - 2

Psychiatry

NYMC Metropolitan Hospital
Zucker SOM - Northwell Hillside - NY

Radiology Diagnostic

Icahn SOM Mount Sinai - Morningside West - NY
Nassau University Medical Center
Zucker SOM - Northwell North Shore/LIJ -NY

Surgery

NYU Long Island WINTHROP SOM

CUNY School of Medicine
2020 Graduate Medical Education (Residency) Placements

Forty-five of forty-six M4 students participated in the National Residency Matching Program. 100% matched. The national match rate is 93.7%.

Anesthesiology

Icahn SOM at Mount Sinai-NY

Emergency Medicine

Boston Univ Med Ctr-MA
Maimonides Med Ctr-NY
Montefiore Med Ctr/Einstein-NY [Jacobi]
NYU Grossman School Of Medicine-NY
SUNY Health Sci Ctr Brooklyn-NY
Zucker SOM-Northwell Southside Hosp-NY
Montefiore Med Ctr/Einstein-NY [Jacobi]

Family Medicine

Hunterdon Med Ctr-NJ
Icahn SOM So Nassau Comm Hosp-NY
Kent Hospital-RI [Brown]
Montefiore Med Ctr/Einstein-NY
Zucker SOM-Northwell Glen Cove Hosp-NY
Zucker SOM-Northwell Phelps Hosp-NY

Internal Medicine

Icahn SOM at Mount Sinai-NY
Icahn SOM St Luke's-Roosevelt-NY
Montefiore Med Ctr/Einstein-NY (2)
NYP Hosp-Weill Cornell Med Ctr-NY
Rutgers-R W Johnson Medical School-NJ
Stony Brook Teach Hosp-NY
Zucker SOM-Northwell North Shore/LIJ-NY
Zucker SOM-Northwell Staten Island Univ-NY

Medicine-Emergency Medicine

Zucker SOM-Northwell NS/LIJ-NY

Medicine-Pediatrics
U Rochester/Strong Memorial-NY

Medicine (Preliminary)
Flushing Hospital Med Ctr-NY
Maimonides Med Ctr-NY
Zucker SOM-Northwell NS/LIJ-NY

Medicine-Primary
NYP Hosp-Weill Cornell Med Ctr-NY

Neurological Surgery
U Massachusetts Med School

Neurology
Montefiore Med Ctr/Einstein-NY

Obstetrics-Gynecology
George Washington Univ-DC
Hackensack U Med Ctr-NJ

Pediatrics
NYU Winthrop Hospital-NY
U Florida COM-Shands Hosp [Arnold Palmer-Orlando]

Physical Medicine & Rehab
Burke Rehabilitation Hosp-NY
Montefiore Med Ctr/Einstein-NY

Physical Medicine & Rehab – Transitional *
Health Quest-NY

Psychiatry
NYU Grossman School Of Medicine-NY
Zucker SOM-Northwell Mather Hosp-NY
Zucker SOM-Northwell Staten Island Univ-NY

Radiology-Diagnostic

Maimonides Med Ctr-NY
NYP Hosp-Weill Cornell Med Ctr-NY
Thomas Jefferson Univ-PA
*Westchester Medical Ctr-NY (2)
Zucker SOM-Northwell Lenox Hill Hosp-NY
Zucker SOM-Northwell North Shore/LIJ-NY

Radiology-Diagnostic – Transitional *

Zucker SOM-Northwell Mather Hosp-NY (3)

Surgery – Preliminary *

Icahn SOM St Luke's-Roosevelt-NY
NYU Winthrop Hospital-NY

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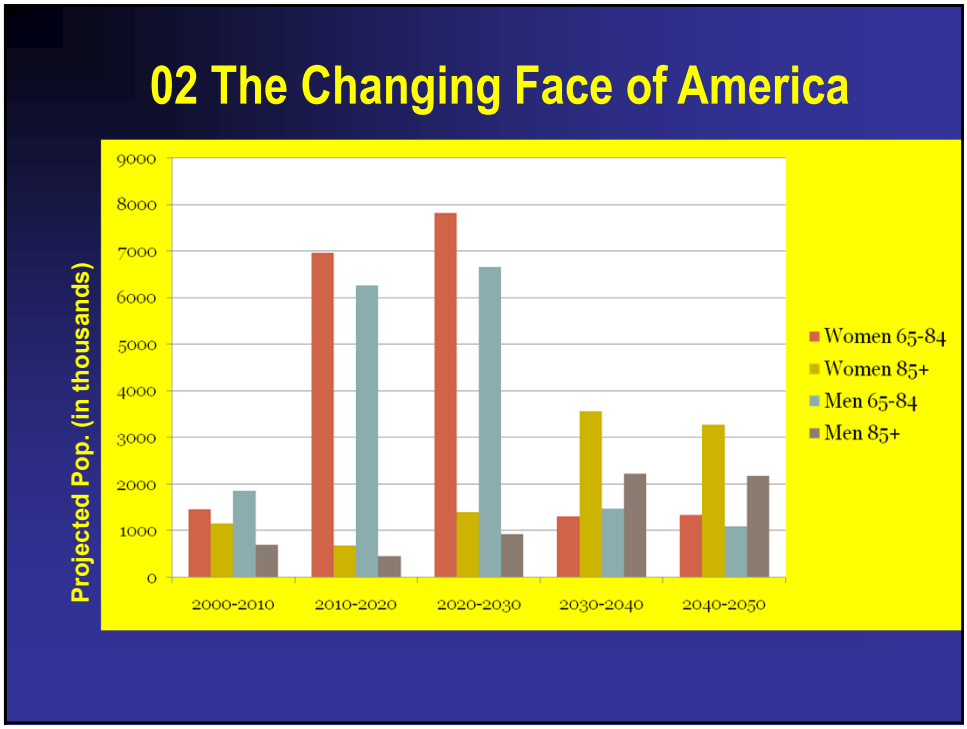
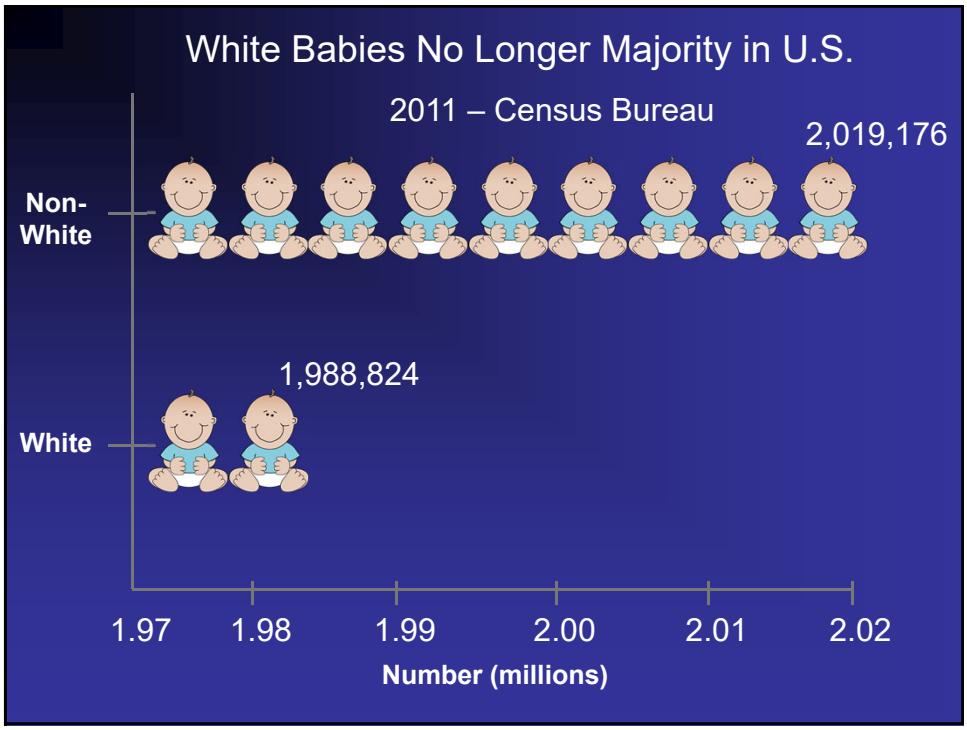
* Transitional and Preliminary Programs:
A preliminary position is a position offering only one to two years of training generally prior to entry into advanced specialty programs. Many internal medicine and surgery training programs offer preliminary positions in addition to categorical positions. Transitional year programs are also considered preliminary year training programs.

Advanced positions, which do not commence until one to two years after the match, are in specialty programs that require one or more years of preliminary training. Applicants without prior residency training (i.e., U.S. medical school seniors) may apply for advanced positions while also applying for preliminary positions that are compatible with their plans.

[Excerpt from *Washington University School of Medicine in St Louis Residency* available at https://residency.wustl.edu/residencies/categorical-vs-preliminary/]


02 The Changing Face of America
Projected Pop. (in thousands)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2000-2010
2010-2020
2020-2030
2030-2040
2040-2050
Women 65-84
Women 85+
Men 65-84
Men 85+


White Babies No Longer Majority in U.S.
2011 – Census Bureau
2,019,176
Non-White
1,988,824
White
1.97
1.98
1.99
2.00
2.01
2.02
Number (millions)

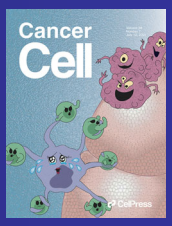
03 Disparities in common health conditions

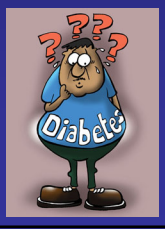
Heart Disease & Stroke

- Less African Americans and Hispanics than Whites had control of their blood pressure
- African Americans also have higher death rates from heart disease and stroke than Whites

Cancer

- African Americans are more likely to get and die from prostate, lung, and colon cancer
- African American women are less likely than whites to get breast cancer but are more likely to die from it





Diabetes

- Minorities have an increased risk of diagnosed in minorities compared to whites

- Minorities are more likely to die from COVID-19 than whites
- Minorites who trust their health care professional are more likely to be vaccinated
- Minorities have less access to health care professionals than whites

- Minorities are less likely to have their pain assessed
- Minorities receive less pain care than whites, even when being treated for broken bones and cancer

- Black people are 2-3 times more likely to have hospital security called on them compared to whites
- Black people are 2-2.5 times more likely than white men to be killed by police during their lifetime and twice as likely as white people to be unarmed

MISSION AND VISION

CUNY SOM is unlocking and cultivating its full potential within its excellent, diverse and inclusive community of healers and leaders who leverage the transformative power of compassion and empathy to improve the human condition and population health. CSOM will do so across its education, research, scholarship, clinical and service missions.

CSOM will leave a lasting impact on the world through its cadre of physicians, physician assistants, and scientists who courageously heal, lead with compassion, value all humanity, and treat all people with dignity and respect. Through their efforts CSOM will be the epicenter for generating the strategies designed to eliminate educational and health inequities in our time and by doing so will be the national exemplar.

CSOM Strategic Priorities

GOAL: Excellence across the quadripartite mission via sustainable programs and partnerships.

Increase CSOM's impact & footprint:

- Recruit, develop, and retain outstanding faculty and talented learners.
- Create, leverage and diversify scholarship.

Lead in the educational & research arenas:

- Build a sustainable and diversified infrastructure.
- Create programs and internal and external partnerships with key stakeholders.
- Support innovation.

CSOM Strategic Priorities

Invest in human capital:

- Recruit, develop, retain, honor, and diversify CSOM's most important resource – our people.
- Create environments where any individual or group feels welcomed, respected, supported, and valued.
- Support a culture of wellness.

Make people and communities healthier:

- Advocate for social justice in clinical, education, and research spaces.
- Generate solutions to optimize educational, social, clinical, and health outcomes.

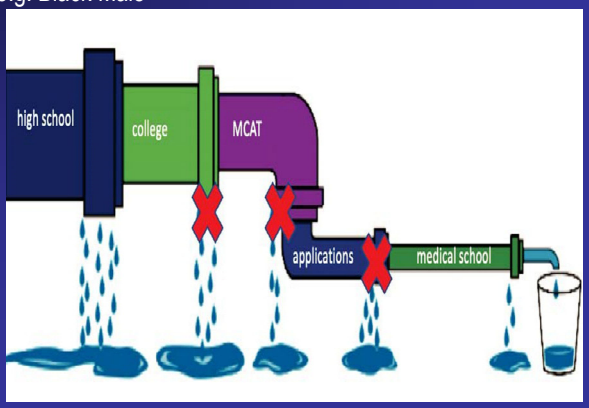
Social Justice: Generate transdisciplinary solutions to optimize educational, social, and health outcomes.

05 How CSOM is Responding to Educational and Health Disparities

- Addressing the social determinants of health
  - Expecting cultural competency
  - Hearing and addressing the unequal burden and unheard voices via narrative medicine and the arts
  - Leading in primary care
  - Leading in providing care to the underserved
- Increased training, research, and education
  - Training on cultural awareness and unconscious bias
  - Performing research to understand health disparities and their cause
  - Raising overall awareness about the negative effects of health care inequities
- Promoting workforce diversity
  - Increases the likelihood patients will find providers who speak their language and share their culture and values.
  - Improves patient – provider communication
  - Better health outcomes

Leading in workforce diversity by

- Remaining MCAT free
- Investing in pipeline programs
- Holistic admissions
- Supporting student wellness and success
- Expecting excellence
- Supporting affinity groups e.g. Black Male
- Staying in New York

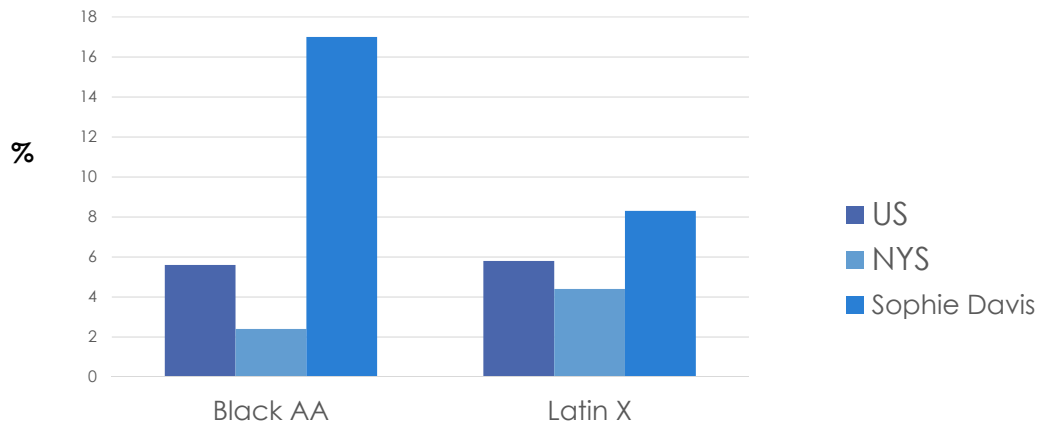


Contributions of Sophie Davis to local and national concerns in medicine

- The NYS and US physician work force does not represent the demographics of the patients it serves
- There are 50 more medical schools now then when Sophie Davis began in the 1970
- The absolute number of black men in US medical schools in 2014 was lower than in 1978

Association of American Medical Colleges. Altering the course: Black males in medicine. Washington, DC: Association of American Medical Colleges; 2015.

Diversity of Sophie Davis graduates vs NYS and US



National problem and our successes

- There are not enough primary care doctors to serve the public

  https://www.aamc.org/news-insights/press-releases/new-findings-confirm-predictions-physician-shortage

- 30% of NYS physician work force practice primary care but only 6-10% are US MD/DO graduates
- 42% of Sophie Davis graduates practice primary care

Our successes serving the underserved in Health Professional Shortage Areas

- NYS physician work force 14% work in HPSA
- Sophie Davis graduates 26% work in HPSA

*Division of Shortage Designation, Health Resources and Services Administration, U.S. Department of Health and Human Services: https://datawarehouse.hrsa.gov/tools/analyzers/hpsafind.aspx. Accessed April 14, 2017.

How do we do it? Holistic Admissions

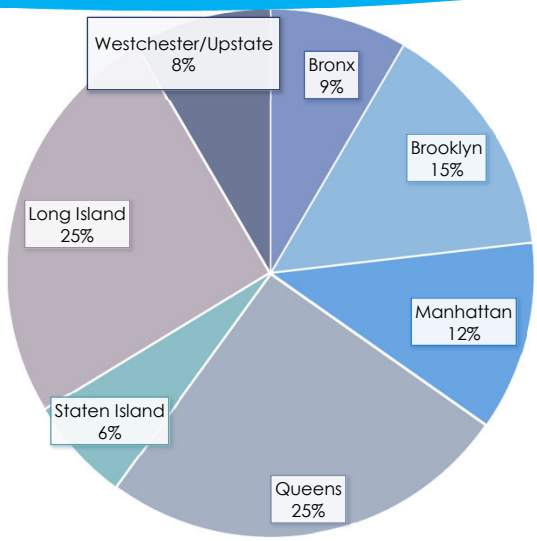
Applicants (~1200/year) are first screened for meeting the minimum academic qualifications

Reviewed for commitment to the mission, volunteer work, leadership, research, employment

250 students are interviewed by 2 faculty and 1 student

Our students come from New York

- 70 percent immigrants or first generation college students
- Small number (4) DACA



And stay in New York

- 45 % of graduates of NYS medical schools practice in NYS
- 65% of graduates of Sophie Davis practice in NYS

Overview of BS/MD Program Undergrad Years 1-3 (U1-U3)

YEAR	Science Courses	Clinical Courses	Population Health courses
U1	Biology Chemistry Physics	Narrative Medicine	Social determinants of health
U2	Bio-organic Chemistry Molecules to Cells part 1 Medical genetics	Course on how lifestyle impacts health	Epidemiology and Biostatistics Population health and Community Health Assessment Evaluations in Healthcare Settings
U3	Molecules to Cells part 2 Anatomy Fundamentals	Biomedical ethics Health coaching Longitudinal clinical experience Early communications skills	US Healthcare System

1

Overview of MD Program M1 through M4

Year	Basic Science	Clinical Science	Population Health
M1	Organ Systems (CV, Pulmonary, GI, Endocrine and Renal)	Practice of Medicine (history taking and physical exams)	EBM Research selectives
M2	Organ Systems (Heme-Onc, Reproductive; Neuroscience and Neuropsychology	Practice of Medicine (history taking, physical exam, note writing and oral presentation)	EBM
M3		Clerkships- IM, FM, Peds and Psych/Neuro 8 weeks each; Surgery and OB 6 weeks	
M4		Subinternship 4 wks; Critical care 4 wks Emergency Medicine 4 wks; Introduction to Internship Bootcamp- 2 wks- Electives	

Current Clinical Affiliates for Clerkships

SPECIALTY	CLINICAL SITE
INTERNAL MEDICINE	SBH AND STATEN ISLAND UNIVERSITY HOSPITAL (SIUH)
PEDIATRICS	SBH AND SIUH
SURGERY	SBH AND SIUH
OB/GYN	SBH, SIUH, FOREST HILLS, HARLEM
PSYCHIATRY/NEUROLOGY	SBH AND SIUH
FAMILY MEDICINE	PHELPS, UNION, IFH 3 SITES, GLENCOVE, SOUTHSIDE
SUBINTERNSHIP AND CRITICAL CARE	SBH AND SIUH
EMERGENCY MEDICINE	SBH, SIUH, HARLEM
INTERNAL MEDICINE	SBH AND STATEN ISLAND UNIVERSITY HOSPITAL (SIUH)

CSOM UNIQUE BS/MD CURRICULUM

- Med school courses integrated throughout all 7 years of the program
- BS in 3 years which includes strong population health focus (5 courses), Narrative Medicine, Lifestyle Medicine and Health coaching
- No requirement for MCATs- seamless transition into MD program
- MD curriculum integrates normal and abnormal- includes a one year required research course focused on population health
- 3 year continuity experience in a Federally qualified or community health center
- Clinical training at hospitals serving the underserved

Supporting Student Retention and Success

- Academic monitoring
- Wellness and counseling
- Learning Resource Center
- Bias training
- Recruiting and retaining a diverse faculty and administration
- Supporting student affinity groups- Black Male Initiative, Sisters Of Sophie and Vision Latina

4

Tuition and Indebtedness

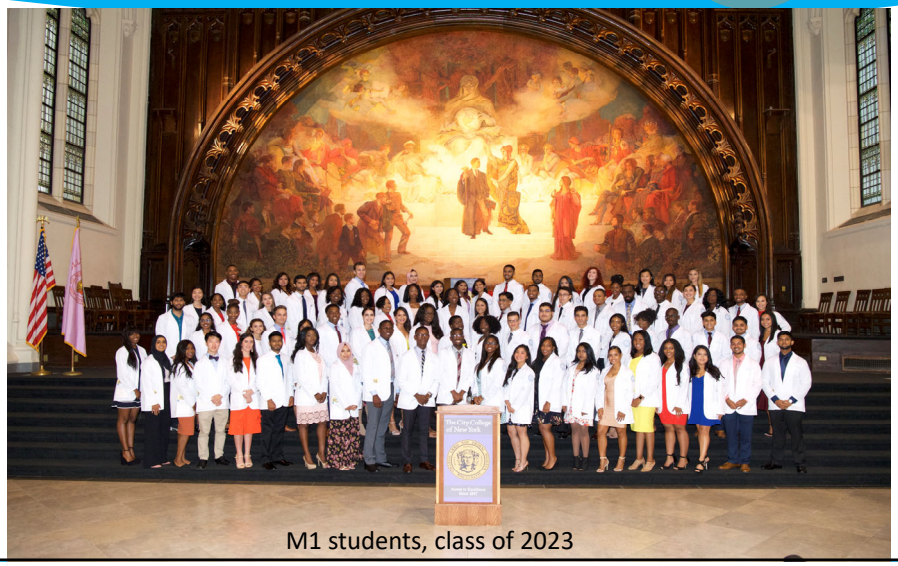
- BS: 70+% of students qualify for some form of financial aid
  - TAP & PELL, Excelsior Scholarship etc.; even with full financial aid, housing and extra costs are still a burden for many
  - BS students and parents hesitant to take out loans in BS portion; many students work part time
- MD: current in-state tuition about $42,000
  - Mission hasn't changed but tuition and payment model has- no longer a service commitment requirement
  - Average indebtedness of 2020 graduates $155,000 compared with an average national debt of $200,000

CSOM Budget

- No change in CSOM state allocation from when it was Sophie Davis program
- Tax levy allocation ~$10.5 million
- Student tuition ~ $12.6 million (MD and PA)
- CUNY contribution $3 million
- Total ~$26 million
- Tuition >50% med school funding (LCME issue)

White Coat Ceremony

September 2018



M1 students, class of 2023

LCME®

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule A

REVENUES AND EXPENDITURES SUMMARY

CUNY School of Medicine (834)

Fiscal Year 2019-20

	Recorded in Medical School Accounts	Not Recorded in Medical School Accounts	Total
REVENUES:			
M.D. program tuition and fees	$10,337,600	$0	$10,337,600
Other tuition and fees	$1,676,767	$0	$1,676,767
Total Tuition and Fees	$12,014,367	$0	$12,014,367
Federal Appropriations	$0	$0	$0
Adjusted State and Parent Support	$23,792,276	$8,691,418	$32,483,694
Local Appropriations	$63,661	$8,913	$72,574
Total Government and Parent Support	$23,855,937	$8,700,331	$32,556,268
Grants and Contracts Direct Costs	$2,071,483	$0	$2,071,483
Facilities & Administrative Costs	$0	$492,995	$492,995
Total Grants and Contracts	$2,071,483	$492,995	$2,564,478
Hospital Purchased Services and Support	$0	$0	$0
Gifts Revenues	$203,513	$0	$203,513
Endowment Revenues	$264,441	$0	$264,441
Practice Plans/Other Medical Service	$0	$0	$0
Other Revenues	$2,833,105	$0	$2,833,105
Total Revenues	$41,242,846	$9,193,326	$50,436,172
Total Expenditures & Transfers	$26,832,525	$9,193,326	$36,025,851
Net Revenues Over Expenditures	$14,410,321	$0	$14,410,321

Percent of Total Revenues

Tuition and Fees	24%
Government & Parent Support	65%
Grants & Contracts	5%
Practice Plan	0%
Hospital Support	0%
Other	7%
Total All Fund Sources	100%

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LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule B

Grants and Contracts Summary

CUNY School of Medicine (834)

Fiscal Year 2019-20

	Recorded in Medical School Accounts	Not Recorded in Medical School Accounts	Total Medical School & Affiliates
Direct Costs			
Federal Grants and Contracts			
Organized Research	$294,916	$0	$294,916
Training/Instruction	$0	$0	$0
Other Sponsored Activities	$0	$0	$0
Total Federal Grants and Contracts Direct Costs	$294,916	$0	$294,916
State and Local Governments	$1,165,220	$0	$1,165,220
Private/Other Grants and Contracts	$611,347	$0	$611,347
TOTAL DIRECT GRANTS AND CONTRACTS	$2,071,483	$0	$2,071,483
Facilities & Administrative Costs			
Federal Grants and Contracts			
Organized Research	$0	$60,604	$60,604
Training/Instruction	$0	$0	$0
Other Sponsored Activities	$0	$0	$0
Total Federal Grants and Contracts F&A Costs	$0	$60,604	$60,604
State and Local Governments	$0	$179,461	$179,461
Private/Other Grants and Contracts	$0	$252,930	$252,930
TOTAL F&A (INDIRECT) COSTS	$0	$492,995	$492,995
TOTAL GRANTS AND CONTRACTS	**$2,071,483**	**$492,995**	**$2,564,478**

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LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule C

Practice Plans and Other Medical Services

CUNY School of Medicine (834)

Fiscal Year 2019-20

Patient Care - Gross Charges	
Commercial	$0
Medicare	$0
Medicaid	$0
Self-pay	$0
Other	$0
TOTAL GROSS CHARGES	**$0**

Adjustments & Allowances	
Charity Care	$0
Bad Debt	$0
Medicare	$0
Medicaid	$0
All Other	$0
TOTAL NET ADJUSTMENTS & ALLOWANCES	**$0**

Revenues

Patient Care Revenues

Commercial		$0
Medicare		
Medicare Fee-for-Service	$0	
Medicare Other	$0	$0
Medicaid		$0
Self-pay		$0
Other		$0
Total Patient Care Revenues		**$0**

Other Revenues

Contracts (non-hospital)	$0
Other Operating Revenues	$0
	$0
Revenues from Hospitals	**$0**

Subtotal Practice Plan Revenues	**$0**
Less Hospital Revenues Transferred to Practice Plan	**$0**
TOTAL PRACTICE PLAN NET REVENUES *	**$0**

Expenses

Taxes and Transfers		
Medical School Support	$0	
Other Med School Taxes/Support	$0	
Departmental Support	$0	
Taxes/Support (Parent)	$0	
Taxes/Support (Univ Hosp)	$0	
Taxes/Support (Affiliated Hosp)	$0	$0
Compensation		
Physician Salary & Benefits	$0	
Other Compensation	$0	$0
Other Operating Expenses		$0
Subtotal Practice Plan Expenditures & Transfers		**$0**
Less Expenditures Supported by Hospital Revenues		**$0**
TOTAL PRACTICE PLAN NET EXPENSES *		**$0**
NET REVENUE OVER EXPENSES		**$0**

* Excludes $0 of revenues and associated expenditures from affiliated hospitals

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LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule D
Hospital Services and Support
CUNY School of Medicine (834)
Fiscal Year 2019-20

	Recorded	Not Recorded	Total
University Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by university hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Housestaff Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total University Hospitals	**$0**	**$0**	**$0**
Veterans Admin Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by VA hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Resident and Fellow Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total Veterans Admin Hospitals	**$0**	**$0**	**$0**
Other Affiliated Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by other affiliated hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Resident and Fellow Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total Other Affiliated Hospitals	**$0**	**$0**	**$0**
TOTAL HOSPITAL PURCHASED SERVICES AND SUPPORT	**$0**	**$0**	**$0**
Total Strategic Support of Medical School Programs	$0	$0	$0

Schedule E

Government and Parent Support

CUNY School of Medicine (834)

Fiscal Year 2019-20

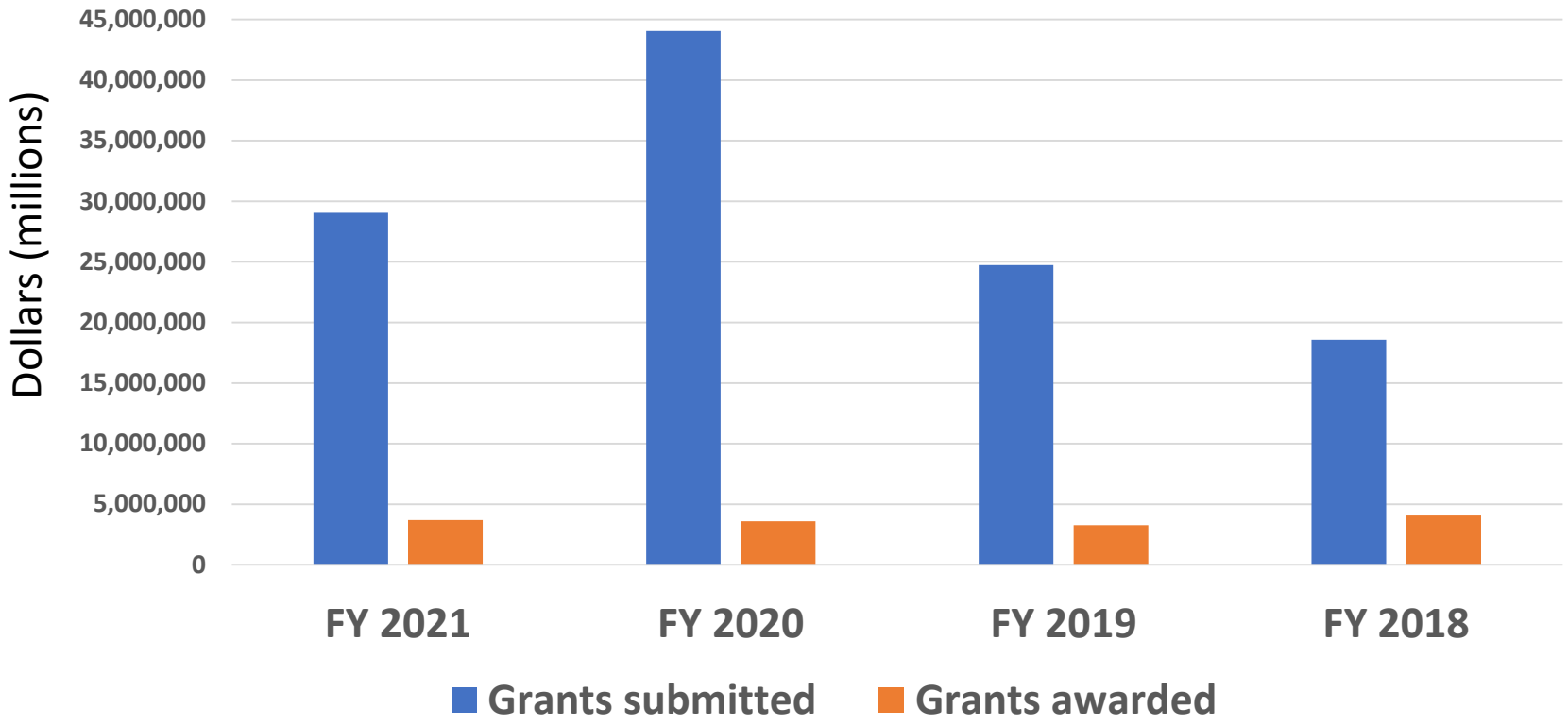
Support for General Operations of the Medical School

Federal Support	$0	
State and Parent Support	$23,792,276	
Local Support	$72,574	
		$23,864,850
Institutional support (medical school's share of parent's central support costs)		$8,691,418
Total Support for General Operations		**$32,556,268**
Less funds generated by the medical school but retained by the parent and/or state (includes parent assessments)		$0
Total Adjusted Operating Support		**$32,556,268**

Special Appropriations

Special Federal Appropriations	$0	
Special State Appropriations	$0	
Special Local Appropriations	$0	
Total Special Appropriations and Allocations		**$0**
TOTAL ADJUSTED GOVERNMENT & PARENT SUPPORT		**$32,556,268**

External Grant Funding of the CUNY School of Medicine (FY 2018-2021)



Preliminary Questions from the NY City Council

General…

1. What is the student-teacher ratio for the [B.S. / M.D.] portion of the program?

    a. How will the student-teacher ratio be impacted for the Class of 2028, which has 15 more students than originally anticipated?

    The student to faculty ratio stands at 13:1. This includes the newly admitted class of 2028 and excludes faculty serving in full-time administrative (e.g. deans) roles.

2. How many faculty members and staff are employed by CSOM, total and disaggregated by part- and full-time status? Adjunct?

    Full-time faculty (excluding deans with teaching titles): 48
    Full-time staff (non-teaching): 78
    Adjuncts: (approx.) 35
    Part-time faculty > 300. Total includes affiliate clinical faculty at partner hospital sites

3. What is the annual cost of attending CSOM's B.S./M.D. program? How does the M.D. portion compare to the B.S. portion?

    MD program tuition: $41,600 (lowest of all New York medical schools)
    Undergraduate tuition: $ 6,930 (CUNY Full-time undergraduate tuition rate)

4. How did the pandemic impact CSOM?

    The University instituted an 18-month lockdown during the height of the pandemic. All courses were moved to remote instruction and clinical rotations curtailed. The College provided laptops for all students and employees in need. The Medical School enhanced the availability (hours) of its Counseling services to provide extra support for students in need.

    a. How did it impact the CSOM's partnership with St. Barnabas Health System?

    Throughout the pandemic, St Barnabas' focus was to provide care for COVID patients. Due to the demand placed on hospital staff and to ensure the safety of all personnel, student clinical rotations were curtailed at the height of the pandemic; however, MD students completing their final year were permitted to graduate slightly earlier to provide support to the hospital's staff. Through the generous donation of a Sophie Davis alum, PPE was supplied for all St Barnabas staff and CUNY students. Student rotations at St Barnabas resumed in Fall 2021.

Admissions…

5. According to City College, there were 980 applicants to the CSOM's 7-year B.S./M.D. program's Class of 2028. How does the number of applicants compare to previous years?

    a. How does CUNY/CSOM account for this increase in applicants?

    The final count of applications exceeded 1390. This sharp increase in applications is entirely consistent with trends seen at medical schools across the country. The Association of American Medical Colleges (AAMC) reported an increase of more than 7,500 additional medical school applications submitted in 2020. According to the AAMC, "Experts don't know exactly what's behind the increase, but they point to several likely factors. Some are rather mundane, including students having more time to focus on applications as college classes moved online. But at least some of this year's applicants are driven by COVID-19 patients' terrible suffering and front-line providers' extraordinary heroism." (https://www.aamc.org/news-insights/applications-medical-school-are-all-time-high-what-does-mean-applicants-and-schools).

6. Out of 980 applicants to CSOM, 102 received admission letters to fill the target class size of 75 first year students, representing a 10.4 percent selectivity rate, and 90 students agreed to attend. How will the addition of 15 more students than anticipated impact the program? (i.e., will additional instructors be hired? An extra lab class created? Etc…)

    The school has previously admitted classes of 85-90 students over the past decade without major challenges. Facilities and faculty numbers are adequate to support the newly admitted class.

7. According to City College, candidates for the B.S./M.D. program graduating class are from backgrounds underrepresented in medicine (URiM)—defined as students from Black, Latinx and mixed-race backgrounds—the highest ever for the program at 76 percent. Currently 57 percent of CSOM students are URiM, 62 percent identify as female and 38 percent identify as male.

    a. How does CUNY/CSOM account for this increase in URiM applicants?

    Our URiM applicant pool is due largely to the School's recruitment efforts, in collaboration with high school counselors with whom the Admissions staff have developed longstanding working relationships. The increase in applicants pool overall aligns with the national increase in medical school applications observed during the pandemic, as described above (#5).

    b. Of the students in the Class of 2028, disaggregate the demographic makeup

ENROLLMENT FREQUENCY BY ETHNICITY CLASS OF 2028	
African American	43 (48%)
White	2 (2%)
Latin	24 (27%)
Asian	19 (21%)
Unknown/Other	1 (1%)
Total	89

8. Not unlike people of color, LGBTQI+ individuals regularly face barriers accessing appropriate and comprehensive healthcare. Moreover, healthcare trainees report few training opportunities and low levels of preparedness to care for LGBTQI+ patients.

    a. How has CSOM been working to address such gender inequities in its admissions process?

Students…

9. Of students currently in the B.S./M.D. program, disaggregate demographic makeup

	CUNY School of Medicine (N=547)	U.S. Medical Schools (N=95,475)	Medical Schools in New York (N=8,871)
Asian	32%	23%	27%
Black/African American	39%	8%	8%
Hispanic/Latino	18%	7%	6%
American Indian/Alaska Native	0%	0%	0%
White	9%	47%	43%
Multiple Race/Ethnicity	0%	10%	10%
Unknown/Other	1%	3%	4%

10. Of students currently in the Physician's Assistant program, disaggregate demographic makeup

	CSOM PA Program Students: Classes of 2020-2024	**Nationally Certified PAs (2019 data)** (N=139,675)

	(N=169)	
Gender		
Female	74.0%	69.3%
Male	26.0%	30.7%
Ethnicity		
Asian	34.3%	6.0%
Black/ African American	22.5%	3.6%
Hispanic/Latino	24.3%	6.6%
White	11.8%	86.7%
Native Hawaiian/Pacific Islander	0	0.3%
American Indian, Alaskan Native	0	0.4%
Other	0	3.0%
Multiple Race/Ethnicity	7.1%	2.1%
Unknown	0	4.1%

11. How many students are currently in each cohort of the 7-year B.S./M.D. program?

U1: 89
U2: 81
U3: 79
M1: 82*
M2: 67
M3: 67
M4: 82

U = undergraduate years
M = medical school years

12. What supports, academic or otherwise, are offered to students in the [B.S. / M.D. / Physician's Assistant program]

- CSOM Learning Resource Center – provides tutoring, workshops, learning assessments and support from Learning Specialists
- CCNY Laptop loaner program ensured students had the necessary equipment for remote learning during COVID-19 lockdown
- Pre-matriculation and orientation programs for new students, to facilitate their transition to college
- Free Confidential Counseling services by licensed professional staff
- Career Advising
- Academic Advising
- Financial management workshops
- CCNY Access-ability Center – ensures appropriate accommodations for students with disabilities
- CCNY Food Pantry
- CCNY Student Health Services

- CCNY Gender Resources center - provides education, outreach and resources on sexual violence prevention, gender identity and sexuality
- Small group study spaces
- Student housing assistance – assists students in locating affordable housing near campus, facilitates student sharing of apartments, and offers tenancy information and advice
- CCNY Shuttle to facilitate safe transit to nearest subway stations and campus dormitories
- Affinity groups / student-led organizations

Post-Graduation…

13. At the last hearing the Committee had on CSOM, which was in 2017, CUNY had recently announced a campaign to raise $20 million in interest-free loans for the inaugural B.S./M.D. class.

    a. What is the status of this campaign?

    Although not achieved as initially envisioned, the University continues to proactively pursue funding streams (philanthropy) to support the medical school and its students,

    b. Have similar campaigns been launched for subsequent CSOM cohorts?

14. Describe how CSOM intends to track students after graduation.

    The medical school recently established and activated a Sophie Davis/CUNY School of Medicine Alumni Board, which is working in collaboration with the School's Development Team and alumni relations staff to effectively connect with and engage alumni, from graduation through their residency training and professional careers, utilizing a peer outreach and other mechanisms to engage alumni as mentors for current students, as lecturers and teachers, as advocates for the School's programs and donors.

Diversity and Inclusion…

15. According to the Dean's Initiative, which was last updated Oct. 16, 2018 on City College's website, CSOM has undertaken a proactive approach to ensure that it "has an environment that celebrates diversity and is inclusive and welcoming…"

    c. This includes the regular administration of a culture and climate survey with a committee to review, track, and report results with implementable recommendations for improvement.

        i. How many such surveys have been administered?

ii. What is the return rate (disaggregated by faculty, staff & students)?

iii. What recommendations for improvement have come out of these surveys that have since been implemented?

d. This includes the identification and training of liaisons to serve as channels for students and faculty/staff to contract the administration in a timely manner in order to address any concerns.

i. How many such liaisons are there currently working in this capacity? Are they hired, students?

ii. Describe the types of issues such liaisons have relayed to the administration?

iii. How are students and faculty/staff made aware of the liaisons, and know how to contact them?

e. This includes the establishment of a professionalism code that outlines clear expectations of conduct and engagement of all CSOM community members with each other and identify consequences for violations to the code.

i. How are CSOM community members made aware of the professionalism code?

ii. Please provide examples of the professionalism code and consequences for violations thereof.

f. This includes the creation of a Bias and Education Support Team ("BEST"), which many other medical schools across the country have instituted. What is the status of CSOM's BEST?

g. This includes the commission of an independent assessment of CSOM's structure, policies procedures, etc., as it relates to the school's mission of diversity and inclusion. What is the status of this assessment? What was the outcome and how did it inform change?

h. This includes the creation of a "timely, transparent and effective communication strategy for the dissemination of information to the CSOM community on matters of institutional racial, bias and hate incidents." Please describe the strategy and its effectiveness.

i. This includes the institution of cultural sensitivity, implicit bias and micro-aggression awareness training for all leadership, faculty and staff. Who developed this training, is it mandatory, and how often is it administered?

In early 2019, the school underwent a major leadership change resulting from the resignation of the Dean. Additionally, a new Assistant Dean for Diversity was appointed in late 2019, who undertook the development of several initiatives to enhance the culture and climate of the school. Several initiatives, including a school-wide climate assessment were undertaken, however due to the COVID-19 pandemic impact and 18-month lockdown at CUNY, many planned activities were sharply curtailed.

Nonetheless, the CUNY School of Medicine has remained committed to making diversity a central component to all work across the school by engaging in a number of actions across three major areas: learning environment, curriculum, and community building. In the spring of 2021, CSOM conducted a climate study to assess needed practices, programs, resources, and/or policies that ensure students, faculty and staff can learn, live, and thrive at CSOM and beyond, and to assess and monitor progress regarding specific learning environment issues and concerns raised by members of the CSOM community. Results of the survey are being compiled and evaluated at this time. Further, as a way to build capacity for faculty, students and staff to foster a more inclusive learning environment and community, implicit bias, microaggressions, and active bystander trainings were instituted into all student orientations as well as faculty and staff development workshops. We have also taken a number of actions to create opportunities for our students to engage in conversations related to anti-bias and anti-racism, particularly as it pertains to the field of medicine and achieving health equity. Perhaps the most impactful action was to conduct a full review of the CSOM undergraduate and medical student curriculum to examine the ways in which important content related to issues of power, privilege, inequality, and social justice in medicine could be added to our students' learning experience. Further, a series of workshops on inclusive pedagogy in teaching practices have also been developed and implemented for faculty to ensure this revised curriculum is delivered in culturally competent manner. Finally, a number of events and community conversations were also hosted as part of our community building initiatives. These include:

- Honoring Black Lives Vigil – June 5, 2020: Vigil for the CSOM community to honor the lives of George Floyd, Breonna Taylor, Ahmaud Arbery, Tony McDade and the countless others who have lost their lives due to the insidious effects of racism. The vigil included poetry readings, songs, and art pieces from our CSOM community.
- Black Men in White Coats – February 8, 2020: Film screening of Black Men in White Coats followed by a panel discussion featuring CSOM alumni discussing their reflections on the film. The purpose of this gathering was to raise awareness around the disparities and systemic barriers preventing Black men from becoming medical doctors and to provide a collective space to elevate and discuss the experiences of Black identified medical students and physicians.
- Annual Martin Luther King, Jr. Lecture – February 26, 2020: CSOM hosted its first annual Martin Luther King, Jr. keynote lecture. This lecture will be hosted each year in February and will feature thought leaders who provide insight and advocacy to the current civil rights issues of education and health inequities. This year's inaugural keynote speaker was Dr. Noel Manyindo, CSOM's new Chair of Community Health and Social Medicine and former Assistant Commissioner of the NYC Department of Health and Mental Hygiene.
- Connecting and Reflecting Community Conversations – Various conversations were hosted to acknowledge the impact of events in our world. For instance, conversations were scheduled to reflect on election day, the storming of the Capitol, and the Derek Chauvin

trial. These conversations were rooted in restorative justice practices and community building circles and were open to all CSOM faculty, students, and staff.

- How to be an Anti-Racist Book Club – During the month of September, all faculty and staff were invited to participate in a month long reading and discussion of Ibram Kendi's book, How to be an Anti-Racist.

Other Initiatives

With support from a CUNY SOM faculty member, the Assistant Dean for Diversity, a post-doctoral student in the CCNY Division of Science (DOS) and leader in the DOS Women in Science (WINS) conducted an awareness raising talk on anti-Asian bias. This group has also held a series of meetings and webinars on advancing the careers of women in science during the COVID-19 pandemic. Finally, the Assistant Dean for Diversity applied for and received from the Association of American Medical Colleges (AAMC) and the University of San Diego Center for Restorative Justice, a grant to develop a Restorative Justice (RJ) program at the CUNY School of Medicine. The AAMC pilot on Restorative Justice in Academic Medicine (RJAM) reflects the institution's commitment from senior leadership to implement Restorative Justice practices and institutional capacity to lead such an initiative. This pilot will offer CCNY an opportunity to incubate an RJ approach with support from experts in RJ as well as leadership from the Assistant Dean for Diversity. CCNY's Chief Diversity Officer and CUNY SOM's Assistant Dean of Diversity developed and delivered an anti-racism training that included elements of bystander intervention.

With the re-opening of the campus and appointment of our new Dean, the School will be engaging in strategic initiatives related to diversity.

Curriculum…

16. We all have biases that affect the way we live and work in the world. While increasing the number of physicians of color is one way to combat implicit bias based on race in the clinical setting, how does CSOM's curriculum include implicit bias training?

    Implicit bias training has now been included in the medical school curriculum, in the BS/MD program's pre-matriculation program, and as required curriculum for students in the medical school clinical years.

    a Is such implicit bias training a requirement for all CSOM students?

    Yes

Visiting Black Patients: Racial Disparities in Security Standby Requests

Carmen R. Green, M.D., Wayne R. McCullough, Ph.D., Jamie D. Hawley, B.S., M.Div.

Abstract: Background: Structural inequalities exist within healthcare. Racial disparities in hospital security standby requests (SSRs) have not been previously explored. We speculated hospital SSRs varied based upon race with black patients and their visitors negatively impacted.

Methods: An 8-year retrospective study of hospital security dispatch information was performed. Data were analyzed to determine demographic information, and service location patterns for SSRs involving patients and their visitors. The race of the patient's visitors was imputed using the patient's race. The observed and expected (using hospital census data) number of patients impacted by SSRs was compared. Descriptive statistics were computed. Categorical data were analyzed using chi-square or Fisher exact test statistic. A $p < 0.05$ was statistically significant.

Results: The majority of the 1023 SSRs occurred for visitors of patients who were white (N = 642; 63%), female (56%), or < 21 years old (50.7%). However, SSRs differed significantly based upon the patient's race. Although Black patients represent 12% of the hospital population, they and their visitors were more than twice as likely ($p < 0.0001$) to have a SSR generated (N = 275; 27%) when compared to the visitors of both White and other (*i.e.,* race unknown) patients (N = 106; 10%) *combined* ($p < 0.0001$).

Conclusion: This study adds to the medical errors and healthcare disparities literature by being the first to describe racial disparities in SSRs for Black patients and their visitors. It also introduces the concept of "security intervention errors in healthcare environments." New metrics and continuous quality improvement initiatives are needed to understand and eliminate racial/ethnic based disparities in SSRs.

Keywords: Racial disparities and inequities■Health and healthcare disparities and inequities■Medical errors■Security intervention errors in healthcare environments

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INTRODUCTION

Healthcare disparities remain a national priority and public health issue.[1] Present day Black−White disparities are a reflection of historic practices in the U.S. (*i.e.,* segregated and lower quality health resources) that have consistently resulted in lower quality healthcare and poorer health outcomes for Black patients.[1,2] Despite matching for socioeconomic and insurance status, abundant evidence indicates that Blacks have less access to quality healthcare, receive lesser quality healthcare, and have worse health outcomes than Whites for most diseases studied (*e.g.*, cancer, chronic pain, and heart disease).[1−4]

Across health sectors, several strategies have been proposed to address disparities by focusing on the preparation, recruitment, retention, and promotion of underrepresented racial/ethnic minority healthcare providers.[5,6] Unfortunately, at every stage of this process, the current pace of these initiatives lags behind comparable efforts for Whites, with little prospect of providing a timely response to reducing health and healthcare disparities.[7−9] Moreover, the role of institutional healthcare inequities, bias, prejudice, and stereotyping within healthcare systems remains largely unacknowledged and unaddressed. At a time when the U.S. is increasingly diverse, the racial/ethnic diversity of college campuses, health professional schools and healthcare systems have *not* kept pace; resulting in a failure to provide the needed excellence and diversity in the health professions to address persistent healthcare disparities.[10−12]

This article examines issues of race/ethnicity in relation to healthcare disparities and reports on a first-ever systematic study of race disparities in hospital security standby requests (SSRs) for patients and their visitors *i.e.,* security being called for a present, imminent, or perceived incident/threat. The following sections discuss issues of race/ethnicity in terms of the broader U.S. context, as well as within healthcare interactions and institutions. A case study and data analysis from a quartenary care Midwestern teaching hospital are presented demonstrating consistently higher rates of SSRs in response to Black patients and their visitors as compared to White patients and their visitors. Discussion of study findings highlight interpersonal and organizational factors operating within healthcare settings impacting patient and hospital employee interactions, including enhanced security and policing practices that characterize current hospital settings and the potential escalating role this may have in patient-employee encounters. The article concludes with recommendations for the training and education of hospital employees, description of study limitations, and call for further research efforts that expand the scope and depth of this first effort at examining an under-researched issue.

RACE/ETHNICITY IN THE BROADER SOCIAL CONTEXT

Accumulated micro-aggressions and macro-aggressions, both within and outside of healthcare systems, over the life course contribute to increased health and healthcare disparities for Blacks and other racial/ethnic minorities (*e.g.,* decreased quality of life, increased co-morbidities, and decreased life expectancy).[1,13,14] Specifically, racial/ethnic minorities are at increased risk for experiencing micro-aggressions, both explicit and implicit discrimination and racism, everyday discrimination and unfair treatment, as well as macro-aggressions such as physical, emotional, and social trauma.[14–16] Particularly troubling when viewed from a historical perspective and as an ongoing public health issue, are the number of documented macro-aggressions such as the recent killing of unarmed Black men, women, and children by police and security officers.[17–19] These deaths have generated important conversations on the role of race, systemic and systematic biases, as well as protests (and counter-protests) regarding the use of deadly police force in communities across the country.[14,20–23,40–43] Sadly, in 2017 these macro-aggressions, including the deaths of unarmed people, continue and are often accompanied by criminal and civil litigation.[43]

Persistent micro-aggressions and macro-aggressions directed at racial/ethnic minorities, have also heightened awareness about the negative impact of stereotyping, bias, and marginalization.[13–16,20] Beginning in the Fall of 2014, undergraduate and graduate students across U.S. college and university campuses engaged in non violent protests, medical students engaged in "White Coats for Black Lives die-ins," and many football players in the National Football League and other allies engaged in silent protests by taking a knee during the national anthem to raise awareness about racial discrimination, injustice, and inequality as well as the number of unarmed black people seriously harmed or killed by police.[14,20–23,44–46] Their activism yielded increased awareness about the role of Black race and premature mortality due to police. Unfortunately, the increased activism regarding micro-aggressions, discrimination, and racial hatred has also led to violent protests and bodily harm including a death in one university community, i.e., Charlottesville.[47,48]

Research on racial/ethnic differences in health and healthcare, as well as public awareness about the personal costs and social injustice of these disparities is growing. Health and healthcare disparities are associated with significant individual, social, and economic costs that are disproportionately borne by minorities, low income individuals, and marginalized populations. The literature identifies several critical factors including the operation of racial/ethnic based stereotypes, structural barriers in hospitals and healthcare settings, and variability in medical and administrative decision-making.[4,24,25] Further, conscious and unconscious bias operating systematically at individual, systemic, and institutional levels, lead to suboptimal healthcare access, quality, treatment, and outcomes.[4,24–26] Finally, variability in decision-making processes within the clinical encounter and healthcare enterprise is known to contribute to health and healthcare disparities.[4,24–26]

CASE STUDY

In November 2013, a hospital chaplain practicing in a large teaching hospital, approached a senior administrator. The chaplain expressed concern that hospital security was being called to attend to patient encounters when the more appropriate referral would have been to contact spiritual care (Appendix A). More specifically, the chaplain observed security was called more for Black patients and their visitors than for White patients and their visitors than for white patients and their visitors.

Our research team was approached as an independent party to ascertain the veracity of the observations. We speculated that healthcare was not immune to larger societal problems regarding interracial social perceptions and interactions. The case represented a previously unexamined question in the healthcare disparities literature that deserved further scrutiny. That is, what are the social circumstances associated with hospital SSRs with patients and their visitors. Specifically, a retrospective study was designed to examine 1) whether hospital employee and patient characteristics influence decision-making with regard to SSRs and 2) whether there were racial differences in SSRs for patients and their visitors.

METHODS

This research project design was submitted and approved by the Institutional Review Board. Written informed consent was waived. A secondary analysis of a unique hospital database containing security dispatch information (since inception in 2006 through June 30, 2014) was performed. The data were analyzed to determine the patterns, location, and types of SSRs generated for patients and their visitors. Using the patient's medical record number, limited patient demographic information (*i.e.,* age, gender, and race) was obtained and the associated medical record was cross-matched with the dispatch data. A detailed analysis examining patient service location (*e.g.,* emergency care, general care, and surgical and intensive care) for SSRs from early 2013 to June 30, 2014 was conducted.

Analyses were conducted in several stages and compared to the hospital census. Descriptive statistics were computed to establish sample demographic

Table 1. Descriptive results of security standby requests by patient age, 2006 to 6-30-2014.

Age in years	Standby requests; N (%)
<21	519 (50.7%)
21–40	147 (14.4%)
41–60	174 (17.0%)
61–80	140 (13.7%)
Unknown	43 (4.2%)
Total	1023 (100%)

characteristics. Categorical data were analyzed using chi-square or Fisher exact test statistic. Statistical significance for all analyses were determined by using 2-tailed tests, with the probability of Type I error $p < 0.05$.

RESULTS

Limited demographic information (*i.e.,* age, race, and gender) was analyzed for 1023 patients who had SSRs generated; their service location was available during the six-year study period (1/1/2006 to 6/2013). Consistent with patient census, the majority (56%) of the SSRs were for female patients and their visitors. Most SSRs (50.7%) were for the youngest patient population (*i.e.,* < 21 years old) and their visitors (Table 1).

Security standby requests differed significantly based upon patient race (Table 2). Although the number of SSRs most often occurred for White patients (N = 642; 63%) and their visitors, this was less than their expected representation in the population (63% vs. 79%). The number of observed and expected (using hospital census data) patients impacted by SSRs generated was compared. By census, Black patients represent 12% of the hospital population. Once the patient's race was determined, the race of the patient's visitors was imputed. The visitors of Black patients were significantly more negatively impacted by SSRs ($p < 0.0001$). Specifically, Black patients and their visitors were significantly more likely ($p < 0.0001$ *i.e.* > twice as likely) to have a SSR generated (N = 275; 27%) than both White patients and their visitors (N = 642; 63%) and other (*i.e.* race unknown) patient and their visitors (N = 106; 10%) *combined* ($p < 0.0001$). A similar pattern in generating SSRs was found when only Black–White differences are considered. However, for Black patients and their visitors the differential adverse impact increased and the impact on White patients and their visitors decreased ($p < 0.0001$).

A change in the hospital's organizational structure allowed us to examine the role of patient location and SSRs. From 1/1/13 to 6/30/14, there were 356 SSRs generated where the patient's service location was available. Table 3 shows the majority (68.5%) of the SSRs occurred in the medical (N = 132; 37%) and surgical (N = 112; 31.5%) care areas. The overall number of SSRs was greatest for White patients (N = 88; 37%) and their visitors. However, the number of SSRs generated differed significantly based upon the patient's race (Table 3). When the observed and expected number of patients impacted was compared, SSRs for Blacks (24%) was disproportionately and statistically higher *i.e.,* twice expected ($p < 0.0001$).

Across all service locations, the observed number and percentage of SSRs for Black patients and their visitors was more than twice their expected representation in the population, except in the surgical care area which was slightly lower than double. Like the pattern observed for both White and other patients and their visitors, the pattern of SSRs for Black patients and their visitors was greatest in the medical (37.2%), surgical (25.6%), and emergency (24.1%) care areas. However, the number of SSRs generated for this population was statistically greater overall ($p < 0.0001$).

DISCUSSION

People come to hospitals for sanctuary, respite, and healing. Despite multiple independent witness accounts

Table 2. Descriptive results of security standby requests (SSR) by patient's race/ethnicity by hospital census race/ethnicity, 2006 to 6-30-2014.

Patient race/ethnicity	Unweighted patient hospital census average by race/ethnicity (%)	Expected SSR; N	Observed SSR; N(%)
Black	(12%)	123	275 (27%)
White	(79%)	808	642 (63%)
Other	(9%)	92	106 (10%)
Total	(100%)	1023	1023 (100%)

Other: Non-White/Non-Black/Unknown race.

Table 3. Inpatient security standby requests (SSR) by patient location, 1/1/2013-6/30/2014.

	Patient race/ethnicity						
	Black		White		Other		
Service location (N; %)	Expected SSR; N	Observed SSR; N (%)	Expected SSR; N	Observed SSR; N (%)	Expected SSR; N	Observed SSR; N (%)	*P* value
Medical (132; 37%)	15	32 (37.2%)	102	88 (37.0%)	15	12 (37.5%)	0.0001
Surgical (112; 31.5%)	13	22 (25.6%)	86	80 (33.6%)	13	10 (31.3%)	0.021
Emergency (72; 20.2%)	8	21 (24.4%)	56	48 (20.2%)	8	3 (9.4%)	0.0001
Other (40; 11.2%)	4.5	11 (12.8%)	31	22 (9.2%)	4.5	7 (21.8%)	0.0012
Total (356)	40.5	86 (24.2%)	275	238 (66.8%)	40.5	32 (8.9%)	0.0001

concerning differentials in hospital SSRs; to our knowledge, this study is the first to systematically examine the role of patient race while identifying racial disparities in SSRs. Survey data suggests most hospitals have security officers who carry guns, pepper spray, batons, handcuffs, and other gear traditionally associated with policing and control.[27] This compels us to consider whether the presence of these implements unnecessarily escalates interactions and increases the potential for harm. These statistically significant results introduce evidence of an important source of structural inequality. Specifically, we showed that hospital security was called more often for Black patients and their visitors when compared to Whites. Collectively, these results describe race-based disparities in the form of more than a two-fold increase in SSRs that are generated for Black patients and their visitors, over their representation in the hospital population. While not measured in the current study, we would also expect a significant increase in "threats" of security calls for these populations (i.e., "I'm going to call security if…") even before the actual SSRs are made as well as the number of undocumented SSRs. These encounters contribute directly to healthcare disparities, low patient satisfaction, and diminished health outcomes.

Racial/ethnic minorities account for more than one third of the U.S. population and will soon represent the majority.[28] Despite this, they remain in the minority as healthcare professionals and well below representation in the U.S. population impacting healthcare access, cultural competency, and patient satisfaction.[5,29,30] The impact of micro-and macro-aggressions and the intersection of bias, discrimination, and stereotyping on patient satisfaction and healthcare service delivery and quality has not been well explored in the context of hospital security and policing actions. Despite increased use of Tasers, physical restraints, and firearms by hospital security, there is little publicly available data to examine the epidemiology of SSRs, and the potential impact on healthcare quality and disparities at the national or local level. Our results revealing disproportionate SSRs involving Black patients and their visitors; results underscore the need to examine why, when, how, and on whom, and whom security is called while identifying trends and potential interventions.

Although the current and historical lens is the potential overreaction by police, it seems in the case of hospital SSRs the issue rests with who is calling hospital security and how social determinants (*e.g.,* class, income, residence) contribute to structural inequalities and ineffective communication. Specifically, cultural, trust, and attitudinal differences contribute to communication difficulties with Black patients.[1,31] The urgency of addressing racial/ethnic disparities micro- and macro-aggressions, is underscored by two case studies.[32–34] Both clearly demonstrate the physical and psychological harm to patients and structural inequalities within healthcare due to interactions with hospital security: Ms. Barbara Dawson an overweight African-American woman died and Mr. Alan Pean a Haitian/Mexican-American man was critically wounded in 2015 (Appendix B). An important consideration is whether non-threatening situations were unnecessarily escalated due to bias, stereotyping, and poor communication.

The literature suggests hospital employees may lack the resilience and tolerance as well as cultural awareness, competence, and humility to deal with stressful situations (*e.g.,* extreme grief, expected and unexpected loss, death, critical and emergent illnesses) involving minorities.[1,36,37] Both patient and clinician phenotype, communication styles, stereotypes, and fear may contribute to employees' perceiving greater threat, tolerating less disruption, and expecting violence from patients, especially minority patients.[37] Negative perceptions may, in turn, result in decreased restraint in calling security for non-threatening situations involving minority patients. Further, cultural differences in how racial/ethnic minorities express

themselves during times of distress (*e.g.,* grief), may be viewed by hospital employees as abnormal and alarming (*e.g.,* too demonstrative, loud). Coupled with prejudice and stereotyping directed at minorities, these factors may contribute to the observed racial disparity in security calls.

Medical decision-making remains highly idiosyncratic and the type of response by hospital staff, such as 'authoritative obey and control' in an emotionally charged situation, may contribute to friction, discord, and negative confrontations. Several vignette studies found patient race independently influenced medical decision-making.[26] Minorities report less trust and involvement in medical decision-making than Whites.[38] The medical decision-making model focuses on social norms, and has been criticized for failing to account for the effects of social context (*e.g.,* patient, clinician, and healthcare system characteristics) on the medical encounter. Nonetheless, our findings clearly underscore variability in SSRs based upon patient and visitor race.

Despite our significant findings, there are limitations. First, this retrospective analysis used an inpatient database that was not developed for research purposes. Second, race was assigned by observation and may not reflect how people identify themselves. Furthermore, the race of the patient's visitor was not available and was imputed from the patient's race. Third, despite the increasing racial/ethnic diversity of the U.S. population, we focused on Black-White differences since other racial/ethnic groups were too small for analyses. Lastly, we did not control for other social determinants (e.g., socio-economic status), potential inherent sources of bias (*e.g.,* religion, income, insurance, class) or by the type of organization (e.g., size, geography). Thus, we cannot determine the potential intersection of race and other social determinants of health, although future studies should attempt to do so. Nonetheless, our data reflect important quality and statistically significant racial disparities in SSRs at a large Midwestern teaching hospital.

Racial/ethnic-related differences in healthcare outcomes are well documented, but this is the first time differences have been documented in hospital SSRs. Forthcoming studies will address the following areas of inquiry:

- The role of staff and clinician diversity in hospitals.
- The role of cultural competence and humility, community engagement, and culturally-sensitive practice on how hospital security services are delivered and all hospital employees are trained.
- The need for qualitative studies and better data (including near misses and never events) focused on security calls.
- How patient/visitor, employee, and security officer characteristics influence SSRs.

Using an historical lens and cognizant of recent events, our research should stimulate exploration in several health equity areas.[39] First, how patients' and hospital employees' bias and verbal and non-verbal communication styles influence perception of threat and SSRs including security's decision-making once called. Second, the potential intersection of patient characteristics associated with stigma and stereotype (*e.g.,* socio-demographics, co-morbidities, cultural beliefs, support systems, decision-making, preferences) and hospital employee characteristics (*e.g.,* capacity to understand variability in communication-styles, especially grief) and how they influence the healthcare experience (*e.g.,* Black race and male gender). Third, attention must be directed at understanding the role of medical decision-making, stereotyping, bias, discrimination, and trust when considering variability in SSRs. Fourth, we previously demonstrated that socio-economic status is protective for Whites but not for Blacks.[4,24,49] Thus, a critical examination of the role of socio-economic status, age, gender, and race/ethnicity in SSRs is needed. Lastly, vitally important for communities being served and for eliminating racial disparities in SSRs and security errors is ensuring transparency (*i.e.,* sharing available data with the community and creating metrics) and accountability for healthcare organizations by those accrediting (*e.g.,* JCAHO) and regulating (*e.g.,* CMS) them.

In conclusion, to our knowledge, this study is the first to demonstrate major racial disparities in SSRs for Black patients and their visitors. Thus, this paper can serve as an important teaching tool for medical and health professionals, administrators, ethicists, and those involved in quality assurance and patient relations activities. Consistent with the healthcare disparities and medical errors literature, we are the first to introduce the concept of "security intervention errors in the healthcare environment" in the context of employee patient interactions and their importance to racial/ethnic based differences in healthcare quality.[35] Thus, high quality healthcare requires: 1) transparency, 2) hospitals maintain a safe environment, 3) hospital employees ensure respect, tolerance, and empathy for all patients and visitors, and 4) hospital security equitably protect and serve all.[39] To ensure the highest quality of healthcare, continuous quality improvement initiatives must include audits for SSRs and security intervention errors in healthcare environments. Specifically needed are multidisciplinary approaches using mixed-methods *i.e.,* qualitative and quantitative research to understand and develop needed interventions (*e.g.,* educational strategies, institutional practices audits) to ultimately improve healthcare quality and eliminate racial disparities in SSRs. Essential to ensuring quality healthcare is a patient's (and their visitor's) right to be free from all aggressions.

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APPENDIX A. CASE STUDIES

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Testimony Provided by Carmen Renee Green, MD,
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Hearing with New York City Council Committee on Higher Education
Oversight – CUNY School of Medicine
Friday, December 3, 2021

APPENDICES

Carmen Renee Green, MD is Dean of the City University of New York (CUNY) School of Medicine, located at the historic City College of New York. She is also Bert Brodsky Chair, Medical Professor of Community Health and Social Medicine, and Professor in the Colin Powell School of Global and Civic Engagement.

Dr. Green received her MD from Michigan State University College of Human Medicine (MSU CHM) and was elected to *Alpha Omega Alpha (AOA)* National Honor Medical Society. She completed an Anesthesiology residency, subspecialty training in Ambulatory and Obstetrical Anesthesia, and a Pain Medicine fellowship at the University of Michigan Health System (UMHS) as well as the National Institutes of Health (NIH) National Institute on Aging Butler-Williams Scholar program, von Hedwig Ameringen Executive Leadership in Academic Medicine (ELAM) fellowship, and Mayday Pain & Society fellowship. Dr. Green was a Robert Wood Johnson Health Policy fellow at the National Academy of Medicine (NAM) of the National Academies. Working in the Health Education Labor and Pensions Committee and the Children and Families Subcommittee. she helped draft the *National Pain Care Policy Act,* incorporated in the *Affordable Care Act* and was thanked in the *Congressional Record* by Senator Kennedy for contributions to the FDA reauthorization, *i.e.* including gender and race variables to assess outcomes.

Dr. Green is a tenured Professor of Anesthesiology, Obstetrics & Gynecology, and Health Management & Policy at the University of Michigan's Schools of Medicine and Public Health, an attending physician in the Back and Pain Center, holds faculty appointments at the Institute for Social Research and Institute for Health Policy and Innovation, and is a faculty associate in the Program for Research on Black Americans, Depression Center, and Cancer Center where she was elected to *Phi Kappa Phi* Honor Society. Green is also an elected fellow of the New York Academy of Medicine, Gerontological Society of America, and Association of University Anesthesiologists. She is a faculty associate in the Program for Research on Black Americans, Depression Center, and Cancer Center. The inaugural Associate Vice President and Associate Dean for Health Equity and Inclusion at the UMHS, she is the Executive Director of the Healthier Black Elders Center and Co-Director of the Community Core for the Michigan Center for Urban African American Aging Research. Dr. Green was the founding chair for the American Pain Society's Special Interest Group on Pain and Disparities and chair of the Public Policy Committee.

At the nexus of public health and healthcare quality, equity, and policy, her health policy relevant and health services research agenda focuses on pain and the social determinants of health. She is the author of germinal and seminal papers that poignantly reveal unequal treatment, disparities, variability in decision-making, and diminished health care quality; revealing suboptimal access to health and pain care across the life course for women, minorities, and low-income people. An innovator, she often uses narrative medicine and photo voice techniques to promote empathy and healing. Dr. Green published a selective review focusing on the unequal burden of pain in *Pain Medicine* which remains the most cited article in the journal's history and was the guest editor for the its special issue on disparities. She was the first to identify hospital security errors.

Dr. Green received several honors including UMHS Employee of the Year, U-M Woman of Color of the Year for Human Relations, Consumer Checkbook's Top 100 Doctors, Top 1% of Pain Doctors by US News and World Reports, Who's Who in America, U-M Harold R. Johnson Diversity Service Award, John Liebeskind Pain Management Research Award, Elizabeth Narcessian Award for Outstanding Educational Achievements, and MSU CHM Distinguished Alumni Award. Her federal and state board service includes NAM's Health Care Services Board, Michigan Governor's Pain and Symptom Advisory Committee, US Secretary of Health and Human Services (HHS) Interagency Pain Research Coordinating Committee and HHS Oversight Committee for the National Pain Strategy (Disparities Committee Co-Chair) as well as NIH's Advisory Committee for the Eunice Shriver National Institute of Child and Human Development, Advisory Committee for Research on Women's Health, and National Center for Medical Rehabilitation Research. Dr. Green has made invited presentations across the globe including the US Congress and Rockefeller Center in Bellagio, Italy. She has worked across the health professional pipeline to achieve a critical mass of minorities and women in academic medicine, biomedical sciences, and higher education. Her former students lead, teach, and inspire others.

An avid swimmer and genealogist, Carmen enjoys travel, photography, college football, and time with friends and family. She began writing poetry, plays, and books as a teen. Carmen also enjoys the creative arts, attending operas and recitals, and recently appeared as the Narrator and Lincoln in Aaron Copeland's *Lincoln's Portrait* with the U-M Life Sciences Orchestra at the historic Hill Auditorium (Ann Arbor).

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Professor Emerita, Obstetrics and Gynecology (UMMS) - pending
Faculty Associate, Research Center for Group Dynamics (UM Institute for Social Research)
Faculty Associate, Institute for Health Policy and Innovation (UM)

SELECTED ADMINISTRATIVE ACCOMPLISHMENTS

The University of Michigan is one of the world's premier research universities with 19 schools and colleges nationally ranked for excellence in education, research, and clinical activities. The UM wholly owns **UMHS** - a large, integrated, and matrixed academic medical center. **UMMS,** its elite public medical school receives >$418M in annual NIH funding.

UM, UMHS (aka Michigan Medicine), & Medical School. Acknowledge expert in pain and pain care disparities. Associate Vice President/Associate Dean for Health Equity & Inclusion and Chief Diversity Officer. Cabinets: Executive Leadership Group, CEO, Dean, and Senior Management Team. Led turnaround and start-up. Created vision, mission, and strategic plan for transformational approach to diversity, equity and inclusion for patients, staff, students, and faculty. Designed business and financial practices. Started institutional health equity research and inclusion programs. Reengineered pipeline programs. Assisted in recruiting faculty and executive officers (Chief Human Resource and Chief Communications Officers). Invigorated fundraising and minority alumni engagement. Led UMHS to national award for leadership in LGBT care (Healthcare Equality Index). Created national advisory board. Generated data, papers, and policy to improve healthcare quality, health, pain care and programs for those at risk for educational and health disparities.

Interdisciplinary Clinical, Translational, Health Services, & Community-based Research Leader. Seminal publications on pain care disparities. Active researcher: PI, Core leader, and Co-I (*e.g.* NIH funded Michigan Center for Urban African American Aging Research: Co-Director, Community Core and Director, African-American Aging Summer Immersion for Science Teachers; and NIH funded CTSA: Director, Health Disparities Research Core and PI, Health Disparities Summer Immersion Program for minority health professional students). Member of NIH's NCMRR advisory Board, NICHD Council, and Advisory Board for Research on Women's Health, and American Cancer Society's Council on Extramural Affairs. Chair, Myalgic Encephalitis NIH expert review panel. Service on three editorial boards.

Clinical Leader & Advocate. Practicing and board certified ambulatory and OB anesthesiologist (Top Anesthesiologist/ Doctor) and pain medicine physician (US News & World Report top 1%). Inaugural institutional leader for UMHS pain management which led to a successful JCAHO accreditation experience. Medical Director, Acute Pain Services.

Education Leader & Innovator. Delivered international, national, and local lectures to the community, policy makers, learners, and health professionals (*e.g.* Rockefeller Bellagio Center, US Congress). Taught in ELAM and AAMC's junior women and minority faculty development programs. Served in roles focused on undergraduate and graduate medical education, research, and mentoring. Incorporated social sciences and narrative medicine in presentations. PI for novel funded pipeline programs across the biomedical and health sciences pipeline.

National Health Policy. Mayday Pain and Society Fellow. Robert Wood Johnson Health Policy Fellow at the National Academy of Medicine (NAM; formerly Institute of Medicine) of the National Academies. Health policy analyst: US Senate Health, Education, Labor & Pensions Committee and Children & Families Subcommittee. Drafted legislation within

Affordable Care Act. Served on NAM Healthcare Services board and coordinated reviews; HHS advisory panels' Inter-agency Pain Research Coordinating and Oversight Committees, Co-chair, National Pain Strategy; HHS Advisory Panel on Medicare Education for CMS. Presented at Congressional briefings, NIH, and NAM. Elected memberships: *Alpha Omega Alpha*, NY Academy of Medicine, Association of University Anesthesiologists, and Gerontological Society of America (fellow). AAA media rating with national awards for excellence in patient care, educational, scientific, and public service.

Community Engagement. Advocate for the most the underserved and health disparity populations. Increased minority matriculation into medical school 96%. Executive Director, Healthier Black Elders Center. Member, UMHS Development Leadership Advisory Group for *Victors for Michigan* Campaign ($4B). Service to community organizations and boards

ACADEMIC PREPARATION AND QUALIFICATIONS

I am a board-certified anesthesiologist with subspecialty training in ambulatory and obstetrical anesthesiology as well as fellowship training and board certification in pain medicine. I did additional postdoctoral fellowships in health services research, aging, pain policy, and health policy. Thus far, my academic career as a clinician, educator, and researcher has been at the UM. I have joint faculty appointments in three departments, two schools, and two institutes. Upon receiving tenure, my tenure package was highlighted to the UM Regents (one of the highest UM honors). My research on pain care disparities is considered seminal, has received international attention, and shaped national health policy.

EDUCATION

Year	Degree	Institution
1979	Diploma	Luke M. Powers Catholic High School Flint, MI
1983	B.S. (Biology)	University of Michigan (UM) – Flint; Flint, MI
1987	M.D.	Michigan State University College of Human Medicine; East Lansing, MI

GRADUATE MEDICAL EDUCATION

Date	Position	Institution
1/1988–12/1989	Intern (Internal Medicine)	Michigan State University College of Human Medicine (MSU CHM), Saginaw, MI
1/1989–6/1989	Resident (Internal Medicine)	MSU CHM, Saginaw, MI 7/1989–
6/1992	Resident (Anesthesiology)	UM Medical Center. Ann Arbor, MI
7/1991–6/1992	Clinical Anesthesiology Year 3: Advanced Clinical Track, Obstetrical Anesthesia, Ambulatory Anesthesia, and Research	
7/1992–6/1993	Pain Management Fellow	Multidisciplinary Pain Center UM Medical Center, Ann Arbor, MI
3/2000–11/2001	Health Services Research Fellow	Association of American Medical Colleges (AAMC) Health Services Research Institute, Washington, D. C.
7/2002	Butler-Williams Scholar	National Institute on Aging Summer Institute on Aging Research NIH, Airlie, VA 7/2004–
6/2005	Leadership Fellow	Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM), Drexel University College of Medicine, Philadelphia, PA
9/2004–8/2005	Pain Policy Fellow	Mayday Pain and Society Fellowship, Mayday Fund, NY, NY
9/2006–8/2007	Health Policy Fellow (full-time)	Robert Wood Johnson Health Policy Fellowship National Academies of Science, Engineering & Medicine (NASEM) National Academy of Medicine (NAM) Washington, DC
1/2007–8/2007	Health Policy Fellow (full-time)	U. S. Senate Health, Education, Labor, and Pensions Committee (Chair–Kennedy); Children and Families Subcommittee (Chair-Dodd) Washington, DC
9/2007–8/2009	Health Policy Fellow	Robert Wood Johnson Health Policy Fellowship, NAM of the NAS, Washington, DC

SPECIAL TRAINING

Date	Course
8/1994	Association of American Medical Colleges (AAMC) Minority Faculty Professional Development Seminar, Washington, DC
12/1996	AAMC Junior Women in Medicine Professional Development Seminar, Santa Fe, NM
3/1997	Statistics: A review, Center for Statistical Consultation and Research, UM, Ann Arbor, MI
7/1997	Self-Administered/Mail Surveys; SOC 988, Institute of Survey Research, UM

11/1997	Clinical Pain: Measurement Design and Analysis, Center for Statistical and Research Consultation, UM
6/1999	Measurement, Design, and Analysis for Health Outcomes Research, Harvard School of Public Health, Harvard University, Boston, MA
7/1999	Introduction to Survey Sampling, Institute of Survey Research, UM, Ann Arbor, MI
9/1999	Physicians in Management Workshop, American College of Physician Executives, Philadelphia,
6/2000	"Using Focus Groups in Your Research: Basic Techniques, Challenging Issues, and Practical Tips," Academy of Health Services Research and Policy, Los Angeles, CA
6/2000	"Introduction to Cost-Effectiveness Analysis in Healthcare," Academy of Health Services Research and Policy, Los Angeles, CA
6/2001	Advances in Methods for Monitoring Healthcare Outcomes from the Patient Point of View," Academy of Health Services Research and Policy, Atlanta, GA
6/2001	"More Than Just a Conversation: Using Qualitative Interviews to Answer Health Services Research Questions," Academy of Health Services Research and Policy, Atlanta, GA
4/2005	"Emerging Issues in Philanthropy for Academic Medicine," ELAM, Philadelphia, PA
2013-2015	Insight into Philanthropy; Philanthropy for Medical Science Research; Philanthropic Practices for Medical Professionals; Philanthropic Practices for Deans and Other Academic Leaders

ACADEMIC APPOINTMENTS

Year	Position
1/1993–7/1996	Lecturer, Multidisciplinary Pain Center, Dept of Anesthesiology, UMMS 7/1996–
9/2003	Assistant Professor, Anesthesiology, Department of Anesthesiology, UMMS, **9/2003–**
9/2009	**Associate Professor, Anesthesiology with Tenure, Dept of Anesthesiology, UMMS**
2001–	Faculty Associate, Center for Research Ethnicity, Culture, and Health, Department of Health Behavior and Health Education, UM School of Public Health
11/2006–	**Faculty Associate, Program for Research on Black Americans, Research Center for Group Dynamics, UM Institute for Social Research**
9/2008–9/2010	Associate Professor, Health Management and Policy, Dept of Health Management and Policy, UM School of Public Health
9/2009–	**Professor, Anesthesiology with Tenure, UMMS**
9/2009–	**Professor, Obstetrics and Gynecology, UMMS**
4/2010–	Faculty Associate, Depression Center, Department of Psychiatry, UMMS
2010-	Faculty Associate, Comprehensive Cancer Center, UMMS
9/2010–	**Professor, Health Management and Policy UM School of Public Health**
9/2014–	**Faculty Associate, UM Institute for Health Policy and Innovation**

ACADEMIC LEADERSHIP AND ADMINISTRATIVE QUALIFICATIONS

Accomplished and thoughtful academic and administrative leader with a track record of innovation. I have held clinical, educational, and clinical leadership positions at the department, school, health system, and university level as well as leadership positions in my professional societies. I have a breadth and depth of experience in nurturing change, successfully managing change, and leading turnarounds and start-ups. I have experience creating vision statements and strategic plans, implementing strategic plans, and yielding positive outcomes. Known for exceptional relationship and excellent communication skills, I have experience serving in and working with advisory boards (national, professional, and community), faculty, patients, staff, and students in university, college, and community settings. I am a recognized leader in promoting diversity and inclusion, eradicating disparities, and ensuring equitable access.

ADMINISTRATIVE APPOINTMENTS

Year	Position
1996–5/2006	Associate Director for Medical Student Education, Department of Anesthesiology, UMHS
7/1997–5/2006	**Medical Director, Acute Pain Services, Department of Anesthesiology, UMHS**

7/1998–5/2006	Coordinator, Midwest Anesthesiology Resident's Conference, Dept of Anesthesiology, UMMS
5/2000–9/2004	**Chair, Pain Management Steering Committee, UMHS**
2000-2004	**UMHS Institutional Lead for JCAHO Pain Initiative**
5/2003–8/2009	Director, Pain Medicine Research, Dept Anesthesiology, UMHS
10/2003–2007	Co-Director, Investigator Core, Michigan Center for Urban African American Aging Research (MCUAAAR; joint center with Wayne State University), Institute for Survey Research, UM
8/2006–9/2007	Sabbatical
8/2006–9/2009	**Robert Wood Johnson Health Policy Fellow, NAM of the NAS, Washington, DC**
9/2007–11/2009	**Director, UM Clinical and Translational Science Award's (CTSA) Health Disparities Research Program, Michigan Institute for Clinical and Health Research (MICHR)**
10/2007–	Director, Dissemination and Health Policy Core, Michigan Center for Urban African-American Aging Research (MCUAAAR), Institute for Survey Research (ISR), UM
8/2009–	**Co-Director, Community Liaison Core, MCUAAAR**, ISR, UM, Ann Arbor, MI
10/2009– **1/2015**	Executive Director, The Healthier Black Elders Center, MCUAAAR, ISR, UM **1/2013– Associate Vice President and Associate Dean for Health Equity and Inclusion**, UMHS/ UMMS
7/2015–6/2016	Sabbatical

Previous Positions

1983–1985	**Coordinator for Medical Student, Cristo Rey-Pediatric & Migrant Clinic**, Lansing, MI
1980–1983	Research Assistant for Dean of Student Services, University of Michigan-Flint
1980–1983	Peer Academic and Health Counselor, University of Michigan-Flint

AWARDS & FELLOWHIPS

I have participated in highly competitive and selective fellowships and am an elected member of prestigious organizations. I have won awards for my leadership in the clinical, educational, research and public missions at the department, university, community, and national level. My students have also won awards for their scholarship.

Date	Honors/Awards
1981	Winner, National Urban League Liggett Foundation Essay/Scholarship
1983	MSU CHM: Dean's Scholarship
1987	Recipient, National Medical Fellowship Charles B. Johnson Memorial Award for Excellence in Surgery
1987	***Alpha Omega Alpha (AΩA)*** **National Honorary Medical Society, MSU CHM**
1988	Regional Finalist, White House Fellows, Washington DC
1992 - 1993	Recipient, Stuart Travel Award, Third Prize, Society for Ambulatory Anesthesia Research Award
1992	Recipient, Employee of the Month (first physician), UMHS
1993- 1994	**Recipient, Employee of the Year (first physician) for the UM Medical Center -** *"For outstanding performance, good spirit, cooperation, concern and contributions to the hospitals,"* UMMC
1999	**Recipient, UM Woman of the Year in Human Relations Award, Women of Color in the Academy** - *"In recognition of significant contributions in the area of human relations related by demonstrating warmth, concern, and strength of character without regard to race, age, economic level or university status"*
2000	Honorable Mention, American Society of Anesthesiologists (ASA) Art Exhibit—Literature
2001	Recipient, Token of Appreciation from Medical Students (TAMS) Award
2002	**Recipient, UM Harold R. Johnson Diversity Service Award** – *"outstanding contributions that have advanced the institutional diversity of the university community"*
2002	Recipient, "America's Top 100 Doctors"
2003	**Awarded tenure, University of Michigan Medical School, Department of Anesthesiology**
2004	**Recipient, UM Dept of Anesthesiology: 2003 Researcher of the Year Award**

2004	**Recipient, UM Dept of Anesthesiology: 2003 Project of the Year Award for Coordinating the Midwest Anesthesia Residents' Conference**
2004	Recipient, Best Poster Award, American Academy of Pain Medicine 2004 Annual Meeting
2004	**Selected for Hedwig van Ameringen Executive Leadership in Academic Medicine (ELAM) Fellowship** -*develops the professional and personal skills required to lead and manage in today's complex healthcare environment, with special attention to the unique challenges facing women in leadership positions*
2004	**Selected for Inaugural Mayday Pain & Society Fellowship**
2004–2008	**Recipient, "Top 100 Doctors" - Consumer's Checkbook**
2005	**Nominated, Kaiser Permanente Excellence in Teaching Award**
2005	Selected as the Inaugural NIA Resource Centers for Minority Research (RCMAR) Visiting Scholar
2005	**Elected to Association of University Anesthesiologists (AUA)**
2006 -	Recipient, "Who's Who in America"
2006	**Selected for National Academy of Medicine of the National Academies Robert Wood Johnson Health Policy Fellowship** - administered by the NAM; *designed for exceptional mid-career scientists is the nation's most prestigious fellowship at the nexus of health science, policy and politics*
5/2006	Selected for the Governor's Advisory Committee on Pain and Symptom Management (did not serve due to Robert Wood Johnson Health Policy Fellowship Commitment)
2006 -	Recipient, "Who's Who in America"
5/8/2007	**Thanked in the *Congressional Record*** by Senator Edward M. Kennedy (*Chair—Health, Education, Labor, and Pensions; for contributions to reauthorizing the FDA (S.1082; Food and Drug Administration Revitalization Act of 2007*)
2007–2008	Selected as an Ambassador for the Robert Wood Johnson's Fellowship Programs "America's Top Anesthesiologists"
2008	Recipient, "Who's Who in Michigan"
2008	**Recipient, American Academy of Pain Management's John C. Liebeskind Pain Management Research Award**
2009	**Selected for the Advisory Panel on Medicare Education (APME) to the Secretary of Health and Human Services (HHS), The Centers for Medicare & Medicaid Services (CMS)** - *advised the HHS and the Administrator of CMS on opportunities to enhance the federal government's effectiveness in implementing a national Medicare education program*
2009	**Selected for the Mayday Special Committee on Pain and the Practice of Medicine – Mayday Fellowship Advisory Committee, The Mayday Fund**
2009	Selected for C-Change Cancer Competency Advisory Committee for the Pain and Palliative Care Initiative
2009	Selected for Blue Cross Blue Shield of Michigan (BCBSM) Foundation's Grants Advisory Panel
2009	**Recipient, 7th Annual MSU CHM's Distinguished Alumni Award**
2009	**Recipient, American Pain Society 2009 Elizabeth Narcessian Award for Outstanding Educational Achievements**
2009	**Elected Fellow, New York Academy of Medicine – "***for the highest levels of achievement and leadership to improve the health of the public"*
2010	**Elected Fellow, Gerontological Society of America (GSA) –** *"outstanding achievement and exemplary accomplishments to the field of gerontology"*
2010	Spokesperson, Society for Women's Health Research national campaign on Osteoarthritis
2010	Spokesperson, American Cancer Society and America Geriatric Society's national education program on cancer pain
2011	**Selected for the U.S. Secretary of Health and Human Services' Interagency Pain Research Coordinating Committee**
2011	**Selected for the State of Michigan's Advisory Committee on Pain and Symptom Management**
2011	**Selected for the American Cancer Society's Council on Extramural Affairs**
2013	Selected as the public lecturer for the UM's 27th Martin Luther King Jr. Symposium, UMHS
2013	**Elected into Phi Kappa Phi Honor Society**
2016	**Recipient, American Academy of Pain Medicine 2016 Patient Advocacy Award for Outstanding Educational Achievements** - *"outstanding achievements in professional education in the field of pain"*

Honors and Awards for Mentored Faculty and Students

1995 Faculty mentor for Joann Cohen, M.D., First place Midwest Anesthesia Residents' Conference (MARC)
1998 Faculty mentor for Sharon Minott, MD - First place MARC
1998 Faculty mentor for Timothy Stypinski, BS - First place MARC
1999 Faculty mentor for Christopher Ciarallo, BA - First place MARC
2000 Faculty mentor for Rebecca Dunkailo, BA - First place MARC
2003 Faculty Mentor for Cecilia Calhoun - awarded Summer Biomedical Research Fellowship
2005 Faculty mentor for Meredith Miller, MD - First place MARC
2005 Faculty mentor for Thalia Palmer, MD - First place MARC
2005 Faculty mentor for James Bevenour, MD - First place Michigan Society of Anesthesiologists
2006 Faculty mentor for James Bevenour, MD - First place MARC
2006 Faculty mentor for Spencer Bertram, MD - First place MARC
2006 Faculty mentor for Julia Caldwell, MD - First place MARC
2006 Faculty mentor for Glen Gehrke, MD - First place MARC
2007 Mentored Julia Caldwell, MD - American Pain Society's Young Investigator Award
2008 Faculty mentor for Khady Ndao-Bumblay, PharmD, MSc - Center for Research, Ethnicity, Culture, and Health Award for Excellence in Racial/Ethnic Health Disparities Research, School of Public Health, UM
2008 Faculty mentor for Molly Fuentes, BS - Honorable Mention for the Blue Cross Blue Shield of Michigan Foundation's 2008 Excellence in Research Award for Students
2009 Faculty mentor for Laura Montague, BS - Honorable Mention for the Blue Cross Blue Shield of Michigan Foundation's 2009 Excellence in Research Award for Students
2011 Faculty mentor for Sonya Miller, MD - Selected as a pilot scholar for the MCUAAAR
2014 Faculty mentor for Erica Odukoya, MPH - Honorable Mention for UM School of Public Health Research Day
2015 Faculty mentor for Julie Madden, PhD - Best poster award at the 2015 Controlling Cancer Summit, London, England
2020 **Faculty mentor for Nicole Hadler – Second prize for American Psychiatric Association Medical Student Essay contest**

MEMBERSHIPS, SERVICE, AND LEADERSHIP

I have a demonstrated commitment to community engagement and high-quality and affordable healthcare. I have provided significant and ongoing service. I have extended my leadership to the community, university, professional societies, scientific organizations and governmental entities. My service includes providing expert consultation and peer review for individuals and scientific organizations. I have served on advisory boards and councils for the NIH, Secretary of Health and Human Services, CMS, and national organizations such as the NAM, Blue Cross Blue Shield Foundation of Michigan and American Cancer Society.

Selected Memberships in Professional Societies

Academy of Health Service Research
Academy Health
***Alpha Omega Alpha (ΑΩΑ)*, National Honorary Medical Society**
American Academy of Pain Management
American Academy of Pain Medicine
Association for the Advancement of Science
American Association of University Professors
American College of Healthcare Executives
American College of Physician Executives
American Geriatrics Society
American Medical Association
American Pain Society
American Public Health Association
American Society of Anesthesiologists
American Society of Regional Anesthesia and Pain Management
Association of University Anesthesiologists
Detroit Musicians Association
Gerontological Society of America
Hastings Center

International Association for the Study of Pain (IASP)
IASP Older Persons Special Interest Group
IASP Sex and Gender Special Interest Group
Midwest Pain Society
Michigan State Medical Society
Michigan State University Jonathan L. Snyder Society
National Association of Negro Musicians, Lifetime member
MSU CHM Alumni Association, Lifetime member
National Medical Association
New York Academy of Medicine
Phi Kappa Phi Honor Society
Society for Executive Leadership in Academic Medicine
Society for Women's Health Research
Washtenaw County Medical Society

Selected Committee, Organizational, and Volunteer Service

International

2005–2008	Member, International Association for the Study of Pain's Scientific Program Committee
2010	Organizer, International Association for Pain
2012	IASP Pain Symposium (Planning Committee), Berlin Germany

Governmental–Federal and State

2000	Site Reviewer, NIH's Research Centers in Minority Institutions, Ponce School of Medicine, Puerto Rico Site Reviewer
2002	Site Reviewer, NIH's Site Research Centers in Minority Institutions, Meharry Medical College, Nashville, Tennessee
2005	Member, Veterans Administration Pain Research Working Group
2008	Member, Consensus panel member for new Treatment Improvement Protocol for the Management of Chronic Pain in People in Recovery from Substance Use Disorders for the Center for Substance Abuse Treatment – SAMHSA
2009–2011	**Member, Advisory Panel to the U.S. Secretary of Health and Human Services (HHS) on Medicare Education (APME), The Centers for Medicare & Medicaid Services (CMS)**
2010	Member, Organizing Committee for the Multidisciplinary Biobehavioral Rheumatic Diseases Workshop, NIH, Bethesda, MD
2010	Member of Organizing Committee, NIH Conference – Pain and musculoskeletal disorders: Narrowing the gap between translational pain research and pain care
7/2011–6/2013	**Member, Governor's Advisory Committee on Pain and Symptom Management** - *charged with addressing issues pertaining to pain and symptom management, to gather information from the general public and making recommendations to the legislature*
8/2011–7/2014	**Inaugural Member, U.S. Secretary of Health and Human Services' Interagency Pain Research Coordinating Committee of the NIH**
8/2011–7/2015	**Member, National Center for Medical Rehabilitation Research (NCMRR)/NIH Advisory Board** - *advises the directors of NIH, NICHD, and NCMRR on matters and policies relating to the Center's programs*
2012–2013	**Member, Governor's Advisory Health Professional Committee on Pain and Symptom Management** - *charged by the Governor of the State of Michigan to deal with issues pertaining to pain and symptom management*
2012–2015	**Member, National Advisory Board Member and Liaison to the Eunice Shriver NICHD/NIH -** *advise, assist, consult with, and make recommendations to the Secretary of Health and Human Services and the Director, Eunice Kennedy Shriver NICHD on matters related to the activities carried out by and through the Institute and the policies respecting the activities*
2013–2015	**Member, Oversight Working Group, Interagency Pain Research Coordinating Meeting, NIH -** *charged with developing a summary of advances in pain care research supported or conducted by Federal agencies relevant to the diagnosis, prevention, and treatment of pain and diseases and disorders associated with pain; identify critical gaps in research on the symptoms and causes of pain; make recommendations to ensure that the activities of the NIH and other Federal agencies are free of unnecessary duplication of effort; make recommendations on how best to disseminate information on pain care; and make recommendations on how to expand partnerships between public and private entities to expand collaborative, cross-cutting research*

2013–2015	**Member, NIH/Health and Human Services (HHS) National Pain Strategy Working Group -** *charged by the Assistant Secretary of Health with addressing the development of the population health level strategy for pain prevention, treatment, management, and research as recommended in the NAM Report: "Relieving Pain in America"*
2013–2015	**Co-chair, NIH/HHS' National Pain Strategy Public Health: Care, Prevention, and Disparities Working Group -** *charged by the Assistant Secretary of HHS to create a comprehensive population health level strategy for pain prevention, treatment, management, and research*
2013–2015	**Chair, NIH Pathway to Prevention Panel and Working Group on Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome -** *ME/CF: charged by NIH, Office of Disease Prevention, Office of Research on Women's Health, and the Trans-NIH Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome Working Group for an evidence based methodology workshop*
3/2014-7/2015	Special Guest, NIH, Advisory Committee on Research on Women's Health (*ACRWH)*
2014–2015	**Co-Chair, NIH/HHS' National Pain Strategy Public Health: Disparities Working Group -** *charged by the Assistant Secretary of Health with addressing the development of the population health level strategy for pain prevention, treatment, management, and research as recommended in the NAM report, "Relieving Pain in America"*
9/2015 –	**Member, NIH, ACRWH** - *ARWH; Congressionally mandated as a mechanism for eliciting advice and recommendations on priority issues affecting women's health and sex differences research. In this role, the ACRWH advises the ORWH director on appropriated NIH research activities on women's health; reviews the women's health research portfolio for NIH; surveys goals for scientific career development; and assesses the inclusion of women and minorities in NIH clinical research*
2015 -	Member, ACRWH Raising the Bar Workgroup
2017 -	Member, NIH ORWH Strategic Planning Committee
2018 -	Member, NIH All of Us Research Program, Priorities Workshop (Precision Medicine Initiative)
2018	**Chair, Uniformed Services University School of Medicine/Henry M. Jackson Foundation for Military Medicine, Pain Research & Management Scientific Peer Review committee**
2018	Member and Speaker, NIH Discovery and Validation of Biomarkers to Develop Non-Addictive Therapeutics for Pain
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (03)
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (04)
2019-2020	**Member, NAM Committee on the Assessment of the Available Scientific Data Regarding the Safety and Effectiveness of Ingredients Used in Compounded Topical Pain Creams**
2020 -	Member, Healthy Women Chronic Pain Advisory Board
2020 -	Consultant (*ad hoc*), Foundation for Anesthesia Education Research (FAER)
2020-	***Member, Johnson & Johnson Pain Management Scientific Advisory Committee***
2021-	***Member, American Cancer Society Research Oversight Advisory Committee***
2021-	***Project Georgia African American Maternal Health Advisory Committee***
2021-	***Member, NINDS Division of Clinical Research at the NIH Data & Safety Monitoring Board (DSMB) for the Early Phase Investigation Network (EPPIC-Net)***

National

1992–1994	Co-Director, Current Controversies in Ambulatory Anesthesia Conference, UM, Ann Arbor, MI
1993–2002	Society for Ambulatory Anesthesia: Publications, Education, and Scientific Review Committees
1998–	**American Society of Anesthesiologist's (ASA)** • Member, Committee on Pain Medicine (1988-2002) • Member, Committee on Diversity (2002-4) • Member, Committee on Practice Parameters, Task Force for updating Practice Guidelines for Acute Pain Management in the Perioperative Setting (2003, 2011)
2000-2002	Author, American Board of Anesthesiology questions on pain management for ABA Pain Exam
2000–	**American Pain Society (APS)** • Member, Annual Scientific Meeting Committee (2000, 2004, 2010, 2011)

- Member, Special Interest Group on Ethics (2002-2003)
- **Founding Chair, Art Committee (2004-6)**
- **Founding Chair and Immediate Past Chair, Special Interest Group Pain and Disparities (2005-9)**
- **Chair and Organizer, Pre-conference workshop - Disparities in pain care: from the laboratory to clinical practice (2005)**
- Member, Special Interest Group Task Force (2005-6)
- Member, Nominating Committee (2005)
- Member, Membership Committee (2008)
- **Chair, Public Policy Committee (2009-15)**
- Member, Awards Committee (2010)
- Member, Communications Committee (2011-4)
- **Chair, Geriatrics Special Interest Group (2012-3)**

2001– **Gerontological Society of America (GSA):** Member, Minority Aging Task Force; Member, Clinical Medicine Scientific Review Committee; Member, Membership Committee

2002–2003 Member, Pfizer National Advisory Board for Geriatric Pain Medicine

2004–2006 **National Pain Foundation**

- **Board member**
- **Chair, Research Committee**
- **Chair, Disparities Committee**

2004–2010 Society for Executive Leadership in Academic Medicine

2005 **American Academy of Pain Medicine**

- Ethics Committee (2005)
- Communications Committee (2005)
- Scientific Abstracts Committee (2016-)
- Leadership Development Task Force (2016-)
- **Lead, Diversity and Equity Strategic Plan Development- AAPM Population 2030 Strategic Plan (2016-)**

2006 **Co-Director, Racial and Ethnic Disparities in Pain Treatment: Converting Research to Policy Conference, University of Pennsylvania and Philadelphia VA, Philadelphia, PA**

2006- **Hedwig van Ameringen Executive Leadership in Academic Medicine**

- Leadership Fellow (2004-2005)
- Coordinator, Women of Color in the Academy Task Force (2006)
- Member, ELAM Alumnae Association Advisory Board (2010-2012)

8/2007 **Organized Mini-medical School on Pain Management briefing, U.S. Senate Health, Education, Labor, and Pensions Committee, U.S. Senate, Washington, DC**

2007–2013 Center for Healthcare Quality and Transformation

- **Board member (2007-2009)**
- Member, Research and Policy and Advisory Committee (2009-2013)

2007– National Academies of Science, Engineering & Medicine

- **Member, NAM's Health Care Services Board (reappointed for 2nd term 2010; 2007-2013)**
- **Reviewer and Review Coordinator (2008-2019)**
- **Member, Committee to Assess the Safety and Effectiveness of Compounded Pain Cream Ingredients (2019)**

2006- **Robert Wood Johnson Foundation**

- **RWJ Health Policy Fellow (2006-2009)**
- Organized RWJ Fellowship Alumni Retreat, NAM of the National Academies, Washington, DC (2008)
- Created and Founding Chair, RWJ Health Policy Fellows Lifetime Achievement Award (2008)

2008 Michigan State Medical Society's Future of Medicine Essential Benefits Work Group

2008- New York Academy of Medicine: Awards Committee (2009–2016)

2004- **Mayday Fund**

- **Inaugural Fellow, Mayday Pain and Society Fellow (2004-2005)**
- **Member, Mayday Special Committee on Pain and the Practice of Medicine (2009)**
- **Member, Mayday Special Committee on Pain and Policy (2010)**
- Member, Mayday Fellowship Advisory Committee (2011-5)

2009 C-Change Cancer Competency Advisory Committee for the Pain and Palliative Care Initiative

2009–2010 **Chair of Planning Committee, Resource for Minority Aging Research annual GSA Pre-conference Workshop – Minority Aging Research: From Science to Informing Policy**

2010 – 2014 Advisory Board Member, Achieving a Critical Mass of Women Biomedical Faculty: Impact of three U.S. Programs

2010 Reviewer, Academy Health Student Research Committee, Academy Health

2010 Member, Scientific Program Committee, Midwest Pain Society

2011– 2014 **Member, American Association for the Advancement of Science (AAAS), Board Committee on Opportunities in Science (COOS),** Washington, DC

2011 Member, Deep South Resource Center for Minority Aging Research (RCMAR) Expert Advisory Panel

2011 –2017 **Member, American Cancer Society Council for Extramural Grants**

2013– 2015 Member, AAMC Initiative on Evaluating the Research Enterprise - Health Equity Panel, Washington, DC

2014– Member, Academy Health's Diversity Round Table Panel, Washington, DC

2014–2016 Member, David E. Rogers Award Selection Committee, AAMC, Washington, DC

2014– Member, American College of Healthcare Executives, Chicago, IL

2014– Member, Aetna/Academy Health Fellowship Advisory Committee, Washington, DC

2016- Member, American Academy of Pain Medicine Leadership Development Task Force, Chicago, IL

2017- Member, Michigan State University College of Human Medicine Alumni Board

2018 Chair, MSU CHM Alumni Board Philanthropy Subcommittee

2020 - Member, Healthy Women Chronic Pain Advisory Board

2020 - Consultant (*ad hoc*), Foundation for Anesthesia Education Research (FAER)

2020- Member, Resource Centers in Minority Aging Research Scientific Advisory Board

2020- Member, Johnson & Johnson Pain Management Scientific Advisory Committee

2021- Member, American Cancer Society Research Oversight Advisory Committee

2021- Member, National Academy of Medicine Healthy Longevity Catalyst Award Competition Innovation Reviewer

University, Medical School, School of Public Health, and Institute for Social Research

1980–1983 Member, Academic Performance Committee, UM–Flint

1981- 1983 Member, Biology Department Chair Search Committee, UM-Flint

1983–1984 Member, Selection Committee for Regents Honorary Doctorate

1992–2001 Member, Quality Improvement Team, Quality Assurance Committee

1997–2001 Chair, Quality Assurance Subcommittee on Postoperative Nausea/Vomiting and Pain Control

1994-2012 Member, Anesthesiology Research Committee

1994-2006 Associate Director, Medical Student Education; Member, Education Committee

1994-2006 Coordinator, Midwest Anesthesiology Residents Conference

1995 Member, Women of Color in the Academy Speaker Series Committee

1995–1997 Member, President's Task Force for Violence Against Women

1996 - Mentor, Undergraduate Research Opportunity Program

1997 Chair, Speaker Committee, The African American Health Care Summit Planning Committee

1997-2006 Founding Director, Medical Student Summer Anesthesiology Research Preceptorship **1997–2006 Medical Director, Acute Pain Service**

1997-2005 Member, Anesthesiology Executive Committee; Chair, Administrative Task force (1999)

1997–2000 Member, Medical School Admissions Committee

1997–1999 Member, Michigan Institute for Women's Health

1997–1999	Member, Medical School Curriculum Committee: Component III & IV
1999–2000	**Chair, Executive Vice President for Medical Affairs Advisory Committee**
1999–2001	Member, Institutional Review Board Committee
1999–2002	Member, Medical Student Career Development Committee
1999–2000	Chair, Opioid Task Force for Executive Committee for Clinical Affairs
1999–2006	Member, Medical Student Mentoring and Career Development Committee
2000	Mentor, United Asian American Medical Student Association
2000-2008	Selection Committee, RWJ Clinical Scholars UMMS and Health and Society Scholars UM School of Public Health
2000–2000	Member, Search Committee for Assistant Medical School Dean for Diversity and Faculty Affairs
2000–2004	**Chair, JCAHO Pain Management Steering Committee**
2003–	Mentor, Health Sciences Scholars Program
2003	Faculty Advisor, Medical Students interested in Anesthesiology
6/2004	Member, Comprehensive Cancer Center in the Socio-Behavioral Program, UMMS
2004–2005	Member, Harold B. Johnson Diversity Award Selection Committee
2004–2006	Member, Michigan Visiting Nurses Association Board of Directors 2004–
2006	Member, Provost's Faculty Committee on Education for a Diverse Democracy
2005–2006	Faculty Advisor, Provost's Voices of Michigan Faulty Staff Communication Committee
2005–2006	Member, Health Colloquium Advisory Committee
2005–2009	**Clinical and Translational Science Award CTSA) - Michigan Institute for Clinical Health Research (MICHR):** • **Director, Health Disparities Research Program** • Member, Scientific Executive Committee • Member, Operating Committee • Member, Community Engagement Council • Member, Pediatrics Clinical Research Committee
2006	**Member, National Center for Institutional Diversity (NCID), ADVANCE Advisory Committee, UM**
2008–2009	**Member, Provost's Search Committee for Dean of Kinesiology**
2008–2017	**Member, Medical Benefits Advisory Committee (MBAC)**
2008–2011	**Elected Member, UM Senate Assembly**
2008–2010	Member, Minority Health and Health Disparities International Research Training Program, Center for Human Growth and Development, UM
2009–2012	**State of Michigan Advisory Board NCID—Urban Community College Transfers Project**
2009–2010	Member, Michigan Meetings, "The Economy and Cancer Disparities"
2010–2013	**Member, UM Provost's Academic Affairs Advisory Committee**
2011–2013	**Reviewer of promotion packages for the Provost and Executive VP for Academic Affairs**
2011–2012	Member, Center for Education for Women Scholarship Selection Committee
2011–2013	**Member, Long Term Disability Program Review Committee 2011–**
2014	**Member, Faculty Development and Mentoring Committee, UMMS**
2012–2014	Member, Society 2030 Consortium, UM, Ann Arbor, MI
2012–2013	**Member, Provost's Faculty Hiring Manual Committee -** focuses on recruiting and hiring for diversity and excellence; http://advance.umich.edu/resources/handbook.pdf
2012–	Member, The UM Women in Academic Medicine Leadership Advisory Committee, UMMS
2013–2015	**Member, NSF Advance Advisory Board, UMMS**
2013–2014	Member, Chief Communications Officer Search Committee, UMHS
2013–2014	Member, Development Leadership Advisory Group, UMHS 2013–
2015	Member, Hospitals and Health Center's CEO Cabinet, UMHS
2013–2015	Member, Dean's Cabinet, UMMS
2013–2014	Member, UMHS's Executive Group
2013– 2015	Member, Admissions Executive Committee, UMMS
2013–2014	**Member, Provost's, Vice Provost's, and Associate Dean's Group Subcommittee on Diversity**
2014–2015	Member, UMHS Chief Human Resources Officer Search Committee 2013–
2015	Member, Martin Luther King Day Health Sciences Planning Committee, UM

2014–2015	**Member, Vice Provost and Associate Deans Group Subcommittee on Diversity – developed the strategic plan for UM campus wide strategic plan for diversity**
2014-2015	Member, Clinical Learning Environment Review (CLER) for Accreditation of Graduate Medical Education Task Force, UMHS

SELECTED VOLUNTEER SERVICE WITH COMMUNITY ORGANIZATIONS

1983–1985	Student Government, Treasurer 1984-85 MSU CHM, East Lansing, MI
1988	Assistant Coach and Judge, Luke M. Powers Catholic High School Forensics Team, Flint, MI
1997–1998	Member, Michigan Health Care Initiative, Ann Arbor, MI
1997–1996	Volunteer, African American Health Care Summit, Ann Arbor, MI
1998–2006	Member, Community Dental Center Board, Ann Arbor, MI
2004	Member, Michigan Visiting Nurses Association Board of Directors, UM, Ann Arbor, MI
2007–	Food Pantry Volunteer and Grant writer for Saint Luke's New Life Center, Saint Agnes Catholic Church, Saint John Vianney Catholic Church, Flint, MI
2008–2010	Member, SafeHouse Center Board of Directors, Ypsilanti, MI

EDUCATIONAL QUALIFICATIONS

A lifelong learner, I am expert in health and healthcare and pain and pain care disparities and inequities, the social determinants of health, women's and minority health, aging, and diversity, equity and inclusion. I am an active clinical educator, innovator, and advocate. My commitment to the arts in medicine has promoted healing and understanding. I mentor learners across the biomedical and health professions pipeline. My participation in highly selective fellowship programs promoted my expertise in health and pain care policy. I have successfully translated knowledge to health professionals, the community, and policy makers (*e.g.* US Congress, NAM) via invited oral (*e.g.* Keynotes, Visiting Professor) and written presentations in a variety of venues across the globe. I am recognized for my ability to inspire and mentor for excellence and diversity. I have built successful pathway and novel leadership programs that are the genesis of inter-professional education and health care teams. I have provided expert consultation on building a critical mass for those who are underrepresented in the academy, biomedical sciences, and health professions (*e.g.* women and minorities). I have helped launch exceptional individuals who excel as professors, clinicians, teachers, and leaders across the world.

Visiting Professorships, Seminars, and Extramural Invited Presentations

Creative Works and Performances

2000	**Honorable Mention, American Society of Anesthesiologists Art Exhibit—Poetry/Literature**
2005, 2006	American Pain Society Art Exhibit – Creative Works
2015	***Soloist: Narrator and Lincoln*, Lincoln's Portrait by Aaron Copeland, UMHS' Life Sciences Orchestra Concert, Hill Auditorium (Ann Arbor, MI)**
2020	***Soloist: Journey toward the Light*, Rona is that you? 8:46, and other selected poems and prose by Carmen R. Green, Detroit Musicians Association (Detroit, MI)**

State, Federal, and Congressional Briefings and Testimony

10/2006	**"Socio-demographic factors and pain management: The case for disparities in pain care," Indiana Senate and House of Representatives, Indianapolis, IN**
11/2007	**"National pain policy: Tackling barriers to proper pain management," Invited Guest, National Pain Care Policy Act of 2007, Energy and Commerce Committee, Health Subcommittee, U.S. House of Representatives, Washington, DC**
4/2008	**"Unequal burdens and unheard voices: Unraveling disparities in pain care quality," Guest speaker, Pharmaceutical Access Symposium, Congressional Black Caucus Health Braintrust, Washington, DC**
3/2009	"Disparities, pain, and health care quality: The thieves stealing our economic advantage," Guest speaker, Wolverine Caucus Programs, Lansing, MI
7/2011	**"The science of inclusion: Racial, gender, and aging influences on pain," Guest speaker, Office for Research on Women's Health, NIH, Bethesda, MD**

5/2012 **"Chronic pain: The challenges and opportunities for the rehabilitation community," Guest speaker, National Center for Medical Rehabilitation Research Council, NIH, Bethesda, MD**

4/2015 **"Pain care disparities: Addressing the unequal burden through knowledge and policy," Guest speaker, 12th Annual National Leadership Summit on Health Disparities, Congressional Black Caucus Health Braintrust, Washington, DC**

9/2016 **"Unequal burdens and unheard voices: Disparities in Pain Management" Guest speaker, Advisory Committee for Research on Women's Health, NIH, Bethesda, MD**

7/2019 ***"Chronic pain assessment and treatment: The role of biomarkers," Guest Speaker, Social Security* Administration *at the National Disability Forum, Washington, DC***

2021 "Perspectives on the intersection of mental health and pain care for older adults, Guest speaker, National Center on Older Adults, Washington DC

2021 The impact of social determinants of health on chronic pain and pain management, NIH Pain Consortium Symposium, Washington DC

International Presentations

2/1998 "Pain management for outpatient anesthesia," Puerto Vallarta, Mexico

2/1998 "Economic issues in pain management," Puerto Vallarta, Mexico

10/2003 **"Unequal burdens and unheard voices," Guest speaker, "Pain narrative and suffering symposium," Rockefeller Foundation, Bellagio, Italy**

5/2004 "Pain medication availability in minority and Caucasian neighborhoods in Michigan: A preliminary analysis," Vancouver, BC, Canada

8/2005 "Sleep quality in African and Caucasian Americans with chronic pain," International Association for the Study of Pain, World Congress, Sydney, Australia

8/2008 "A longitudinal examination of cancer pain: severity, quality and impact on quality of life," International Association for the Study of Pain, World Congress, Glasgow, Scotland

8/2008 "Neighborhood SES, race, education, and chronic pain in working aged blacks and whites." International Association for the Study of Pain, World Congress, Glasgow, Scotland

08/2010 "Factors related to the chronic cancer pain experience among cancer survivors" International Association for the Study of Pain, World Congress, Montréal, Quebec, Canada

08/2020 "Social Inequalities and Pain," Canadian Pain Society

Commencement and Convocation Addresses

1979 "Scholarship, service, and community: The need to be more than friendly," Keynote and Address to the Class of 1979, Luke M. Powers Catholic High School Honors and Convocation, Flint, MI

1983 "Maintaining spirituality and high academic standards in changing times," Keynote, National Honor Society, Luke M. Powers Catholic High School

2015 **"Data, facts, and truth: The power of stories to eliminate healthcare inequities in our time," 51st Michigan State University College of Human Medicine Commencement Address, E. Lansing, MI**

Named, Plenary, Keynote, and Visiting Professor Presentations

2003 "The impact of patient and physician characteristics on pain management," Visiting Professor, Department of Anesthesiology, Wayne State University, Detroit, MI

2003 "Multidisciplinary acute pain management," Visiting Professor, Department of Anesthesiology Grand Rounds, Wayne State University, Detroit, MI

2005 "Unequal burdens, unheard voices: Disparities in health due to pain," Plenary, American Pain Society, Boston, MA

2005 **"Unequal burdens, unheard voices: Evidence for disparate pain care," Keynote, Physician Medical Foundation, Oakland, CA**

2005 "Unequal burdens, unheard voices: Evidence for disparate pain care," Keynote, Student National Medical Association, U of Nebraska Medical Center, Omaha, NE

2005 **"Unequal burdens and unheard voices: The case for disparities in pain care," Blaustein Lecture, Johns Hopkins University, School of Medicine, Baltimore, MD**

2006 "Unequal burdens and unheard voices: Making the case for disparities in pain care," Visiting Professor, Geriatrics Center, U of New Mexico

2006 "Unequal burdens and unheard voices: Why disparities in pain care are important to the internist," Visiting Professor, Dept of Internal Medicine, U of New Mexico

2006 "Acute postoperative pain management: The role of multidisciplinary approaches," Visiting Professor, U of New Mexico School of Medicine, Dept of Anesthesiology

2006 "Disparities in health and pain care: Time for multidisciplinary approaches and interdisciplinary research," Visiting Professor, U of New Mexico School of Medicine, Dept of Anesthesiology Grand Rounds, Albuquerque, NM

2006 "Unequal burdens and unheard voices: The role of narrative and new health policy in understanding disparities in pain care," Keynote-Sackler Lecture, Tufts Univ, Boston

2006 "Leveling the playing field: Disparities in the quality of pain care," Keynote, Forum on Disparities in Pain Care, Philadelphia, PA

2008 "Shocking and inhumane: When will we address injustices in health?" Keynote for Black History Month, Student National Medical Association, MSU CHM

2008 "Pain, disparities, and policy: Opportunities and challenges for anesthesiology," Visiting Professor-Anesthesiology, Johns Hopkins University Medical School, Baltimore, MD

2008 "Research and policy: Opportunities to hear the unheard voices and to address the unequal burden of health disparities," Keynote, Summer Undergraduate Biomedical Research Program Graduation Ceremony, Rackham School of Graduate Studies, UM, Ann Arbor, MI

2008 "Pain, disparities, and practice: Opportunities to improve health policy and health care quality," Keynote, American Academy of Pain Management annual meeting, Nashville, TN

2009 "From shamans to doctors: The village and leadership needed to create a health care system with justice for all," Selected to give the Distinguished Alumni Address, MSU CHM

2009 "The health care bubble through the lens of disparities and pain," Visiting professor, Drexel University College of Medicine, Philadelphia, PA

2009 "The health care bubble through the lens of pain research, practice, and policy," Visiting professor, University of North Carolina School of Public Health, Health Management and Policy, Institute of Gerontology, Chapel Hill, NC

2009 "Pain care disparities, research, practice and policy: An update for pharmacists," Keynote, Pain Management Symposium, Wayne State University College of Pharmacy, Detroit, MI

2010 "The pain care bubble: The role of disparities, research, practice, and health policy," Visiting professor, U of Washington, Department of Anesthesiology and Pain Medicine, Seattle, Washington

2010 "Unequal burdens and unheard voices: Disparities, pain, and health care quality," Keynote, Pain Society of Oregon 11th Annual Clinical Meeting, Portland, OR **2010 "The unequal burden and unheard voices of pain: Creating a health care system with justice for all," Dean's lecture, U of California Davis, Sacramento, CA**

2011 "Pain and health care disparities: Improving the health of an aging and diverse society," Keynote, Deep South RCMAR (Morehouse University School of Medicine, Tuskegee University, and U of Alabama at Birmingham)

2011 "The role of mentoring to improve age related health disparities," Keynote, Deep South RCMAR (Morehouse University School of Medicine, Tuskegee University, and U of Alabama at Birmingham), Birmingham, AL

2011 "Unequal burdens and unheard voices: Creating a health care system with equity for all," Keynote, National Dental Association's Women's Health Symposium, Baltimore, MD

2011 "The science of inclusion: Racial, gender, and aging influences on pain," Invited speaker, Sex Differences and Pain Research Office of Research on Women's Health (ORWH), Women's Health Seminar Series, NIH. Bethesda, MD

2011 "Pain and the science of inclusion: Racial, gender and age influences on health care quality and policy," Keynote, Health disparities and pain: Research and community impact, Weill Cornell Medical College, NY, NY

2012 "The unequal burdens and unheard voices of cancer: The scientific and ethical implications of health disparities," Keynote; The First Bioethics Conference on Cancer Health Disparities

Research, Bioethics Shared Resources group of the Morehouse School of Medicine/Tuskegee University/University of Alabama at Birmingham Comprehensive Cancer Center Partnership in Collaboration with Tuskegee University National Center for Bioethics in Research and Health Care. Tuskegee, AL

2012 "360 degrees of living well with pain," Healthier Black Elders Annual Health Reception Keynote, Wayne State University, Detroit, MI

2012 "The unequal burdens and unheard voices of cancer and pain: Using narratives, research, and policy to promote health equity and the science of inclusion," Closing Plenary, Kathleen Foley Palliative Care Retreat. Park City, UT

2013 "The history of health and pain care disparities," Grand Rounds-Anesthesiology, U of Alabama at Birmingham

2013 "Pain care and health care policy: A primer," Grand Rounds-Anesthesiology, U of Alabama at Birmingham

2013 "Building capacity: The hypotheses, mentor, and environments needed to promote inclusion and health equity for all," Grand Rounds, Minority Health and Health Research Center, U of Alabama at Birmingham, Birmingham, AL

2013 "Pain and palliative care disparities: The unequal burden and unheard voice," 46th Annual Great Lakes Oncology Nursing Conference, American Cancer Society, Troy, MI

2014 "Unequal burdens and unheard voices: Achieving the dream for health care equity for all," Grand Rounds-Internal Medicine in honor of the Rev. Dr. Martin Luther King, U of Iowa

2014 "Pain care and health care policy: A primer," Grand Rounds, Center for Pain Medicine and Regional Anesthesia, Department of Anesthesia, University of Iowa, Iowa City, Iowa

2015 "Talk health care equity: When will we address injustices in health?" Keynote, Student National Medical Association Graduation Banquet, MSU CHM

2015 "Unequal burdens and unheard voices: The pursuit for equity and inclusion in pain care" Closing keynote, Arizona State University, Scottsdale, Arizona

2016 "Unequal burdens and unheard voices: Disparities in Pain Management" Plenary Speaker for Challenges and Disparities for Underserved Populations Receiving Palliative Care. Palliative Care in Oncology, American Society of Clinical Oncology, San Francisco, CA

2017 "Unequal burdens and unheard voices: The pursuit for equity and inclusion in pain care," Keynote, 2017 Culturally Responsive Health Care in Iowa conference, University of Iowa, Iowa City, Iowa

2019 "The opioid crisis: Rethinking policy and law," Panelist, American University, Washington, DC

2019 "Racial and ethnic disparities, live pain experiences, stigma," Keynote Speaker for 2019 Healthy Women Conference. Science, Innovation & Technology Summit. Chronic Pain in Women: Focus on Treatment, Management and Barriers, Turf Valley Resort, Ellicott, MD

2020 "Rethinking comprehensive chronic pain care in a diversifying society." Napa Pain Society Keynote

2020 "Rethinking comprehensive chronic pain care in a diversifying society," Napa Pain Society, Keynote

2020 "The Unequal Burdens and Unheard Voices: The History of Disparities in Pain Care," Visiting Professor, University of Tennessee, Department of Psychology, Knoxville, TN

2021 "The Unequal Burdens and Unheard Voices of Chronic Pain: Causes and Consequences," Visiting Professor, University of Pittsburgh, VA Pittsburgh Health Care System Center for Health Equity Research, Pain Center (Clinical arm: Challenges in Managing and Preventing Pain (CHAMPP) Clinical Research Center

2021 "Implicit Bias and Unequal Voices: What It Is and How It Affects Patients?" American Society of Addiction Medicine

National Presentations

1997 "Economic issues in pain management," Children in Pain Seminar, Dearborn,

1997 "Interdisciplinary pain management & patient advocacy," Children in Pain Seminar

1997-2000 **AAMC: Junior Women in Medicine Professional Development Seminar & Minority Faculty Career Development Seminar,** Faculty: Kansas City, MO/Santa Fe, NM/Reston, VA/Bethesda, MD

- **"Characteristics of productive researchers and their environments,"**
- **"Special challenges of minority women faculty in medicine"**
- **"How to be a good mentee?"**

1997 "The new anesthetic formulary: What adjuvants should I add to my practice?" ASA, Atlanta, GA

2000 "Implementing the new JCAHO pain standards: Trials and tribulations," Operating Room Pharmacy Association, Atlanta, GA

2001 "Pain management clinical forum: Problem based learning," ASA, Dallas, TX

2002, 2003 "Pain, age, gender and ethnicity," Kaiser Permanente Pain Management Symposium, San Francisco, CA, Las Vegas, NV

2003 "The multidisciplinary approach to pain management: A primer for surgeons," American Society for Peripheral Nerve Surgery, Kauai, HI

2003 "Functional restoration following devastating injuries: Using multidisciplinary pain management approaches to improve outcomes," American Society for Peripheral Nerve Surgery, Kauai, HI

2003 "Pain management: Current clinical issues and opportunities for the underserved minority patient in pain," National Medical Association, Philadelphia, PA

2003 "Clinical decision-making in pain management: Contributions of physician and patient characteristics to variation in practice," Guest speaker, National Medical Association annual meeting, Philadelphia, PA

2003 "Chronic pain management: Race, gender, and age," Guest speaker, One Voice – Many Faces: United Against Cancer, Sponsored By Deep South Network for Cancer Control, Gulfport, MS

2003 "Chronic pain: Cultural and gender influences," Guest speaker, Midwest Pain Society, Chicago

2003 "Chronic pain management: Race, gender, and age," Guest speaker, Mini-medical School for Pain Management, One Voice – Many Faces: United Against Cancer, Deep South Network for Cancer Control, Gulfport, MS

2004 "Racial disparities in pain care," American Academy of Pain Medicine, Orlando, FL

2004 "Racial, age, and gender-related disparities in health and quality of care among patients with chronic pain: Creating a new health services research agenda," Guest speaker, Resource Centers for Minority Aging Research annual meeting, Charleston, SC

2004 "The unequal burden of pain: A quality of life and public health issue," Guest speaker

- Intercultural Cancer Council 9th Biennial Symposium on Minorities, Washington, DC
- Charles R. Drew University School of Medicine and Science, Los Angeles, CA

2004 "Racial differences in pain," Guest speaker, Kaiser Permanente Pain Management Symposium, Pain and the Primary Care Provider, Newport Beach, CA

2004 "Diversity issues in pain," Guest speaker, Kaiser Permanente Pain Management Symposium - Pain and the Primary Care Provider, Newport Beach, CA

2004 "Disparities in pain care: Patient and physician variability," Partners for Understanding Pain, Washington, DC

2004 "Disparities in pain care: The impact on minority elders," Moderator; "How do healthcare provider's attitudes and decision-making influence care," GSA, Washington, DC

2005 "Recognizing professional bias in selecting pain treatment," / "Disparities in pain care," Moderator; "Racial, ethnic, and cultural influences on chronic pain management," Speaker, American Academy of Pain Medicine annual meeting, Palm Springs, CA

2005 "The case for disparities in chronic pain care: From the laboratory to clinical practice," Moderator and speaker, American Pain Society, Boston, MA

2005 Visiting Scholar, Resource Centers in Minority Aging Research, Native Elder Research Center, U of Colorado Health Sciences Center, Denver, CO

- "Multidisciplinary acute and chronic pain management: Mini-medical school"
- "Unequal burdens, unheard voices: Racial disparities in pain care"

2005 "Social perspectives in pain management: The role of race in disparities in pain care," Guest speaker, American Alliance of Cancer Pain Initiatives, St. Louis, MO

2005 "Alumni Reflections," NIH/NIA Summer Aging Research Institute, Panelist, Queenstown, MD

2005 "Unequal burdens, unheard voices: The role for narratives in pain care disparities," Guest speaker, Psychiatric Issues Conference, East Tennessee State University College of Medicine, Johnson City, TN

2005 **ECRI Institute**, Guest speaker, ECRI Conference, Philadelphia, PA

- "The epidemiology of pain: The silent epidemic and public health crisis,"
- "Chronic pain as a health system priority: How evidence could improve policy & practice"

2005 **"Why black elders experience more pain and less relief," National Press Foundation, Reporting on the health challenges of black seniors, Detroit, MI**

2006 "Unequal burdens and unheard voices: The case for disparities in pain care," Health Colloquium, Institute of Gerontology, Wayne State University, Detroit, MI

2006 "Recognizing professional bias in selecting pain treatments," Faculty, Meet the Professor Roundtable, American Academy of Pain Medicine annual meeting, San Diego, CA

2006 "Disparities in health and pain care: Time for multidisciplinary approaches and interdisciplinary research," Guest speaker, National Hospice and Palliative Care Organization annual meeting, Washington DC

2006 "Leadership beyond the basics: promoting cultural sensitivity," Panelist, Society for Executive Leadership in Academic Medicine (SELAM) annual meeting, Bryn Mawr, PA; Aspen, CO

2006 "Through our lens," Moderator, Hedwig van Ameringen Executive Leadership in Academic Medicine, Guest speaker, Bryn Mawr, PA

2006 "Leveling the playing field: disparities in pain care," Guest speaker, American Alliance of Cancer Pain Initiatives annual meeting, Phoenix, AZ

2006 "Unequal burdens, unheard voices: Disparities in the quality of pain care," Guest speaker, American Academy of Pain Management annual meeting, Orlando, FL

2006 "The role of socio-demographic factors on pain management outcomes: Making the case for disparities in pain care," ASA, Chicago, IL

2006 "Race, ethnicity, pain, and disparities: Systems and policy factors," Association of Clinical Pharmacists, Washington, DC

2007 "Unequal burdens and unheard voices: Awakening health policy," Guest speaker, NAM of the National Academies, Washington, DC

2007 "Unequal burdens and unheard voices: The case for disparities in pain care and new health policy," Guest speaker, Wake Forest University School of Medicine, Winston-Salem, NC

2007 "Health care access/coverage," Moderator, Robert Wood Johnson Human Capital Synergy Conference, National Academy of Medicine of the National Academies of Science, Washington, DC

2007 "Reflections on a year on the hill," Robert Wood Johnson Health Policy Fellowship Alumni meeting, NAM of the National Academies of Science, Washington, DC

2008 "Differences or disparities: The role of gender in the pain experience," Guest speaker; "Racial and ethnic disparities in the pain experience: Time for the new research and policy," Guest speaker, Western Pain Society and Pain Society of Oregon Conference, Portland, OR

5/2008 "Hidden settings for health disparities in pain: Uncovering the truth and policy implications," Speaker, American Pain Society annual meeting, Tampa, FL

2008 Exploratory Workshop: Mechanisms and Management of Pain in the Elderly, NIH/NIA & Pain Consortium, NIH, Bethesda, MD

- "The role of race, ethnicity, and gender on an increasingly aging society," Guest speaker
- "Complexity of pain in the elderly," Speaker
- "Treatment and management of pain in the elderly," Moderator and Discussant

2008 "Cost of health care," RWJ Foundation Health Policy Fellowships Program, Alumni Retreat, NAM, Washington, DC

2009 "Health care reform and policy through the lens of pain research, practice, and policy," Guest speaker, Second Annual Pain Management Workshop, Minot, ND

2009 "Differences or disparities: the role of gender in the pain experience," Guest speaker; "Racial and ethnic disparities in the pain experience: Time for the new research and policy," Guest speaker,

Western Pain Society Annual Clinical Meeting "Practical Pain Management: Multi-Disciplinary Strategies for Success," Englewood, CO

2009 "Social determinants of health and health disparities," Panelist, Academy Health Annual Research Meeting, Chicago, IL

2010 "Efficacy and impact of pain agreements/contracts in the treatment of pain," Guest speaker, Center for Practical Bioethics, Kansas City, MO

2010 "The role of gender in the pain experience," Guest speaker, Pain Society of Oregon 11th Annual Clinical Meeting, Portland, OR

2010 "Pain assessment challenges in a cognitively impaired elder," Guest speaker, 23rd Annual Issues in Aging Conference, Troy, MI

2010 "Differences or disparities: The unequal burden and unheard voices of women living with pain," Guest speaker, Society for Women's Health Research Science Conference, Washington, DC

2010 "Examining disparities, pain care, and health policy," Guest speaker, Midwest Pain Society 34th Scientific Session, Northwestern University Medical Center, Chicago, IL

2010 "Disparities and pain: Examining research, practice, and policy," Guest speaker, 2010 American College of Rheumatology/Association of Rheumatology Health Professionals Conference, Atlanta, GA

2010 Making your research count: Strategies for informing minority aging policy, GSA Preconference Seminar, New Orleans, LA

- **"Overview of policy: Opportunities and challenges for minority aging policy relevant research," Speaker**
- **"Pain and palliative care in older diverse adults," Speaker**
- **"Elevator speech presentations" Your key points in 30 seconds or less," Speaker**

2010 "Ethnic and racial influences on pain care," Guest speaker, Multidisciplinary Biobehavioral Rheumatic Diseases Workshop, NIH, Bethesda, MD

2011 "Pain and health care disparities: Improving the health of an aging and diverse society." Deep South RCMAR at the University of Alabama-Birmingham – Tuskegee, AL

2011 "Cancer, pain and disparities: From research to practice to policy." American Pain Society, Austin, TX

2012 "The Impact of race, ethnicity, age, and gender on chronic pain overlapping pain conditions," Guest speaker, Exploratory Workshop: Chronic Overlapping Pain Conditions, NIH/NIDCR, NIH/NINDS, & NIH Pain Consortium, NIH, Bethesda, MD.

2012 "Global aging and pain: Research, Disparities, and Policy Considerations." American Pain Society, Honolulu, HI

2012 "Workshop: Making your research count: Strategies for informing policy." American Pain Society, Honolulu, HI

2012 "APS special session: The NAM Report: Transforming pain in America: The role of the American Pain Society." Honolulu, HI

2012 "Improvements in Pain Control," NAM of the National Academies Board on Health Care Services, Washington D.C.

2012 "Racial and ethnic differences and disparities in pain: The state of the science of inclusion," Summit on the Science of Eliminating Health Disparities, National Harbor, MD

2012 "NIH Resource centers for minority aging research: Building capacity to address health disparities of older adults," Summit on the Science of Eliminating Health Disparities, National Harbor, MD.

2013 "Unequal burdens and unparalleled opportunities: Achieving the dream for health and pain care," Martin Luther King, Jr. Symposium, Health Sciences Program, UM (http://www.youtube.com/watch?v=I_l6mT95B9s)

2013 "Pain and palliative care disparities: The unequal burden and unheard voice," Great Lakes Oncology Nursing Conference, American Cancer Society, Troy, MI

2013 "Optimal Aging and Women's Health Research at the NIH, NIA, and Beyond," Co-chair, GSA, New Orleans, LA

2013 "Conquering Pain and Fighting Attention: Policy Imperatives to Combat a Growing Health Crisis," Panelist, Research! America, Washington, DC.

2013	"History and importance of health and pain care disparities," GSA, New Orleans, LA
2013	**"Minority Health and Disparities," Moderator, National Academy of Medicine of the National Academy of Sciences Board on Health Care Services, Washington, DC**
2014	"Unequal burden of pain: Opportunities for healthcare policy," APS, Tampa, FL
2014	"Unequal Burdens and Unheard Voices: One Scholar's Pursuit for Health and Pain Care Equity," GSA, Integrating Research, Education, and Practice (REP) Symposium, Washington, DC
2021	"Can I get a yellow card: Black-white racial disparities in hospital security calls, Emory University Hospitals Patient Advocates

RESEARCH QUALIFICATIONS

I am a health services researcher with an H-index of 37. My research experience extends from clinical trials to community-based research. My health policy relevant research agenda examines how social determinants impact differences and disparities in health and pain care at the individual, institutional, and population level. The RWJ Foundation, Lance Armstrong Foundation, BCBS of Michigan Foundation, Kaiser Foundation Fund, Aetna Quality Care Fund, Harford Foundation, and NIH have supported my research. My germinal and seminal scholarship on access to quality pain care, variability in decision-making, and disparities in outcomes are highly cited (including NAM reports), covered widely by the media, have influenced national health policy, and led to federal legislation. I have served on three editorial boards, am a senior editor, was editor for a special edition of *Pain Medicine*, and am a reviewer and review coordinator for the NAM. I am also an active reviewer for scientific journals, funders, and national organizations. I serve on scientific advisory boards and councils including the NIH and American Cancer Society.

Editorial Positions, Boards, and Peer-Review Service

Editorial Boards

2002–	Editorial Board, *Pain Medicine*
2004–2005	**Guest Editor, *Pain Medicine*, Special Issue for Disparities in Pain Care**
2004–	Editorial Board, *Journal of Pain*
2004–2007	Editorial Board, *Journal of Opioid Management*
2008–	**Senior Editor, *Pain Medicine***
2020-	Editorial Advisory Board, *Practical Pain Management*

National Academies of Science, Engineering & Medicine – National Academy of Medicine

2008	**Review Coordinator –Toward Health Equity and Patient Centeredness: Integrating Health Literacy, Disparities, and Quality Improvement, Workshop Summary**
2009	**Review Coordinator –The U.S. Oral Health Workforce in the Coming Decade, Workshop Summary**
2010	Reviewer-Future Directions for the National Healthcare Quality and Disparities Reports
2011	**Review Coordinator –Public Engagement and Clinical Trials: New Models and Disruptive Technologies**
2012	**Review Coordinator –Ten Years Later: How Far Have We Come in Reducing Health Disparities?**
2015	**Review Coordinator - Advancing Health Equity for Native American Youth**
2018	**Review Coordinator – Increasing African American Males in the Medical Profession: Proceedings of a Workshop**
2019	Reviewer – The Role of Nonpharmacological Approaches to Pain Management: Proceedings of a Workshop
2019-2020	**Member, Committee to Assess the Safety and Effectiveness of Compounded Pain Cream Ingredients (2019)**
2021-	***Member, National Academy of Medicine Healthy Longevity Catalyst Award Competition Innovation Reviewer***

Selected Books and Journals

Acta Anaesthesiologica Scandinavica ***Anesthesia and Analgesia***

Anesthesiology
Annals of Long-term Care
Archives of Diseases in Childhood
Archives of Internal Medicine
Arthritis Care and Research
Cancer
Cancer Medicine
Clinical Care and Aging
Clinical Journal of Pain
DRUGS
Emergency Medicine Australia
Ethnicity and Disease
Health Affairs
Health Services Research
International Journal for Gynecology and Obstetrics
Journal of Comparative Effectiveness Research
Journal of Health Care for the Poor and Underserved
Journal of Legal Medicine
Journal of Pain
Journal of Pain and Symptom Management
Journal of Palliative Care
Journal of the American Geriatrics Society
Journal of the American Medical Association
Journal of the American Medical Women's Association
Journal of General Internal Medicine
Journal of the National Medical Association
Journal of Women's Health
Pain
Pain Medicine
Rehabilitation Psychology
Social Behavior and Personality
Social Problems
Social Science and Medicine
Teaching and Learning in Medicine
University of Michigan Press

Funders

2004	Alzheimer's Association
2006	Veteran's Administration Merit Review
2000	NIH, Research Centers in Minority Institutions (RCMI), Ponce Medical School, Ponce, PR
2002	NIH, Research Centers in Minority Institutions (RCMI), Meharry Medical College, Nashville
2004	NIH, ZRG1 BBBP-F (03)(M) Trauma and Anxiety Special Emphasis Panel
2006	Department of Defense
2005	NIH, General Clinical Research Center Clinical Trials
2006	Health Research Board – Ireland
2007	NIH, Clinical and Translational Science Awards Scientific Review
2006	Office for Vice President for Research Faculty and Grants Award Program
2008	Substance Abuse and Mental Health Services Administration
2009	Canada Foundation for Innovation (CFI) Leading Edge/New Initiatives Fund, Toronto, Ontario
2009	C-Change, Washington, DC
2010-2015	Mayday Fund
2011	NIH/NCCAM Special Emphasis Panel/Scientific Review Group 2011/05 ZAT1 PK (16)
2011– 2017	American Cancer Society
2012–2015	NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development,
2015	NIH/ NIMHD Endowment Program Review Group Special Emphasis Panel/Scientific Review Group 2016/01 ZMD1 TMV (J1) 1
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (03)
2019	Member, NINDS Special Emphasis Panel ZNS1 SRB-H (04)

Research interests

- Health care utilization and access to pain care, and provider variability in pain management decision-making
- Safety, quality, and outcomes in acute, chronic, and cancer pain management. Pain management education
- Health care and pain care policy
    - Older adult health, minority health, and women's health
    - Health care reform, access, and coverage
    - Health care disparities, quality and equity
    - Hospital security standby request errors
- Diversity in learning environments, educational equity, health equity, and inclusion science
- Medical humanities and narrative medicine
- Hospital Security Errors

Publications

Peer-Reviewed Journals and Publications

1. **Green CR**, Pandit SK, Tait AR, Schork MA, Levy L, Kothary SP: Intraoperative ketorolac has a narcotic sparing effect in women after diagnostic laparoscopy but not after laparoscopic tubal ligation. *Anesthesia and Analgesia***.** 1996; 82:732-7.
2. **Green CR**, Pandit SK, Schork MA: Preoperative fasting time: Is the traditional policy changing? Results of a national survey. *Anesthesia and Analgesia.* 1996; 83:123-8.
3. **Green CR**, deRosayro AM: Cervical epidural for the management of pain associated with digital vasculitis secondary to rheumatoid arthritis. *Journal of Regional Anesthesia.* 1997; 22:199-201.
4. #*†Salzberg-Moore, **Green CR**, Wang FL, Pandit SK, Hurd WW: The role of irrigation in the development of hypothermia during laparoscopic surgery. *American Journal of Obstetrics and Gynecology.* 1997; 176:598-602.
5. Lau WC, **Green CR**, Faerber GJ, Tait AR, Golembiewski J: Intrathecal sufentanil for extracorporeal shock wave lithotripsy provides earlier discharge of the ambulatory patient than subarachnoid lidocaine. *Anesthesia and Analgesia*. 1997; 84:1227-31.
6. **Green CR**, deRosayro AM: Selection factors in pain management fellowship programs: A survey of directors. *American Journal of Anesthesia*. 1998; 25:21-24.
7. Lau WC, **Green CR**, Faerber GJ, Tait AR, Golembiewski JA: Determination of the effective therapeutic dose of intrathecal sufentanil for extracorporeal shock wave lithotripsy. *Anesthesia and Analgesia*. 1999; 89:889-92.
8. **Green CR**: An Overview of acute postoperative pain management: Past, present, and future*. Pharmacology in Anesthesia Practice.* 1999; 1(1):2-12.
9. **Green CR**, Flowe-Valencia H, Rosenblum L, and Tait AR: Do physical and sexual abuse differentially affect chronic pain states in women? *Journal of Pain and Symptom Management.* 1999; 18(6):420-6.
10. †Green JA, **Green CR**: Calciphylaxis treated with neurolytic lumbar sympathetic block: Case report and review of the literature. *Regional Anesthesia and Pain Medicine.* 2000; 25(3):310-12.
11. Haefner, HK, Khoshnevisan, MH, Bachman, JE, Flowe-Valencia, HD, **Green CR**, Reed, BD: Use of the McGill Pain Questionnaire to compare women with vulvar pain, pelvic pain and headaches. *Journal of Reproductive Medicine.* 2000; 45(8):665-71.
12. Lau WC, Adhikary GS, Tait AR, Mathai MK, Fleischmann MD, Golembiewski JA, **Green CR**: Intrathecal sufentanil with low dose lidocaine for cystoscopy, ureteral stent, and extracorporeal shock wave lithotripsy enhances recovery when compared to intrathecal lidocaine with epinephrine*. American Journal of Anesthesia.* 2000; 27(8): 473-76.
13. †Stricker LJ, **Green CR**: Resolution of the refractory symptoms of primary/secondary erythermalgia with intermittent epidural bupivacaine. *Regional Anesthesia and Pain Medicine.* 2001; 26(5):488-90.
14. **Green CR**, Wheeler JC, Marchant B, Guerrero, E: Analysis of the physician variable in pain management. *Pain Medicine.* 2001; 2(4):317-27.
15. **Green CR**, Flowe-Valencia H, Rosenblum L, Tait AR: The role of childhood and adulthood abuse among women presenting for chronic pain management. *Clinical Journal of Pain*. 2001; 17:359-64.
16. **Green CR**, Wheeler JC, LaPorte F, Marchant B, Guerrero E: How well is chronic pain managed? Who does it well? *Pain Medicine.* 2002; 3(1):56-65.
17. **Green CR**, and Tait AR: Attitudes of health care professionals regarding different modalities used to manage acute postoperative pain. *Acute Pain.* 2002; 4(1):15-21.
18. **Green CR**, deRosayro AM, Tait AR: The role of cryoanalgesia for chronic thoracic pain: Results of a long-term follow-up. *Journal of the National Medical Association.* 2002; 94(8):716-20.
19. *__Green CR__, Wheeler JC, LaPorte F: Clinical decision making in pain management: Contributions of physician and patient characteristics to variations in practice. *Journal of Pain.* 2003; 4(1):29-39.
20. †__Green CR__, Wheeler JC, LaPorte F: Physician variability in the management of acute postoperative, and cancer pain: A quantitative analysis of the Michigan experience. *Pain Medicine.* 2003; 4(1):8-20.
21. **Green CR**, Baker TA, Smith EM, Sato Y: The effect of race in older adults presenting for chronic pain management: A comparative study of black and white Americans. *Journal of Pain.* 2003; 4(2):82-90.
22. **Green CR**, Baker TA, Sato Y, Washington TL, Smith EM: Race and chronic pain: A comparative study of young black and white Americans presenting for management. *Journal of Pain.* 2003; 4(4):176-183.

* Top requested article 2009 & 2010

†Article with student or trainee

23. ‡^+**Green CR**, Anderson KO, Baker TA, Campbell LC, Decker S, Fillingim RB, Kaloukalani DA, Lasch KE, Myers CD, Tait RC, Todd KH: The unequal burden of pain: Confronting racial and ethnic disparities in pain. *Pain Medicine.* 2003; 4(3):277-94
24. **Green CR**, Baker T, Ndao-Brumblay SK: Patient attitudes regarding health care utilization and referral: A descriptive comparison in African- and Caucasian Americans with chronic pain. *Journal of the National Medical Association*. 2004; 96(1):31-42.
25. **Green CR**, Ndao-Brumblay SK, Nagrant AM, Baker TA, Rothman E: Race, age, and gender influences among clusters of African American and White patients with chronic pain patients. *Journal of Pain.* 2004; 5(3):171-182.
26. Stevenson JG, Pearlman M, **Green CR**, Newland S, Grondin L, Thompson M, Golembiewski J, Campbell D: Altering meperidine-prescribing patterns in a university teaching hospital. *Joint Commission Journal on Quality and Safety.* 2004; 30(5):277-281.
27. Ashburn M. Caplan, RA, Carr DB, Cannic RT, Ginsberg B, **Green CR**, Lema MJ, Nickinovich DG, Rice LJ: Practice guidelines for acute pain management in the preoperative setting: An updated report by the American society of anesthesiologist's task force on acute pain management. *Anesthesiology.* 2004; 100:1573-1581.
28. **Green CR**: Racial disparities in access to pain treatment. *Pain Clinical Updates.* 2004; 12(6):1-4.
29. **Green CR**, Tait RC (Editors): Disparities in Pain Care. *Pain Medicine, Special Issue*. 2005; 6:1-102.
30. **Green CR**: Native Americans and disparities in pain care. *Pain Medicine.* 2005; 6(5):398-399. *Letter to the Editor.*
31. **Green CR**, Tait, RC, Gallagher, RM: The unequal burden of pain: Disparities and differences. *Pain Medicine.* 2005; 6(1):1-2.
32. †Baker, TA, **Green CR**: Intrarace differences among black and white Americans presenting for chronic pain management: The influence of age, physical health, and psychosocial factors. *Pain Medicine*. 2005; 6(1):29-38.
33. §**Green CR**, Ndao-Brumblay SK, West B, Washington T: Differences in prescription opioid analgesic availability: Comparing minority and white pharmacies across Michigan. *Journal of Pain.* 2005; 6(10):689-699.
34. Ndao-Brumblay SK and **Green CR**: Racial differences in the physical and psychosocial health among black and white women with chronic pain. *Journal of the National Medical Association.* 2005; 97(10):1369-1377.
35. Todd, KH, **Green CR**, Bonham VL, Haywood C, Ivy E: Sickle cell disease related pain: Crisis and conflict. *Journal of Pain.* 2006; 7(7):453-458.
36. **Green CR**, Todd KH, Lebovits A, Michael F: Disparities in Pain: Ethical Issues. *Pain Medicine*. 2006; 7(6):530-533.
37. **Green CR**: The quality of cancer pain management for racial and ethnic minority Americans: Unequal burdens and unheard voices. *Journal of Cancer Pain and Symptom Palliation.* 2006; 2(1):19-27.
38. †Fuentes M and **Green CR**: The association between race, neighborhood SES, and chronic pain in black and white elders. *Journal of the National Medical Association.* 2007; 99(10):1160-1169.
39. **Green CR**: Racial and ethnic disparities in the quality of pain care: The anesthesiologist's call to action. *Anesthesiology.* 2007; 106(1): 6-8. *Editorial*.
40. Poleshuck E, **Green CR**: Socioeconomic disadvantage and pain. *Pain*. 2008; 136 (3):235-238.
41. †Eden SV, Heisler M, **Green CR**: Racial and ethnic disparities in the treatment of cerebrovascular diseases: Importance to the practicing neurosurgeon. *Neurocritical Care.* 2008; 9(1):55-73.
42. **Green CR**, Montague L, Hart-Johnson T: Consistent and breakthrough pain in diverse advanced cancer patients: A longitudinal examination. *Journal of Pain and Symptom Management* 2009; 37(5):831-847.
43. **Green CR**: The health care bubble through the lens of pain research, practice, and policy: Advice for the new president and congress. *Journal of Pain.* 2008; 9(12):1071-1073. *Editorial*.
44. †Caldwell JA, Hart-Johnson T, **Green CR**: Body mass index and quality of life: Examining blacks and whites with chronic pain. *Journal of Pain.* 2009; 10(1):60-67.
45. †Montague L, **Green CR**: Cancer and breakthrough pain's impact on a diverse population. *Pain Medicine*. 2009: 10(3):549-561.
46. **Green CR**, Ndao-Brumblay SK, Hart-Johnson T: Sleep problems in a racially diverse chronic pain population. *Clinical Journal of Pain* 2009; 25(5):423-430.

‡ Article accompanied by an editorial; #1 cited article in journal's history (2004-)

§ Top cited paper in journal in 2005-2006 + Article accompanied by editorial ^ Top cited article in Pain Medicine

47. [**]Anderson KO, **Green CR**, Payne R: Racial and ethnic disparities in pain: Causes and consequences of unequal care. *Journal of Pain* 2009; 10(12):1187-1204.
48. Berland DW, Rodgers PE, **Green CR**, Harrison RV, Roth RS. Managing Chronic Non-Terminal Pain Including Prescribing Controlled Substances. Ann Arbor, MI: Office of Clinical Affairs, UMHS, 2009. Available from the Agency for Healthcare Research and Quality at www.guideline.gov [practice guideline] or at http://cme.med.umich.edu/pdf/guideline/pain.pdf
49. *Ndao-Brumblay SK, **Green CR**: Predictors for complementary and alternative medicine use in chronic pain patients. *Pain Medicine* 2010; 11(1):16-24.
50. **Green CR**, Hart-Johnson T: The impact of chronic pain on the health of black and white men. *Journal of the National Medical Association* 2010; 102(4):321-331.
51. **Green CR**, Hart-Johnson T: The adequacy of chronic pain management prior to presenting at a tertiary care pain center: The role of patient socio-demographic characteristics. *Journal of Pain* online 19 April 2010.
52. Hart-Johnson TA, **Green CR**: Physical and psychosocial health of elderly women with chronic pain: Comparing clusters of clinical and non-clinical samples. *Pain Medicine* 2010; 11(4):564-574.
53. **Green CR**, Hart-Johnson T: Cancer Pain: An Age-based Analysis. *Pain Medicine* 2010; 11: 1525-1526.
54. **Green CR**, Hart-Johnson T, Loeffler DR: Chronic pain in cancer survivors: Examining disparities and quality of life. *Cancer* 2011; 117:1194-2003.
55. [+]Anderson E, Arnold R, Christopher M, Duensing L, Gilson A, **Green CR**, Haywood C, Passik S, Payne R, Rich B, Robin L, Shuler N. A rose by any other name: Pain contracts/agreements. *American Journal of Bioethics.* 2010; 10(11):5-12.
56. **Green CR**: Being Present: The Role of Narrative Medicine in Reducing the Unequal Burden of Pain. *PAIN* 2011 Feb 8.
57. Chadiha LA, Washington OGM, Lichtenberg PA, **Green CR**, Jackson JS. Building a participant resource pool: A process evaluation of a community partnership recruitment strategy in the Healthier Black Elders' Initiative. *The Gerontologist.* 2011; 51(1):106-115.
58. Hart-Johnson T, **Green CR**: The impact of sexual or physical abuse history on pain-related outcomes among blacks and whites with chronic pain: Gender influences. *Pain Medicine*. 2012; 13(2): 229-242.
59. **Green CR**, Hart-Johnson: The association between race and neighborhood socioeconomic status in younger black and white adults with chronic pain. *Journal of Pain*. 2012; 13(2): 176-186.
60. Martikainen I, Pecia M, Love T, Nuechterlein E, Cummiford C, **Green CR**, Harris R, Stohler C, Zubieta J: Alterations in endogenous opioid functional measures in chronic back pain. *Journal of Neuroscience*. The Journal of Neuroscience 2013;33(37):14729-14737.
61. Martikainen I, Nuechterlein E, Peciña M, Love T, Cummiford C, **Green CR**, Stonler C, Zubieta JK. Sensory and affected symptoms in chronic back pain are associated with O_2/O_3 receptor functions in the ventral endogenous opioid system function in the amygdala.
62. [+]****Green CR**, Cowan P, Elk R, O'Neill K, Rassmussen A. NIH Pathways to Prevention Workshop: Advancing the research on Myalgic Encephalitis/Chronic Fatigue Syndrome. *Annals of Internal Medicine.* 2015;162(12):860-865. doi:10.7326/M15-0338.
63. Martikainen I, Nuechterlein E, Peciña M, Love T, Cummiford C, **Green CR**, Stohler C, and Zubieta JR. Chronic back pain is associated with alterations in dopamine neurotransmission in the ventral striatum. *J Neuroscience.* 8 July 2015, 35(27): 9957-9965; doi: 10.1523/JNEUROSCI.4605-14.2015
64. Stein J, Andrews C, Lee P, Musch D, and **Green CR**. Underdiagnosis of sight threatening ocular disease among children of less affluent families with health insurance. *Health Affairs. August 2016 vol. 35 no. 8 1359-1366*
65. Kietzman KG, Troy LM, **Green CR**, and Wallace SP. Pathways to advancing aging policy-relevant research in academic settings. *Gerontology & Geriatrics Education. 37:1, 81-102.*
66. Hall LN, Ficker LJ, Chadiha LA, **Green CR**, Jackson JS, and Lichtenberg, PA. Promoting retention: African American older adults in a research volunteer registry. *Gerontology and Geriatric Medicine. January-December 2016 vol. 2.*
67. **Green CR,** McCullough WR, Hawley JC. Visiting Black Patients: Racial disparities in security standby requests at an academic medical center. *Journal of the National Medical Association. Feb 2018:110, 37-43.* https://doi.org/10.1016/j.jnma.2017.10.009

[**] Top requested article 2010, [†]Article with a student or trainee

68. †Odukoya E, Blackwood RA, Helm C, and **Green CR**. Photo-voice: a novel method for teaching health equity to pre-health students who are underrepresented in the health sciences. *Academic Medicine (Submitted).*
69. **Green CR**, Hart-Johnson T. #BBUM Being Black at the UM: A Snapshot of cultural inclusion/exclusion using a Twitter activist campaign. *Journal of the National Medical Association (Submitted).*
70. †Ismail MA, Eldessouky A, Madden JM, and **Green CR**. The influence of support networks on quality of life and depressive symptoms in older adults with cancer and non-cancer pain. *Journal of Pain and Symptom Management (Submitted).*
71. Martikainen IK, Nuechterlein EB, Pecina M, Love TM, Cummingford CM, **Green CR**, Stohler C, and Zubieta JK. Pain expectation increases dopamine release in nucleus accumbens in chronic low back pain patients and is linked to poorer central pain regulation. *Journal of Neuroscience (Submitted).*
72. †**Green CR**, Gaston-Hawkins LA, Biljani R. Racism, policing, and COVID-19 disparities, Part 1: Discrimination, racism, and xenophobia. *Psychiatric Times.* July 2020
73. †**Green CR**, Gaston-Hawkins LA, Biljani R. Racism, Policing, and COVID-19 Disparities, Part 2: How Do We Justify Racial Disparities in 2020? *Psychiatric Times.* July 2020
74. †**Green CR**, Gaston-Hawkins LA, Biljani R. Racism, policing, and COVID-19 disparities, Part 3: We need action! *Psychiatric Times.* July 2020
75. †Gaston-Hawkins LA, **Green CR.** Leadership in our Midst: The COVID-19 Chronicles from a Public Health Trained Clinical Medical Student. *Academic Medicine* (submitted)
76. †Prabhu, P and **Green CR**. Leadership in our midst: A first-year medical student's reflections on COVID-19 PPE distribution. *Academic Medicine* (submitted)
77. †**Green CR**, Gaston-Hawkins LA, Biljani R. Discrimination, racism, and policing: Recommendations to psychiatrists. *Psychiatric Times.* Sept 2020 (in Press)
78. †**Green CR**, Solario F, Gaston-Hawkins. Racism, policing, and disparities: Recommendations for anesthesiologists. *Anesthesiology.* (submitted)
79. †**Green CR,** Gaston-Hawkins LA, Solario F, Prabhu P. Mental health and well-being, stress, and burnout amongst learners: A selective review. *Current Psychiatry Reports. (submitted)*
80. †**Green CR**, Gaston-Hawkins, Biljani R. We failed her: COVID-19 and the social determinants of health. *Pain.* (Submitted)

Books

National Academies of Sciences, Engineering, and Medicine. 2020. *Compounded Topical Pain Creams: Review of Select Ingredients for Safety, Effectiveness, and Use*. Washington, DC: The National Academies Press. Schwinn D and Miles-Jackson L (Editors) https://doi.org/10.17226/25689.

Book Chapters and Invited Contributions

1. Pandit SK, **Green CR**: General anesthetic techniques. In: International Anesthesiology Clinics, Volume 21, Number 3. Little, Brown and Company, Boston Massachusetts: 55–80, 1994.
2. **Green CR**, Pandit SK: Preoperative preparation. In: Twersky, R (Editor) Ambulatory Anesthesia Handbook. Mosby-Yearbook, St. Louis, Missouri; 171–202**,** 1995.
3. McClain BC, **Green CR**: Pediatric and geriatric medication considerations. In: Tollison CD, Satterwaite JR, Tollison JW (Editors) Practical Pain Management—Third Edition. Lippincott Williams & Wilkins, Philadelphia, Pennsylvania: 288–313, 2002.
4. **Green CR**, McPhail-Pruitt, M: Chronic pain management. In: Anderson, NB (Editor) The Encyclopedia of Health and Behavior. Sage Publications; Vol. 1:184–197, 2004.
5. **Green CR**: Unequal burdens and unheard voices: Whose pain? Whose narratives? In: Carr, DB, Loeser, JD, Morris, DB (Editors) Narrative, Pain, and Suffering, Progress in Pain Research and Management. IASP Press, Seattle, Washington: Vol. 34:195–213, 2005.
6. **Green CR**: Disparities in assessing and managing pain: The role of patient and physician variability in decision-making. In: Satcher D, Pamies P (Editors) Multicultural Medicine and Health Disparities. McGraw-Hill; 343–361, 2005.
7. **Green CR**: Racial, ethnic, and socio-demographic disparities. In: Schatman ME (Editor) Ethical Issues in Chronic Pain Management. Informa Healthcare; 95–110, 2006.

8. Thomas-Goering J, **Green CR**: Diversity and disparities in health care: Why it matters to anesthesiology. In: Johnson J (Editor) Advances in Anesthesia. Vol. 24:149–161, 2006.
9. **Green CR**: The tenth ELAM class (2004–2005) graduates and makes ELAM a STAR! *Society for Executive Leadership in Academic Medicine International News*. 2005.
10. Gordon D, **Green CR:** Hmong immigrants in the Midwest: New challenges in assessing and treating pain. *Midwest Pain Society Update*. 2006.
11. **Green CR**, Bullough AS: Pain and diversity. In: Ebert, M and Kerns, R (Editors) Behavioral and Psychopharmacologic Pain Management. Cambridge University Press. 434-446, 2016.
12. **Green CR**: In: Substance Abuse and Mental Health Services Administration. *Managing Chronic Pain in Adults with or in Recovery From Substance Use Disorders.* Treatment Improvement Protocol (TIP) Series 54. HHS Publication No. (SMA) 12-4671. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2011.
13. Green CR, Chadiha LA (Ed) (Winter 2009) Healthier Black Elders Center Community-Based Newsletter.
14. Green CR, Chadiha LA (Ed) (Spring 2010) Healthier Black Elders Center Community-Based Newsletter.
15. Green CR, Omenn GS, Unequal burdens and unheard voices: The need for minority aging research and policy. In: Bulger R (Editor) (June 2010) Health Disparities Policy. *The Institute for Multicultural and Minority Medicine.*
16. Green CR, Chadiha LA (Ed) (Winter 2010) Healthier Black Elders Center Community-Based Newsletter.
17. Green CR: Pain should be getting our attention! In: Center for Healthcare Research and Transformation. (August 2010).
18. Green CR, Chadiha LA (Ed) (Spring 2011) Healthier Black Elders Center Community-Based Newsletter.
19. Green CR, Chadiha LA (Ed) (Winter 2011) Healthier Black Elders Center Community-Based Newsletter.
20. Green CR: Disparities in pain management and palliative care. In: Moore, R (Editor) Handbook of Pain and Palliative Care. Springer; Chap 41, p. 795–808, 2012.
21. Green CR, Prabhu M: Effect of race in older African-American and Caucasian-American presenting for chronic pain management. In: Incayawar, M and Todd, K (Editors) Culture, Genes, and Analgesia: Understanding and Managing Pain in Diverse Populations. Oxford University Press; Chap. 24, 2012.
22. Green CR: Unequal burdens and unheard voices: The health implications of disparities in cancer and pain. In: Benzon HT, Rathmell JP, Wu CL, Turk DC, and Argoff CE (Editors) Raj's Practical Management of Pain, 5th Edition. Elsevier.
23. Harden JT, Green CR: African Americans and healthcare disparities: Minority aging and health disparities research progress. In: Capezuti EA, Siegler EL, Mezey MD (Editors) Encyclopedia of Elder Care, Third Edition. Springer Publishing Company; 24–29, 2013.
24. Green CR: Listening: Can storytelling transform healthcare to enhance quality and ensure equity? In: Larin L (Editor) Inspired to change: Improving patient care one story at a time. Health Administration Press; Chap. 1, 2013.
25. Belmont E, Green CR: A Legal Guide to Life-Limiting Conditions, a publication of The American Health Lawyers Association.

Internet Self-Study CME Activity

2009 Managing Chronic Non-Terminal Pain Including Prescribing Controlled Substances. Co-author. Audience: primary care clinicians and other health care providers who treat adults with this condition. (Available through the UM CME web site: cme.med.umich.edu)

Published Peer-Reviewed Scientific Abstracts

1. **Green CR**, Prasad JM, Kosanovich J: Disseminated mycobacterium chelonei in a renal transplant patient. American College of Physician, Detroit. MI; May 1989.
2. ††**Green CR**, Pandit SK, Kothary SP, Levy L, Mathai MK: Intraoperative ketorolac during laparoscopic tubal ligation demonstrates no fentanyl sparing effect postoperatively. Midwest Anesthesia Residents Conference. Indianapolis, IN; March 1992.
3. ‡‡**Green CR**, Pandit SK, Kothary SP, Levy L, Mathai MK: Intraoperative ketorolac during laparoscopic tubal ligation demonstrates no fentanyl sparing effect postoperatively. Society for Ambulatory Anesthesia. Lake Buena Vista, FL; April 1992.

†† Podium Presentations

4. **Green CR**, Pandit SK, Kothary SP, Levy L, Mathai MK: No fentanyl sparing effect of intraoperative I.V. ketorolac after laparoscopic tubal ligation. *Anesthesiology*. 1992; 77:A7.
5. ‡‡**Green CR**, Pandit SK, Wayne V: Current NPO trends in the United States: Results of a national survey. Society for Ambulatory Anesthesia annual meeting. Scottsdale, AZ; April 1993.
6. **Green CR**, deRosayro AM, Tait AR, Roth RS, Greenwald KM: Cryoanalgesia for chronic thoracic pain: Long term follow-up. *Regional Anesthesia.* 1993; 18(25):46.
7. **Green CR**, deRosayro AM, Tait AR, Roth RS, Greenwald KM: Cryoanalgesia for chronic thoracic pain: Long term follow-up. *Anesthesiology.* 1993; 79:A887.
8. **Green CR**, Pandit SK, Kothary SP, Schork AM, Tait AR: A combination of intraoperative fentanyl and ketorolac during the diagnostic laparoscopy has a narcotic sparing effect in the recovery room. *Anesthesiology.* 1993; 79:A43.
9. **Green CR**, deRosayro AM, Tait AR, Roth RS, Greenwald KM: Cryoanalgesia for chronic thoracic pain: Long term follow-up. International Association for the study of pain. 1993; Paris France.
10. **Green CR**, Pandit SK, Wayne V, Schork AM: Current NPO trends in the United States.: Results of a national survey. *Anesthesiology.* 1993; 79:A1088.
11. Green CR, Cross R, Tait AR: Anesthesiology house officers' attitudes regarding the management of acute Post-operative pain. Results of a pilot study. *Anesthesia and Analgesia.* 1995; 80:S159.
12. **Green CR**, deRosayro AM: Selection factors in pain management fellowship programs: A national survey of directors. *Anesthesia and Analgesia.* 1996; 82:S142.
13. **Green CR**, Kerr CK, Tait AR: Medical Students' Attitudes regarding the management of acute postoperative pain. *Anesthesia and Analgesia.* 1998; 86:S272.
14. **Green CR**, Malviya S, Golembiewski JA, Flowe-Valencia H, Wright CG, Naughton NN: Utilizing continuous quality improvement to evaluate the efficacy and role of intraoperative antiemetics in the prevention of postoperative nausea and vomiting. International Anesthesia Research Society. Los Angeles, CA; March 1999.
15. **Green CR**, Malviya S, Golembiewski J: Assessing the role and efficacy of intraoperative antiemetics in the prevention of postoperative nausea and vomiting (PONV) in a diverse patient population. American Society of Anesthesiologists. Dallas, TX; October 1999.
16. **Green CR**, The appropriateness of naloxone administration during the postoperative period. International Anesthesia Research Society. Honolulu, HA; March 2000.
17. **Green CR**, Wheeler JR: Do physician attitudes regarding pain management lead to the under-treatment of pain? International Anesthesia Research Society. Ft. Lauderdale, FL; March 2001.
18. **Green CR**, Ciarallo CL: Summer anesthesiology student preceptorship provides exposure for first-year medical students? International Anesthesia Research Society. Ft. Lauderdale, FL; March 2001.
19. ‡‡**Green CR**, Wheeler JC: Chronic pain in African American elders: A quality of life and mental health outcomes study. Research Centers for Minority Aging Research annual meeting. Bethesda, MD; April 2001.
20. **Green** CR, Wheeler JC, Marchant B, Guerrero E: Pain management: Which physician and patient characteristics really matter? American Pain Society. Phoenix, AZ; April 2001.
21. **Green CR**, LaPorte F, Baker T, Sato Y, Washington T: The impact of race and ethnicity on the chronic pain experience of young adults. American Pain Society. Baltimore, MD; March 2002.
22. **Green CR**, Baker T, LaPorte F, Sato Y, Smith E: The role of race and ethnicity on the chronic pain experience of older adults. American Pain Society. Baltimore, MD; March 2002.
23. **Green CR**, Wheeler JR, LaPorte F., Marchant B, Guerrero E: Physician variability in the management of acute and cancer pain. International Anesthesia Research Society. San Diego, CA; March 2002.
24. **Green CR**, Baker T, Sato Y: The impact of aging in African Americans presenting for chronic pain management. Gerontological Society of America annual meeting. Boston, MA; November, 2002.
25. **Green CR**, Nagrant AM, Baker TA: The impact of aging in Caucasian Americans presenting for chronic pain management. American Academy of Pain Medicine annual meeting. New Orleans, LA; February 2003.
26. **Green CR**, Baker T, Washington T: Health care attitudes and utilization in chronic pain patients: A comparison of African and Caucasian Americans. American Pain Society annual meeting. Chicago, IL; March 2003.
27. **Green CR**: Referral patterns of chronic pain patients: A comparison of African and Caucasian Americans. American Pain Society annual meeting. Chicago, IL; March 2003.
28. **Green CR**, Baker T, Nagrant A: The impact of race and ethnicity upon women presenting for chronic pain management. American Pain Society annual meeting. Chicago, IL; March 2003.

29. ††**Green CR**, Ndao-Brumblay SK, Baker T: The impact of chronic pain on the health of older women: A comparative study of older African and Caucasian American women. Gerontological Society of America annual meeting. San Diego, CA; November, 2003.
30. **Green CR**, Washington T, Ndao-Brumblay SK: Chronic pain's impact on health status: A comparison of perceived barriers to treatment in older African and Caucasian Americans. Gerontological Society of America annual meeting. San Diego, CA; November 2003.
31. **Green CR**, Ndao-Brumblay SK, Talarico CA, Washington TL: Chronic pain's impact on the health status of elderly women. Biennial Joint Meeting of American Pain Society and Canadian Pain Society meeting. Vancouver, BC, Canada; May 2004.
32. **Green CR**, Lin X, Ndao-Brumblay SK: Sleep quality in Black and Caucasian Americans. Biennial Joint Meeting of American Pain Society and Canadian Pain Society meeting. Vancouver, BC, Canada; May 2004.
33. ‡‡**Green CR**, Talarico CA, Calhoun CL, Kang K, Black A, Ndao-Brumblay SK: Pain medication availability in minority and Caucasian neighborhoods in Michigan: A preliminary analysis. Biennial Joint Meeting of the American Pain Society and Canadian Pain Society meeting. Vancouver, BC, Canada; May 2004.
34. **Green CR**, Ndao-Brumblay SK: The use of complementary and alternative medicine among patients with chronic pain. *Pain Medicine*. 2004; 5(1):119.
35. **Green CR**, Talarico, CA, Ndao-Brumblay, SK: The distribution of pain in elderly women: A descriptive study. *The Gerontologist*. 2004;44:379. Washington, DC, November 2004.
36. ††**Green CR**: Disparities in pain: The impact on minority elders. The role of physician decision-making and attitudes? *The Gerontologist.* 2004;44:423.
37. **Green CR**, Lin S, Ndao-Brumblay: Sleep Quality in African Americans with Chronic Pain. International Association for the Study of Pain, Sydney Australia, World Congress, August 2005.
38. **Green CR**: Disparities in chronic pain management upon initial assessment at a tertiary care pain center. American Pain Society meeting. Boston, MA, April 2005.
39. **Green CR**, Meredith M, Hart-Johnson T, Ndao-Brumblay SK: The impact of an abuse history on the health outcomes of Blacks and Whites with chronic pain. American Pain Society annual meeting. Boston, MA; April 2005.
40. **Green CR**, Ndao-Brumblay SK, Hart-Johnson T: The impact of pain in elderly women: comparing cluster of clinical and non-clinical samples. Gerontological Society of America annual meeting. Orlando, FL; November 2005.
41. **Green CR**, Ndao-Brumblay SK, Hart-Johnson T: The Role of Body Mass Index on Quality of Life Among Black and White People with Chronic Pain. American Academy of Pain Medicine. San Diego, CA; February 2006.
42. **Green CR**, Miller M, Hart-Johnson T, Ndao-Brumblay SK: The impact of an abuse history on the health outcomes of blacks and whites with chronic pain. American Pain Society. San Antonio, TX; April 2006.
43. **Green CR**, Miller M, Ndao-Brumblay SK: Disparities in chronic pain management upon initial assessment at a tertiary care pain center. American Pain Society. San Antonio, TX; April 2006.
44. **Green CR**, Ndao-Brumblay SK: Litigation and race in elder black and white men with chronic pain. Gerontological Society of America. Dallas, TX; November 2006.
45. **Green CR**, Hart-Johnson TA: Determinants of the chronic pain experience in black and white men upon initial assessment. American Academy of Pain Medicine. Orlando, FL; February 2008.
46. **Green CR**, Hart-Johnson TA: A longitudinal examination of cancer pain: Severity, quality, and impact on quality of life. American Pain Society. Tampa, FL; May 2008.
47. **Green CR**, Hart-Johnson TA: Cancer pain severity, quality, and impact on quality of life: A longitudinal examination. Academy Health. Washington, DC; June 2008.
48. **Green CR**, Hart-Johnson TA: A longitudinal examination of cancer pain: Severity, quality and impact on quality of life. International Association for the Study of Pain, World Congress, Glasgow, Scotland; August 2008.
49. **Green CR**, Hart-Johnson TA: The role of aging in the experience of cancer pain. Gerontological Society of America, National Harbor, MD; November 2008.
50. **Green CR**, Hart-Johnson TA: The prevalence of chronic pain in a large representative national sample. American Academy of Pain Medicine, Honolulu, HI; January 2009.
51. **Green CR**, Hart-Johnson TA: A longitudinal examination of neighborhood socioeconomic status and cancer pain. American Pain Society, San Diego, CA; May 2009.
52. **Green CR**, Hart-Johnson TA: A longitudinal examination of neighborhood socioeconomic factors and chronic pain outcomes. American Pain Society, San Diego, CA; May 2009.

53. **Green CR**, Hart-Johnson TA: The course of chronic pain and disparities course over time among patients at a multidisciplinary pain clinic. Academy Health, Chicago, IL; June 2009.
54. **Green CR**, Hart-Johnson T, Loeffler D: Factors related to the chronic cancer pain experience among cancer survivors. American Pain Society, Baltimore, MD; May 2010.
55. **Green CR**, Harrison G, Hart-Johnson T: The role of race and neighborhood socioeconomic status on pain persistence. American Pain Society, Baltimore, MD; May 2010.
56. **Green CR**, Chadiha L: The Impact of the economic downturn on black elders living in Detroit, Michigan. Academy Health, Boston, MA; June 2010.
57. **Green CR**, Hart-Johnson T: Factors related to the chronic cancer pain experience among cancer survivors. International Association for the Study of Pain, World Congress, Montréal, QC, Canada; August 2010.
58. **Green CR**, Stinson, D, Chadiha, LA. The Impact of Pain and the Economic Downturn on Urban Black Elders. Gerontological Society of America (GSA) 63rd Annual Scientific Meeting. New Orleans, LA; November 2010.
59. **Green CR**, Evans J, Morden M, Wells M, Stinson D, Chadiha LA. A Model Program for Educating Middle School Science Educators in Aging. Gerontological Society of America (GSA) 63rd Annual Scientific Meeting, New Orleans, LA; November 2010.
60. **Green CR**, Hart-Johnson, T. Neighborhood SES and Chronic Pain: Impact on Quality of Life of Cancer Survivors. American Pain Society Annual Scientific Meeting, Austin, TX; May 2011.
61. **Green CR**, Hart-Johnson TA. Recruiting Black Cancer Survivors for a Population Based Sample: An Analysis. American Pain Society Annual Scientific Meeting, Austin, TX; May 2011.
62. **Green CR**, Harden JT, Herr K, & Yee, B. Global aging and pain: Research, Disparities, and Policy Considerations. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
63. **Green CR**, Gilson AM, Weber C, & Zelter L. Workshop: Making your research count: Strategies for informing policy. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
64. Savage SR, Inturrisi CE, Kerns R, Saner RJ, **Green CR**, Manworren RC, Gereau RW, & Cruciani RA. APS special session: The Institute of Medicine Report: Transforming pain in America: The role of the American Pain Society. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
65. **Green CR** and Hart-Johnson T: Pain in a large national sample: An examination of age, race, and gender. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
66. **Green CR** and Hart-Johnson T: Demographics, economics, and pain: Their impact on health status in a large diverse national sample. American Pain Society Annual Scientific Meeting, Honolulu, HI, May 2012.
67. **Green CR** and Hart-Johnson T: The pain experience in a nationally representative sample of retirement aged US residents. Gerontological Society of America Annual Scientific Meeting, San Diego, CA November 2012.
68. **Green CR**, Hart-Johnson T: The pain experience in a nationally representative sample of retirement aged US residents. 32nd Annual Scientific Meeting of the American Pain Society, New Orleans, LA May 2013. *Journal of Pain*. 2013; 14(4): S102:504.
69. **Green CR**, Hart-Johnson, T: The co-occurrence of pain and cancer in a nationally representative sample of older adults. American Pain Society, Tampa, FL; May 2014.
70. **Green CR**, Hart-Johnson, T: The availability of pain medications by community and region. American Pain Society, Indian Wells, CA; May 2015.
71. Hall LN, Ficker LJ, Chadiha LA, **Green CR,** Jackson JS, and Lichtenberg, PA. Promoting retention: African American older adults in a research volunteer registry. Gerontological Society of America, New Orleans, LA; November 2016.

Mentored Midwest Anesthesia Resident Conference (MARC) – Abstracts available upon request

I have mentored abstracts with >50 pain medicine residents, anesthesiology house officers, and medical students who were presenters at the MARC. Several of these presentations became peer reviewed manuscripts and are noted in the publications section. Many were also accepted for presentations at national meetings. For brevity purposes they are not included but are available upon request.

Grants – Green CR - PI unless otherwise listed

2018-2023 NIH/NIA (5 P30 AG015281) "*Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR),"* PI: Jackson, JS; Investigator: Green, CR $~4M

2014-2017 Kaiser Permanente Foundation, *"Summer Immersion for Science Educators: Developing Novel Mentors for Diversity and Excellence to Eradicate Disparities"* - $110, 000

2012-2018 NIH/NIA (3 P30 AG015281) "*Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR),"* PI: Jackson, JS; Core Investigator: Green, CR Co-Director of Community Liaison Core, Executive Director of the Healthier Black Elders Center, Director of Health Policy and Dissemination $3,791, 504

2013-2018 NIH/NIDCR, *"UM's TMJD and Orofacial Pain Interdisciplinary Consortium (K12),"* PI: Kapila, S; Clauw, D; Investigator: Green CR, $2,789,419

2011-2017 NIH/NIA (4 P30 AG015281), *Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR)*, PI: Jackson, JS; Core Investigator: Green, CR Co-Director of Community Liaison Core, Executive Director of the Healthier Black Elders Center - $2,700,000

2011-2013 NIH/NIA (3 P30 AG015281)/MCUAAAR, *"Exploring Health and Healthcare Among Older Black Women with Disabilities,"* PI: Miller, SR Co-I: Green CR, $20, 004 2009-2014 NIH/NIDA, (R01 DA027494-01), *"Interaction of Smoking and Chronic Pain at Neurochemical and Phenotypic Levels,"* PI: Zubieta, JK Co-I: Green CR, $1,982, 724

2011-2012 UM National Center for Institutional Diversity, *"Leadership in Academic Health Centers: Examining Racial and Ethnic Minority Women's Paths"* $25,000

2009-2010 NIH/NIA (Sub: 3 P30 AG015281), *"African American Aging Summer Immersion for Science Teachers (AASIST),"* MCUAAAR PI: Jackson, JS.; Investigator: Green, CR, $75, 334

2007-2012 NIH (1 UL1 RR024986 NIH/NCRR), Michigan Institute for Clinical and Health Research (MICHR), UM Institutional Clinical and Translational Science Award (CTSA), PI: Clauw, D; Core Investigator; Green, CR; Director, Health Disparities Research Program, $49,591, 566

2007-2011 Lance Armstrong Foundation, *"Chronic Pain in Cancer Survivors: Examining Disparities and Quality of Life,"* $246, 927

2006-2009 Robert Wood Johnson Foundation, *"Robert Wood Johnson Health Policy Fellowship,*" $155, 000

2006–2013 NIH/NIDA (1 R01 DA022520) *"Neurochemistry of Opiate Abuse Risk in Chronic Pain,"* PI: Zubieta, JK; Co-I: Green, CR, $2, 300, 159

2003-2006 Blue Cross and Blue Shield of Michigan Foundation, *"Living with cancer: The quality of cancer pain management in African Americans,"* $135, 294

2002-2004 Aetna Grant-Quality Care Research Fund, *"The Health Outcomes and Quality of Care of African Americans Living with Chronic Pain,"* $149, 997

2002-2003 Claude Pepper Older Americans Independence Center, The Pepper Center, & The Harford Foundation, *"The health status and quality of life of older women living with chronic pain,"* $18,150

2000-2002 NIH Pilot-Year 4, (MCUAAAR Sub NIHAG15281), *"Chronic pain in African American elders: A quality of life and mental health outcomes study,"* $35,050

1998-2001 Aetna Grant-Quality Care Research Fund, "Evidence-based Practice Guidelines Increase Quality and Patient Satisfaction and Decrease Costs of Perioperative Care." PI: O'Reilly, M; Co-I: Green, CR. $360,000

1998-1999 Blue Cross Blue Shield of Michigan Foundation, *"Barriers to Effective Pain Management: Evaluating the Role of Physician Variability in the Management of Acute, Chronic, and Cancer Pain,"* $75,000

1997-2012 NIH/NIA (3 P30 AG015281) "*Resource Centers for Minority Aging Research (RCMAR), Michigan Center for Urban African American Aging Research (MCUAAAR),"* PI: Jackson, JS; Core Investigator: Green, CR Co-Director of Community Liaison Core, Executive Director of the Healthier Black Elders Center, Director of Health Policy and Dissemination $3,791, 504

1994-1997 UM Medical Center Diversity Grant, $100, 000

CLINICAL QUALIFICATIONS

Throughout my academic career, I have provided clinical care as part of an inter-professional care team while holding concomitant administrative positions. As part of the faculty group practice at the UM Medical Center/UMHS, my clinical activities occur in the pain center and operating rooms (general, ambulatory, and OB). As a Lecturer my clinical effort was 90% plus weekend and overnight call. As an Assistant/Associate/Full Professor I provided 80% to 50% clinical effort (*i.e.*

1 day in pain center and 2 days in the OR) plus call. As Associate Vice President and Associate Dean I provided 1 day a week in the pain center. I currently provide 100% clinical effort in the pain center. I am a consistent advocate for identifying and remediating gaps in healthcare quality. Focused on patient centered care and being a healthcare partner, I integrated culturally sensitive care to promote optimal health and well-being. Whether in migrant clinics or other clinics, my ability to actively listen to patient stories generated important clinical questions for my research and narrative medicine activities.

Certification and Licensure

National Medical Licensure

Current	DEA License No. BG1965384 (Exp. 9/30/22)

State Medical Licensure

Current	State of New York Physician License No313266 (Exp. 08/31/2023)
Current	State of Michigan Physician License No4301052368 (Exp. 4/03/23)
Current	State of Michigan Controlled Substance License No. 5315101383 (Exp. 4/03/23)

Anesthesiology Certifications

Current	American Board of Anesthesiology (ABA) Certification (4/1996); Re-certification not required - Certificate No. 27089
Current	ABA Subspecialty of Pain Management Certification (1/1997–12/2008); Re-certification (1/2009–12/2018); Recertification (1/2020-1/2029) — Certificate No. 27089

Clinical Appointments

1/2013–	Anesthesiologist: Department of Anesthesiology, UM Medical Center/UMHS
7/1992–12/2012	Anesthesiologist: General and obstetrical anesthesiology call; Department of Anesthesiology, UM Medical Center/UMHS
7/1992–12/1993	Anesthesiologist (locum tenens): general and obstetrical anesthesiology call; Howell Community Hospital, Howell, MI
7/1993–	Attending Pain Medicine Physician: acute pain service call; Multidisciplinary Pain Center/ Back and Pain Center, Dept of Anesthesiology, UM Medical Center/UMHS

EDUCATOR'S PORTFOLIO

Teaching Philosophy: I focus on developing a positive relationship with learners. Capable of identifying undervalued students, I am able to get a return on investment that benefits them and the community. By showing learners I have confidence in them and they should have confidence in themselves. **I try to give them the technical means to be confident and the emotional support to make the leap to go wherever their talent, skills, and discipline may take them.** My pedagogy is based upon the Socratic method; promoting critical thinking and using patient stories to encourage empathy. I am committed to giving each learner the tools necessary to construct a solid knowledge base using evidence, strong clinical and technical skills, and a deep appreciation of the art and science of medicine (including narrative medicine). I want to be comfortable any clinician I train can provide high-quality care and treat patients with compassion and respect. I have won awards for my educational activities.

Overview of teaching responsibilities: A firmly established clinician educator, I mentor and teach across the biomedical and health professional pipeline. I frequently provide lectures in the K-20 arena, to undergraduate and graduate students, and house officers and fellows across disciplines and programs in the classroom, at the bed side, and as a visiting professor. I have actively mentored and taught junior faculty, fellows, house officers, and students in clinical care and research. I also provide lectures to community, national, and international audiences and have done so as guest and keynote speakers at conferences and institutions. My current and former mentees are national and international award winners who excel as professors, clinicians, teachers, and leaders.

Accreditation activities: I worked on JCAHO, LCME, CLER and ACGME committees for the UMHS and at department level. Served on academic and clinical competency committees focused on house officer and medical student as well as credentialing committees for anesthesiology, pain medicine and professional societies.

Associate Director, Medical Student Education: (1996–2006) - Department of Anesthesiology**,** UMHS**,** Ann Arbor
Responsibilities: Assisted in organizing clinical experience and the lecture series for medical student rotating through the UM Anesthesiology Department. Developed and organized the Medical Student Anesthesiology Research Preceptorship Program when the number of medical students choosing an anesthesiology residency decreased. First year medical students across the country were selected to participate in an intensive eight-week research program. Organized the lecture series and research projects for student to participate in with a faculty mentor. Many students from this program went on to research fellowships and anesthesiology residency programs.

Coordinator, Midwest Anesthesia Residents' Conference (MARC): (1998 –2006) - Dept of Anesthesiology, UMMS
Responsibilities: I taught residents how to prepare abstracts, poster and oral presentations for the annual meeting. I organized practice session, standardized podium and poster presentations, improved performance and outcomes and increased program participation from four to 40 UM residents, fellows, and medical students. UM won more awards than any other residency program in the Midwest.

- Created and organized grand rounds highlighting resident research leading to a positive cultural change.
- Received Department of Anesthesiology Project of the Year Award in 2003.

Institutional Lead - UMHS
Responsibilities: I built successful educational programs for the JCAHO Pain initiative, OHEI, MICHR, MCUAAAR and professional organizations as detailed in the administrative portfolio.

Institutional Lead for JCAHO Pain Initiative: (2000-2004) - UMHS

House Officer and Staff Education

1. Developed "*Pain Management Pocket Card"* for clinicians. (Revised 2004)
2. A pain management class was included in nursing orientation and remains part of the continuing education program for staff nurses (*e.g.* nursing blitz).
3. Developed an orientation to pain management and a "Pain Management Station" for incoming UMHS clinical trainees and house officers.
4. Developed and implemented a pediatric pain management presentation for pediatric house officers.
5. Developed an on-line clinical competency focused on intravenous hydromorphone administration.
6. Initiated first successful Pain Awareness month in September 2004 at the UMHS.

Diversity, Equity, Inclusion, and Excellence: I built successful pathway programs and have helped to mentor and launch exceptional individuals at UM and beyond. I provided lectures, seminars, and durable materials for the UM, AAMC and other professional organizations on mentoring, recruiting, and hiring for excellence and diversity. I provided expert consultation on building a critical mass of those who are underrepresented in the academy, biomedical sciences, and health professions (*e.g.* women and minorities) and the special challenges of minority women in the academy and leadership as further detailed in the administrative portfolio.

Associate Vice President and Associate Dean for Health Equity and Inclusion: (2013–15) UM, UMHS and UMMS
Key accomplishments during my tenure follow.

Reengineered pipeline programs. Developed pathway and leadership programs to increase the preparation, recruitment, and retention of military dependent, first-generation, non-traditional and under-represented individuals in the health professions (medicine, nursing, pharmacy, public health) as well as medical/graduate students, house officers, and faculty.

1. High school and undergraduate learners. Launched 100 -learners on the health professional path.
   a. Significantly **increased ACT (by four following a two-week program) and MCAT scores** (following an eight-week program).
   b. **Created a novel inter-professional learning experience** using the humanities (*i.e.* photo-voice) to teach health disparities and the art of medicine to high school and undergraduate students.
   c. 100% of summer pathway learners applying to medical school were accepted into top tier medical schools; 96% increase from prior year.
2. Medical student learners.
   a. Developed Pre-Matriculation program (intensive skill building and mentoring for medical students).
   b. Served as a faculty advocate for students during academic review hearings.
   c. Created OHEI scholar program - provides a gap research year while preparing to retake USMLE.

Innovative programs created to address educational and healthcare disparities:

- Kaiser-funded, *Summer Immersion for Science Educators* – for community college professors
- NIH-funded, *African American Summer Immersion for Science Teachers* – for K-12 teachers
- NIH-funded, *Health Disparities Summer Immersion Program* - for minority health professional students
- UMHS funded, *OHEI Scholars Program* - for underrepresented UM undergraduates and medical students

Selected Mentoring

2000-2013	Tamara Baker, Ph.D. - Paul B. Cornelly Center for Research, Ethnicity Culture and Health Post-Doctoral Fellow, UM School of Public Health; Professor, Dept of Psychiatry, School of Medicine, U of North Carolina
2003-	Kayode A. Williams, MD, MBA - Anesthesiology House Officer/Pain Medicine Fellow, UMHS; Associate Professor, Anesthesiology & Pain Medicine, Johns Hopkins School of Medicine, Baltimore
2006-	Sonya Rene Miller, MD - Assistant Professor, Physical Medicine & Rehabilitation, UMHS
2008-	Sokhna (Khady) Ndao-Brumblay, PharmD, M.Sc. - Health Management & Policy Doctoral Student, UM School of Public Health: 2008-
2005-2008	Laura Montague – UM Medical Student and Hartford Scholar
2014-	Francisco Solorio, MD - UM Medical Student and OHEI Scholar, Anesthesiology resident, University of Toledo
2013-2014	Adam Eickmeyer – UM Undergraduate Honors Program Thesis; Coming Out for Change: Inter-disciplinarity's Role in Ameliorating Lesbian, Gay, Bisexual, and Queer People's Health Disparities
2014-	Julie Madden, Ph.D.- Office for Health Equity and Inclusion Postdoctoral fellow
2020-	Rahul Biljani, MD – Interventional Pain Medicine Fellow – Michigan Medicine
2020-	Lauren A. Gaston – Hawkins – UM Medical Student
2020-	Pallavi A. Prabhu – MSU CHM Medical Student
2020-	Nicole Hadler – UM Medical Student

ADMINISTRATIVE AND CLINICAL PORTFOLIO

Overview: The UM is a global premier public research university with a $9.7B endowment and 19 nationally ranked schools and colleges (all in the top ten). UMHS is a large, integrated, and matrixed academic health system. A nationally ranked educational, healthcare service, and research enterprise, it had >$435M in research expenditures and received >$400M in NIH funding for medical school faculty in 2012. Each year UMHS has >2M patient encounters, >$2.3B operating budget, >26,000 employees (including >3,300 faculty, 1,200 residents), 690 medical students, and 1,200 scientists in training.

Attending Anesthesiologist: (1993 – present) - Department of Anesthesiology, UMHS
Responsibilities: Provided perioperative and anesthesia care in the general operating rooms with specialty care in ambulatory and obstetrical anesthesia. Also provided weekly late, overnight or weekend call coverage for general, OB, ophthalmology, and pediatrics. Worked in an inter-professional care team (*e.g.* nursing, surgery, OB/GYN).

- Supervised nurses, staff, house officers, students, and CRNAs in the perioperative arena.
- Led perioperative quality improvement processes on postoperative nausea and vomiting, and pain.

Attending Pain Medicine Physician: (1993 – present) - Back and Pain Center, and Comprehensive Musculoskeletal Center (formerly Center for Interventional Pain Medicine/Multidisciplinary Pain Center), Dept of Anesthesiology, UMHS
Responsibilities: Provided culturally sensitive multidisciplinary pain care, interventional procedures, and medication management for patients with acute, chronic, and cancer pain (including underserved and vulnerable populations). Worked in an inter-professional care team (including psychology, social work, nursing, physical therapy).

- Supervised nurses, staff, house officers, students, and pain fellows.
- Developed a continuous quality improvement process for interventional procedures performed in the pain center.
- Developed a pain medicine journal club.
- Organized medical student elective and rotation in the pain center.

Medical Director, Acute Pain Service (APS): (1997–2006) - Dept of Anesthesiology, UMHS, Ann Arbor
Responsibilities: Responsible for providing high-quality perioperative pain care as well as developing the educational programs, resource materials, policies, procedures, and guidelines supporting care. Supervised care for inpatients with acute, chronic, and cancer pain. Supervised nursing (10 FTE), social work (1 FTE), pharmacy (1FTE), pain management fellows, house officers, and faculty on the APS. Services provided ranged from patient controlled analgesia (PCA), nerve blocks, medication management, consultative services (acute pain, chronic pain, cancer pain, and palliative care), and integrative, complementary, and alternative therapies (*e.g.* music therapy, therapaws, spiritual care). Care was provided for > 7,000 patients a year. These efforts were the genesis of the pain management steering committee and were pivotal for two successful JCAHO visits when pain became a key indicator for institutional healthcare quality (described below).

- Created an inter-professional care team that included medicine, nursing, social work, pharmacy, spiritual care, musical therapy, and therapy dogs.
- Developed a continuous quality assurance program to reduce medical errors and improve patient safety.

Coordinator, Midwest Anesthesia Residents' Conference (MARC): (1998 –2006) - Dept of Anesthesiology, UMMS
Responsibilities: The Midwest Anesthesia Residents' Conference is one of the largest anesthesiology conferences in the U.S. The nation's foremost conference for anesthesiology residents, a different residency program in the Midwest hosts the conference each year. I was responsible for coordinating the UM's participation: encouraging residents to present, assisting them in preparing abstracts, and organizing practice sessions. Podium and poster presentations were standardized thereby improving performance and outcomes. Enhanced faculty participation as mentors, judges, and moderators. Other institutions positively noted the professionalism, poise, and preparation when UM residents presented. When I started coordinating MARC four UM anesthesiology residents participated. Seven years later, 40 UM residents, fellows, and medical students presented, and UM won more awards than any other residency program in the Midwest.

- Created and organized a grand rounds highlighting resident research leading to a positive cultural change.
- Received Department of Anesthesiology Project of the Year Award in 2003.

Chair, UMHS Pain Management Steering Committee (PMSC) and Institutional Lead for JCAHO Pain Institute: (2000-2004)

Responsibilities: In 1999, I provided expert opinion to the JCAHO as they finalized new standards for pain assessment and management. A start-up, I became the first chair for the multidisciplinary *ad hoc* Pain Management Steering Committee; consisting of 40 healthcare professionals. The committee reported directly to the Chief of the Medical Staff (UMHS Office of Clinical Affairs) and was charged with establishing policies and guidelines that promote safe cost effective and high-quality pain management. The committee set pain management policies, monitored outcomes, reviewed adverse events, and provided guidance to the Office of Clinical Affairs to ensure high quality pain care for all patients with acute pain, chronic pain, cancer pain, and pain due to terminal illness. I provided institutional leadership for the JCAHO pain initiative and direct supervision of a nurse administrator (1 FTE) and data manager (1 FTE). The PMSC was the genesis for institutionalizing a permanent Pain and Sedation Analgesia committee (a subcommittee of the Executive Committee on Clinical Affairs). Key achievements follow:

A. Pain Management Policy
   1. Initiated and implemented first comprehensive pain management policy at the UMHS.
   2. **Changed UMHS' culture by incorporating pain assessment into the patient bill of rights.**
   3. Used evidence based guidelines to restrict and/or control meperidine use at the UMHS (designed to reduce medical errors).
   4. Used continuous quality assurance data to optimize hydromorphone use at the UMHS (designed to reduce medical errors). Created evidence based guideline for hydromorphone use.
   5. Developed and implemented an opioid analgesic contract for use at the UMHS.
   6. Developed and implemented an opioid analgesic range orders and administration policy at the UMHS; reducing medical errors.

B. Patient Education
   1. **Developed durable web based materials:** http://www.med.umich.edu/pain/
   2. Initiated and developed an educational bookmark for patients and families, *"Let's talk about Pain."* The bookmark is distributed to all patients upon admission to UMHS.
   3. Initiated "*Pain Management: The Three Rs - A Patient's Guide to Roles, Rights, and Responsibilities."* An Educational Video License was purchased and is shown three times a day on CCTV for UMHS patients and their families.
   4. Developed an educational patient brochure "*Pain management: Understand Your Aches and Pains and Take Control."* This brochure is currently located at patient information kiosks and available for distribution to all inpatients at the UMHS.

C. Staff Education
   1. Developed "*Pain Management Pocket Card"* for clinicians. (Revised 2004)
   2. A pain management class was included in nursing orientation and remains part of the continuing education program for staff nurses (*e.g.* nursing blitz).
   3. Developed an orientation to pain management and a "Pain Management Station" for incoming UMHS clinical trainees and house officers.
   4. Developed and implemented a pediatric pain management presentation for pediatric house officers.
   5. Developed an on-line clinical competency focusing on intravenous hydromorphone administration for attending physicians.
   6. Initiated first successful Pain Awareness month in September 2004 at the UMHS.

D. Quality Improvement
   1. Reviewed pain management data obtained from Press Gainey Survey, patient and family relations, and nursing documentation audits.
   2. Developed and implemented a process for patient interviews and concurrent chart reviews at the physician service level.
   3. **Two successful JCAHO visits yielding continuous accreditation without recommendations**

Co-Director, Investigator Core (2003 – 2007); Executive Director, Healthier Black Elders Center (2009 – present); and Director, Health Dissemination and Policy Initiatives (2009- present) NIH/NIA funded Michigan Center for Urban African American Aging Research (MCUAAAR): UM Institute for Social Research

Responsibilities: The MCUAAAR is a joint program between UM and Wayne State University (Detroit, Michigan). The program is funded by the NIH/NIA's Resource Centers for Minority Aging Research (RCMAR). It is designed to increase

the methodology and number of researchers equipped to perform high-quality empirically based research for an increasingly diverse and aging society. In its fourth 5-year funding cycle, MCUAAAR is one of six national RCMARs and has three cores: methods and measures, investigator development, and community.

Co-Director, Investigator Development Core. Assisted in selecting, mentoring, and training pilot investigators (junior faculty) interested in doing minority aging research. Mentored young investigators in developing their projects, manuscripts, and presentations at scientific meetings.

Director, Health Dissemination and Policy. I conceptualized and developed MCUAAAR's health policy and dissemination initiative. Uniquely positioned, the program uses health policy relevant research to inform pertinent and important research questions, address gaps in policy that may adversely impact minority elders, and disseminate policy to broader audiences.

- Conceptualized and wrote the administrative supplement; *African American Aging Summer Immersion for Science Teachers (AASIST)* which teaches science teachers about minority aging research.
- Developed a one-day GSA pre-conference workshop to help RCMAR scholars and faculty make their research more health policy relevant and to facilitate translation to broader audiences.

Co-Director, Community Liaison Core and Executive Director, Healthier Black Elders Center (HBEC). MCUAAAR's community core uses a community-based participatory research model. HBEC resides at Wayne State University's Institute of Gerontology. Community outreach, research, and education forums are the key underpinnings of the HBEC's core activities designed to engage metropolitan Detroit seniors in research. The HBEC's Community Advisory Board provides guidance for core activities including the recruitment and enrollment of minority elders into a longitudinal research database called the Participant Resource Pool (PRP). By enduring partnerships with community partners, mentoring seniors on how to access aging resources, and making seniors aware of the caliber of HBEC supported research **the PRP has retained >1600 minority elders interested in participating in research** (including clinical trials). Many PRP members are from hard to reach, understudied, and potentially vulnerable populations. They share the goal of understanding and eliminating disparities for minority elders through research, scholarly publications, and disseminating new findings and best practices in Michigan and beyond.

Director: NIH Clinical Translational and Science Award (CTSA) – Health Disparities Research Program: (2007–2009) - Michigan Institute for Clinical and Health Research (MICHR; houses UM's CTSA)
Responsibilities: Wrote the proposal and provided overall vision, direction, and leadership for MICHR's health disparities research program. This unique interdisciplinary program provides education and research as well as consultative services. Created an interdisciplinary program with representation from 10 colleges as well as 18 programs and institutes across the UM. This transformative and innovative program was designed to 1) enrich the clinical and translational research enterprise, and 2) reduce and eliminate health disparities by embedding health disparities within all cores and studies: bench to bedside, bedside to practice, practice to community, and community to policy.

- Facilitated interdisciplinary collaborations for developing research proposals (*e.g.* UM's Program for Research on Black Americans, Comprehensive Cancer Center) and educational programs (*e.g.* seminars, visiting lectures).
- Raised awareness about health disparities and increased research directed at eliminating health disparities.
- Developed junior investigators and faculty.
- Conceptualized and wrote the proposal for the NIH-funded *Health Disparities Summer Immersion Program* which teaches minority undergraduates about health disparities research.

Associate Vice President and Associate Dean for Health Equity and Inclusion: (2013–15) UM, UMHS and UMMS
Overview: Established in 2013, the UMHS Office for Health Equity and Inclusion (OHEI) is a shared service between the UMHS and UMMS. OHEI leads efforts, advises, and coordinates initiatives to enhance inclusion, diversity, and educational and health equity within and across the UMHS; a UM core value. Its primary mission is to change the language and culture of the health system, future health professionals, and scientists to ensure educational and healthcare equity and inclusion, especially the underrepresented, underserved, marginalized, and vulnerable. OHEI was dedicated to research, interventions, dissemination, and policy guidance around the issues of diversity, inclusion, health, and educational equity.

Responsibilities: The inaugural AVP/AD was responsible for one of the seven UMHS strategic priorities. Served as the health system leader in promoting health equity and inclusion, cultivating diversity among current and future faculty, staff, and learners and leaders using evidence- and science-based principles to improve outcomes. Serve as an advisor to leadership on matters of concern to those who are underrepresented in education, healthcare, and health sciences. Promoted

scholarship focusing on healthcare and educational equity and inclusion science while decreasing disparities in the clinical, educational, research, and in administrative arenas. Developed outreach initiatives to other universities.

Results: OHEI intersected with three of the seven UMHS strategic priorities while crossing all missions. A novel start-up, the Office for Health Equity and Inclusion (OHEI) introduced a transformational equity and inclusion model, created and implemented metrics to gauge employee and faculty satisfaction, and designed interventions to eliminate educational and healthcare disparities within a living healthcare system. I was involved in recruiting, developing, and retaining faculty, students, and executive officers; educating and training learners and scientists across the biomedical pipeline; developing, reviewing, and expanding research, clinical, and educational programs; and managing three OHEI programs (*i.e.* pathways, inclusion, and research)., I actively engaged and collaborated with stakeholders (*e.g.* department chairs, colleges, National Advisory Board, and the community). Key accomplishments during my tenure follow.

2. **Led turnaround and start-up.** Developed the vision, mission, goals, and strategic plan; implemented start-up and ongoing plan; identified and renovated office space; recruited and hired faculty, staff, and students; and created a national advisory board.
3. **Created pathways, inclusion, and institutional health care equity research programs** (including metrics).
4. **Designed business and financial practices.** Created operating budget (>$3M and $1.5M faculty retention fund). Provided administrative and fiscal oversight for 20 FTEs, identified additional resources to support goals, and developed communication strategies.
5. **Reengineered pipeline programs.** Developed pathway and leadership programs to increase the preparation, recruitment, and retention of military dependent, first-generation, non-traditional, and under-represented individuals in the health professions (*e.g.* medicine, nursing, pharmacy, public health). Developed programs designed to increased recruitment and retention of medical/graduate students, house officers, and faculty.

1. High school and undergraduate learners. Launched 100 learners on the health professional path.
    a. Significantly **increased ACT (by four following a two-week program) and MCAT scores** (following an eight-week program).
    b. **Created a novel inter-professional learning experience** using the humanities (*i.e.* photo-voice) to teach health disparities and the art of medicine to high school and undergraduate students.
    c. 100% of summer pathway learners applying to medical school were accepted into top tier medical schools; 96% increase from prior year.
2. Medical student learners.
    a. Developed Pre-Matriculation program (intensive skill building and mentoring for medical students).
    b. Served as a faculty advocate for students during academic review hearings.
    c. Created OHEI scholar program - provides a gap research year while preparing to retake USMLE.
3. Faculty. Enhanced recruitment, promotion, leadership, retention, and satisfaction.
4. Developed climate measures. Incorporated questions to assess employee, faculty and house officer satisfaction and climate. Audited data. Assessed factors influencing satisfaction and retention of students and employees including their attitudes, engagement, and termination using qualitative and quantitative data.
5. Employees. Initiated inclusion program which focused on recruitment, retention, termination, and leadership development. Developed new metrics to gauge employee and patient satisfaction. Implemented studies to understand healthcare and educational disparities. Implemented interventions to promote equity and inclusion within UMHS.

6. **Developed an innovative and overarching research agenda**, new lines of inquiry, and interventions to address institutional healthcare inequalities. Developed and tested hypotheses. Implemented studies to understand health care and educational disparities and implemented interventions to promote equity and inclusion within UMHS. Generated new policy, wrote manuscripts, prepared reports, and delivered presentations to leadership and scientific community.

1. Evaluated factors influencing quality of healthcare for minority and marginalized patients including examining security calls and catchment area.
    a. PI for an institutional NIH U-54 proposal to create a national mentoring network for underrepresented individuals in the biomedical sciences.
    b. PI for the Kaiser-funded Health Disparities Summer Immersion for Community College Educators. Provided expert consultation for training grant proposals and manuscripts.
2. Used "big data" to examine institutional disparities for patients and employees. Examined disparities in security calls, healthcare quality by catchment area, readmissions, and termination of employment.

3. Developed inclusion pilots for departments to decrease conscious, unconscious, and implicit biases.
7. **Created and championed the pioneering "*Talk Health Care Equity*"** (www.healthyconversation.org) campaign.
8. Philanthropy. Invigorated fundraising, cultivated donors, and facilitated minority alumni engagement.
9. LGBT healthcare. Initiated change in UMHS visitation policy. For the first time, **UMHS named a national leader in LGBT healthcare equality (Healthcare Equality Index).**

HEALTH POLICY PORTFOLIO

Founding Chair, American Pain Society's Special Interest Group (SIG) on Pain and Disparities (2003–2005)
American Pain Society, Glenview, IL
Responsibilities: Elected the first chair of the Pain and Disparities SIG. Through teamwork, a mission statement and key values were created, and a position statement developed (*e.g.* inclusion of racial and ethnic identifiers). **A highly cited selective review of the literature was written – *The unequal burden of pain: confronting racial and ethnic disparities in care* which remains one of the most cited articles in the journal, *Pain Medicine's* history (>650 citations)**. This paper raised consciousness regarding the impact of pain care disparities. Directed advocacy efforts designed to improve pain care for vulnerable populations. **Created and implemented a governance and strategic plan** to ensure the group's continued success (serves as a model for other American Pain Society's special interest groups). There were ten members when the Pain and Disparities SIG started in 2011 with more than 200 active and engaged members in 2015.

Robert Wood Johnson Health Policy Fellow: (2006 –2009) - NAM of the NAS, Washington, D.C.
Responsibilities: Participated in the premier health policy program in the U.S. during my sabbatical. This highly selective fellowship is administered through the NAM of the National Academies and is designed for mid-career health professionals. After an intensive four-month orientation, I worked in the US Senate. A general overview with specific accomplishments during my Congressional assignment (Jan to Aug 2007) follow:

A. Overview
   1. **Worked as a health policy analyst for the Health, Education, Labor, and Pensions Committee (HELP; Chair – Ted Kennedy) and the Subcommittee on Children and Families (Chair – Chris Dodd).**
   2. Key contact person and staff member for Senator Christopher Dodd on public health, public health insurance (*e.g.* Medicare, Medicaid), private health insurance, substance abuse, Alzheimer's disease, health professionals' workforce issues, disparities, NIH, and AHRQ.
   3. **Worked on the reauthorization of several programs (*e.g.* Better Pharmaceuticals for Children Act, Health Work Force, Substance Abuse and Mental Health Administration [SAMHSA], and Children's Health Insurance Program [CHIP]).**
   4. Worked on drafting and writing new legislative priorities, floor statements, speeches, letters, position statements, articles (opinion-editorials) and policy briefs for many topics including concepts around health care reform. Prepared and organized briefings, committee hearings, and testimony for the Senator and Chair. Wrote and provided healthcare policy analysis for current and emerging healthcare issues, wrote speeches and statements for the *Congressional Record*, wrote questions for hearings, analyzed and reviewed materials for executive branch nominees and wrote questions for nominees to respond to on behalf of the Senator. Briefed the Senator for upcoming hearings and votes.

B. Specific Accomplishments
   1. **Thanked in the *Congressional Record* by Senator Edward M. Kennedy [Chair- Health, Education, Labor, and Pensions (HELP)] for contributions to reauthorizing the Food and Drug Administration (FDA).** This legislation (Kennedy and Enzi; S.1082) focuses on drug and device user fees and ensuring the safety of medical products. First time age, race, and gender variables were incorporated when examining clinical outcomes.
   2. Assisted in developing the Fair Access to Clinical Trials Act, *i.e.* FACT Act (Dodd; S.467) and Food and Drug Safety Act of 2007 (Grassley; S.468). These companion pieces of legislation establish a data bank for clinical trials information and propose creating the center for post-market evaluation and research for drugs and biologics within FDA. Many components were incorporated into final passage of Prescription Drug User Fee Amendments of 2007 and the FDA Revitalization Act.
   3. **Assisted in developing the Pediatric Medical Device Safety and Improvement Act** (Dodd; S.1156), **Better Pharmaceuticals for Children Act** (Dodd; S.830) **and Pediatric Research Improvement Act** (PRIA; Rodham-Clinton; S.993). **This legislation provides incentives (*e.g.* patent extension) for testing different therapeutic modalities in the pediatric population and seeks to improve pediatric research and care.** They were passed in the FDA Revitalization Act. Assisted in preparing a HELP committee hearing and testimony for Senator Dodd addressing these companion pieces of legislation.
   4. **Led initiative to incorporate age, race, and gender variables in clinical outcomes within SAMHSA, FDA, National Pain Care Policy Act** (Capps and Rogers; HR 2994), and **Alzheimer's Breakthrough Act** (Mikulski; S.898). This **embeds the potential to examine potential disparities within statute.** Provided leadership for Minority Health Improvement and Health Disparity Elimination of 2007 Act (Kennedy; S.1526).

5. Assisted in developing the Newborn Screening Saves Lives Act of 2007 (Dodd; S.1858).
6. **Assisted in developing The Medical Education Affordability Act** (Dodd; S.1066). Required the Secretary of Education to revise and extend student loan repayment deferment regulations on the basis of economic hardship for borrowers during postgraduate medical or dental internship, residency, or fellowship programs from three to six years if (as negotiated in the Senate) successful completion is required to begin work in the profession. This bill helped many house officers to choose the specialty of their choice without worries about how to pay back their educational debt during their postgraduate training. Passed within Higher Education Act (HEA).
7. Made a health policy presentation to NAM senior leadership team - *Unequal burdens and unheard voices: Awakening health policy*.
8. **Developed National Pain Care Policy Act** (HR 2994) using a bi-partisan bicameral approach. Legislation seeks to improve the quality of pain care, pain education for patients and families, improve clinician pain care education and training, increase pain awareness by an NAM conference report on pain, establishes the NIH Pain Care Consortium in statute, and addresses disparities in pain care. **This legislation *"Advancing Research and Treatment for Pain Care Management"* became law as part of the Patient Protection and Affordable Care Act in 2010. It also led to an NAM report, and the NIH Interagency Pain Research Coordinating Committee. This legislation ultimately led to the Secretary of HHS developing the National Pain Care Strategy and other initiatives.**
9. **Developed the Children's Compassionate Care Act of 2007**. Led a bi-partisan bicameral team to introduce legislation to improve the quality of pediatric palliative care via research, education, training, and awareness. Demonstration projects and an NAM conference were included.
10. **Incorporated pain into SAMHSA reauthorization for the first time**. Contributed to the reauthorization principles. **Prepared a briefing for the Senate HELP Committee and SAMHSA leadership on the impact of pain** and the need for appropriate pain treatment as well as how pain intersects with substance abuse and mental health. An NAM study on pain, substance abuse, and mental health was proposed to improve the status of the research.
11. **Provided bi-partisan leadership on addressing methadone overdoses within SAMHSA.** Organized a bipartisan briefing for SAMHSA on the subject and worked on legislation to address the issue.
12. Assisted in developing Support for Injured Service Members Act (Dodd; S.1975) expanding the Family and Medical Leave Act (FMLA) to support service members with combat-related injuries to six months. This bill was a direct result of the recommendations from President Bush's Commission on Care for America's Wounded Warriors, and was included within final passage of the Children's Health Insurance Plan (CHIP).
13. Provided health policy analysis for Senator when reauthorizing Children's Health Insurance Program (CHIP). Provided background information and memos, wrote statements for *Congressional Record*, developed press releases and comments, policy analysis, and vote recommendations. A truly memorable experience was being in the well of the US Senate on August 2, 2007 when 68 U.S. Senators cast their votes for reauthorizing CHIP.

Chair, Public Policy Committee: (2011-2015) - American Pain Society, Glenview, IL
Results: Re-designed committee structure. A governance and strategic plan was initiated and implemented. Through teamwork, a mission statement and key values were created, and position statements were developed for the board. Directed advocacy efforts for pain research and access to high-quality pain care.

Public Policy: I have completed policy fellowships that have incorporated media training such as the Mayday Pain and Society Policy Fellowship. I have served on several federal and state governmental advisory boards and councils focusing on research and public policy including the Governor of Michigan, Secretary of Health and Human Services, CMS, NIH, Mayday Fund, and the American Cancer Society. Also provided lectures to these organizations. See page 7.

National Pain Strategy: (2013-2015)-
Overview: As a result of the National Pain Care Policy Act passed within the Affordable Care Act and in response to the NAM Report: "Relieving Pain in America" recommendations the Assistant Secretary of Health at HHS created the National Pain Strategy. The purpose was to develop a population health level strategy for pain prevention, treatment, management, and research. The final report was released in March of 2016. I served in several roles.

- Member, NIH/Health and Human Services (HHS) National Pain Strategy Working Group
- **Co-chair (with Deputy Assistant Secretary J. Nadine Gracia), NIH/HHS' National Pain Strategy Public Health: Care, Prevention, and Disparities Working Group**

- **Co-chair (with Deputy Assistant Secretary J. Nadine Gracia), NIH/HHS' National Pain Strategy Public Health: Disparities Working Group**

National Academy of Medicine: (formerly Institute of Medicine): (2007- present) – National Academy of Science, Washington, DC. I served on the NAM Healthcare Services Board (Reappointed) and have coordinated reviews for NAM books and proceedings as well as served on studies. My scholarship has also been cited in NAM's book, *"Relieving Pain in America*". I also have provided service to the RWJ health policy fellowship programs. See page 18.

Communicating for impact: With a AAA media rating, I often receive requests to contribute to the local and national discourse and to provide expert commentary to the public via the media. My scholarship has also been covered widely by national print, television, and radio including NPR, New York Times, and ABC. I have also written opinion-editorials and blogs. I have over 200 media interactions. A full list of media interactions is available upon request.

RESEARCH PORTFOLIO

Overview: I taught myself how to conduct high quality research by taking classes during vacations. I was mentored by people outside of my discipline and embraced the social sciences. To generate my research questions, my research focuses on **hearing the story of the person wearing the hospital gown and understanding their experience/community**. The genesis of my health services research agenda was curiosity about what makes some patients bend and others break and how the social determinants of health influence the pain care experience. I was undervalued stock and an atypical choice for the tenure track. I worked closely with colleagues on the clinical track to address important clinical questions. I have worked diligently to advance the research careers of individuals, including clinical and tenure track faculty, through my work at the personal, department, center, and institutional level. Over 20 years, I emerged as an expert in pain care disparities and policy, and a leader in minority, women's, and older adult health. My research generated national discussions and brought international attention to the impact of suboptimal pain care and on vulnerable populations, in particular. It has helped to generate federal health policy to promote equity in pain care for all. As a principal investigator and as part of a team, I have been instrumental in developing and expanding the biomedical enterprise at the center and institutional level.

University of Michigan Department of Anesthesiology

Principal Investigator - Michigan Pain Outcomes Study Team

Created a novel interdisciplinary health services research program focusing on acute, chronic, and cancer pain at the individual, population, and institutional level. A public health problem, I focused on health status, and healthcare and pain care disparities across the lifespan and other social determinants of health. My health policy relevant research agenda evolved to include public policy. Studies also focus on healthcare access and utilization, variability in clinician and patient pain management decision-making, and outcomes. My creativity, scholarly works, and presentations were empowered by narrative medicine (*e.g.* photo-voice) and an ability to embrace the medical humanities. My innovative scholarship expanded the disparities landscape and began critical discussions on race, ethnicity, and gender-based disparities in pain care. I led a multi-disciplinary team across institutions in writing a highly cited selective review of the literature which became one of the most cited articles in *Pain Medicine*. Overall, **more than 100 manuscripts, book chapters, and invited papers** have been generated and accompanied by editorials and media attention. The papers **are prototypical of suboptimal assessment, treatment, and outcomes for minorities, women, and low-income people**. This work led to community, keynote and scholarly scientific presentations including presentations for the NIH, NAM, and US Congress. My work has been cited by the NAM, contributed to the National Pain Care Policy Act (within the Patient Protection and Affordable Care Act), and led to the US National Pain Strategy. I have won awards at the department, university, and national level for my scholarship.

Director, Pain Medicine Research: (2003–2011) - Back and Pain Center (formerly Multidisciplinary Pain Center and Center for Interventional Pain Medicine), Department of Anesthesiology, UMHS, Ann Arbor

Responsibilities: Directed and coordinated pain management research for the pain center. I mentored faculty and house officers interested in doing pain research. A quality improvement research agenda focused on medical errors, safety, quality, and outcomes for acute, chronic, and cancer pain care was created. Metrics and databases were developed that were queried to test hypotheses addressing important clinical questions. Similar to an investigator development core, in these roles and as Coordinator for the Midwest Anesthesia Resident's Conference I mentored scholars across disciplines and the biomedical pipeline including clinical and tenure track faculty who currently enjoy productive academic and research careers.

University of Michigan Center Grants

Michigan Center for Urban African American Aging Research (MCUAAAR): MCUAAAR is a joint UM and Wayne State University NIH funded Resource Centers for Minority Aging Research. For 20 years MCUAAAR has developed the methodology and researchers to perform high-quality empirically based research focused on African American elders.

Responsibilities: As **Co-Director of the Investigator Development Core**, I helped select, mentor, and train pilot investigators interested in doing aging research and health policy relevant research among minority elders. As **Director of Dissemination** I conceptualized and wrote the novel NIH funded AASIST proposal - designed to teach high school science teachers about minority aging research. As **Co-Director of the Community Liaison Core**, I was the Executive Director for the Healthier Black Elders Center and worked closely with a community advisory board; assisted in writing manuscripts and grants; used community based participatory research principles to engage the community and promote older minority adult health and well-being in Detroit, MI; developed new research initiatives; increased the size of the participant resource pool (a registry of older minority adults willing to be contacted about research participation opportunities); and increased

the presentation of opportunities to participate in research to older minority adults while increasing their participation in research and clinical trials.

University of Michigan Institutional Grants

Clinical Translational and Science Award (CTSA) – Health Disparities Research Program: I was director for the unique health disparities research program. I conceptualized and wrote the proposal with team members. Created a transformative and innovative program with representation from 10 schools and colleges as well as 18 programs and institutes across UM and its regional campuses to enrich the research enterprise and enhance research productivity. Embedded within each CTSA core and funded studies (*i.e.* bench to bedside, bedside to practice, practice to community, and community to policy) was an innovative health disparities and equity research agenda. Facilitated new interdisciplinary collaborations and joint ventures to develop research proposals. Worked with the investigator development core to mentor faculty and scholars. Designed to enhance translational science and the biomedical pipeline, I conceptualized and wrote the NIH funded proposal – Health Disparities Summer Immersion Program to train those underrepresented in the biomedical pipeline in translational and health disparities research.

Office for Health Equity and Inclusion: As the AVP/AD I was the designated institutional official responsible for diversity for the health system. I worked across the biomedical and health professional pipeline with other institutional officials responsible for faculty, students, and research at the university, health system, and medical school level. The office focused on disparities, diversity, equity, and inclusion in learning environments and the academic health systems to include staff and patients. Metrics and research programs were developed and initiated to evaluate: 1) pathways programs, 2) inclusion programs, and 3) institutional health care equity research (including the agenda focusing on the science of inclusion).

- Created the novel *Talk Health Equity* Campaign and research project.
- Assessed factors influencing satisfaction and retention of students, faculty, staff, and employees including their recruitment, retention, and termination using qualitative and quantitative data.
- Evaluated factors influencing the quality of healthcare for minority and marginalized patients.
    - Disparities in hospital security calls
    - Disparities in readmission following bladder cancer surgery
    - Disparities in health by catchment area

Conceptualized and wrote a novel proposal that focused on teaching community college professor about health disparities while better preparing them to mentor and prepare students who are underrepresented for careers in the biomedical research and health professions. Frequently served as a consultant and submitted NIH (*e.g.* U-54) and foundation grant proposals (*e.g.* American Cancer Society, Kaiser), wrote manuscripts, and implemented studies to understand health care and educational disparities. Implemented interventions to promote health and educational equity and inclusion within a quaternary care health system for patients, staff, students, and faculty.

Research Service: I have provided significant and ongoing leadership and service to individuals and organizations as a peer-reviewer for grants and manuscripts. I have provided peer review for scientific journals, including serving as a senior editor, editor for a special edition, and for the NAM. I serve on several NIH advisory boards and NICHMD council, Secretary of Health and Human Services' Interagency Pain Research Coordinating Committee, and foundations such as the Blue Cross Blue Shield Foundation of Michigan and American Cancer Society Council on Extramural Affairs; the last level of peer review and where final funding decisions are made. I am frequently asked to be an expert consultant or mentor for individual and center grants.

Consulting Positions

2005	PI: Hastie BA; Mentor: Green CR, U of Florida College of Dentistry, Gainesville, FL; American Pain Society, Future Leaders in Pain Management Small Grants Award, Mentored Patient-Oriented Research Career Development Award – K award
2005	PI: Poleshuck E; Mentor: Green CR, University of Rochester School of Medicine Dentistry, Rochester, NY NIH, NIH, Department of Health and Human Services, Mentored Patient-Oriented Research Career, Development Award – K award
2006	PI: Zeltzer L; Consultant: Green CR, David Geffen School of Medicine, UCLA, Los Angeles, CA, NIH, Psychiatry & Biobehavioral Sciences, "Puberty and Gender Differences in Pain Responsivity," – RO1, The role of parents in children's responses: difference by puberty, sex, and pain condition"

2006 PI: Levine R; Consultant: Green CR, Wayne State University, Henry Ford Health System, Detroit, MI, NIH, Complementary and integrative medicine research, "New beginnings in end of life care: integrating complementary and alternative medicine therapies" – NIH Conference grant

2007 PI: Baker T; Consultant: Green CR, U of South Florida, Tampa, FL, NIH, National Cancer Institute Mentored Career Development Award to Promote Diversity – K award

2008 PI: Selig S; Consultant: Green CR, U of Michigan-Flint, UM-Flint Exploratory Center of Excellence-NIH P20 award

2009- PI: Tate D; Consultant: Green CR, UM, NIH, Advanced Rehabilitation Research Training Program

2009 PI: Marceau L; Consultant: Green CR, New England Research Institutes Inc., Watertown, MA
NIH, Does Tracking Chronic Pain via Electronic Diary Reduce Disparities in Care?

2009 PI: Helitzer D; Consultant: Green CR, U of New Mexico, Albuquerque, NIH, Research on Causal Factors and Interventions that Promote and Support the Careers of Women in Biomedical and Behavioral Science and Engineering

2009 PI: Zeltzer L; Consultant: Green CR, David Geffen School of Medicine, UCLA, Los Angeles, NIH, The Impact of Race/Ethnicity in Children's Laboratory Pain Supplement to 5R01DE012754-07

2009 PI: Bowman P; Consultant: Green CR, UM, NIH, Research to Understand and Inform Interventions that Promote the Research Careers of Students in Biomedical and Behavioral Sciences

2010 PI: Chadiha L; Consultant: Green CR, UM, NIH, Michigan Social Work/Nursing Bridges to Doctorate Program

2011 PI: Allman R; Consultant: Green CR, Deep South Resource Center for Minority Aging Research
U of Alabama-Birmingham, AL
Expert Advisory Panel for the Deep South Resource Center for Minority Aging Research

2012 PI: McKinlay J; Consultant: Green CR, New England Research Institute "Towards Greater Understanding of Pain: Multidisciplinary Analyses of Boston Area Community Health Survey (BACH)," Boston, MA

2012 PI: Burgess D; Consultant: Green CR, Minneapolis VA Medical Center: "A Proactive Walking Trial to Reduce Pain in Ethnically Diverse Patients," Minneapolis, MN

2012 PI: Chadiha L; Consultant: Green CR, UM School of Social Work, NIH, Michigan Social Work/Nursing Bridges to Doctorate Program

2013 PI: Balkrishnan R; Consultant: Green CR, UM School of Pharmacy, NIH "Pain medication use and outcomes in elderly Appalachian women with breast cancer"

2014 PI: Edwards-Alesii LY; Consultant: Green CR, University of North Carolina Department of Anesthesiology School of Medicine, NIH, K23

2014 PI: Tate D; Consultant: Green CR, NIH, UM

Brief History of the CUNY SOM

The Sophie Davis School of Biomedical Education (SDSBE) was founded upon CCNY's original mission of the Free Academy, which offered an affordable education to a diverse student population and strived for excellence in its wide-ranging undergraduate and graduate programs. The CUNY School of Medicine was founded upon the Sophie Davis School of Biomedical Education.

In 1970, Dr. Robert Marshak, the President of City College of New York (CCNY), had a vision to create a medical education program for "New York's poor." Professor Thomas Haines, a professor of biochemistry, emerged as a key faculty member to help President Marshak's dream become a reality. On November 24, 1972, the Board of Higher Education established a Center for Biomedical Education at CCNY to house a six-year BS/MD program in partnership with local accredited medical schools. Professor Haines became Acting Director of the Center for Biomedical Education, and was charged with establishing and designing the program, securing necessary funding and collaborative medical schools for student placements, and admitting the first cohort.

In 1973, Dr. Alfred Gellhorn, a leader in medical education, accepted an invitation to come to CCNY to create a "Center of Excellence." With grants from philanthropists Leonard and Sophie Davis (CCNY alumni), Dr. Gellhorn established on a provisional basis the Sophie Davis Center for Biomedical Education with a mission to recruit and train physicians from underserved minority populations and encourage new doctors to work in communities of greatest need. In the fall of 1973, the Sophie Davis Center of Biomedical Education opened its door to the first class of 62 students. Of the 62 students, 30 were women and 53 percent were minorities, fulfilling the intended goals and setting a precedent for future classes to be reflective of the surrounding community.

In 1977, the New York State Board of Regents granted approval to offer the biomedical education program on a permanent basis. Supported by the Commonwealth Fund and by Leonard and Sophie Davis, the biomedical education program was designed to address longstanding challenges of attracting physicians to primary care specialties and to the geographic areas of greatest need. High-achieving high school graduates were admitted to an accelerated five-year curriculum that integrated the requirements for a baccalaureate degree with the content of traditional preclinical medical education. Successful students were subsequently matched to partner accredited medical schools for completion of their clinical (clerkship) training (medical school years 3 and 4) and conferral of the MD degree. In 1978, the Center for Biomedical Education was renamed the Sophie Davis School of Biomedical Education (SDSBE). Since its founding, SDSBE has graduated more than 2,400 students. Ninety-seven percent of program completers received the MD degree.

The Sophie Davis School of Biomedical Education proved to be very successful for over forty years. In 2011, the leadership of the Sophie Davis School and of CCNY embarked on a major strategic planning process to define and determine the course of its future. A steering committee that included faculty, staff and alumni, as well as constituents from healthcare, the community and political leaders, examined the program's strengths, challenges and needs. The principal recommendation from these deliberations was to transform SDSBE from its existing structure into a fully-accredited medical school, with the three-fold aim of (a) enabling the program to further support and maintain its mission of training primary care physicians who practice in medically

underserved communities, (b) ensuring a more seamless transition of our students from the traditional basic science education years to the clerkship phase of their education, and (c) guaranteeing the availability of clerkship slots for its students. In 2012, a panel of external evaluators, including leaders in academic medicine and in BA/MD or BS/MD educational programs, also concluded that the best approach for ensuring SDSBE's sustainability would be to pursue full accreditation as an MD degree–granting program.

A preliminary proposal to develop an accredited MD program was approved by the SDSBE faculty in May 2013 and by CUNY's Board of Trustees in November 2013. In June 2015, the proposed MD program received preliminary accreditation status by the Liaison Committee on Medical Education (LCME) – the accrediting body for U.S. and Canadian allopathic medical schools. Program approval by the New York State Board of Regents was granted in 2016. In February 2016, the school was renamed the CUNY School of Medicine by the CUNY Board of Trustees, and the charter class matriculated into the MD program in the fall of 2016.

In addition to the BS/MD program, the school offers a physician assistant (PA) program leading to the Master of Science degree. Established in 1970 by physicians from New York's Harlem Hospital Center and the Columbia University School of Public Health, the program was created with the vision to train students with backgrounds as military medical corpsmen and persons with comparable civilian health care experience to care for the residents of the local community. In 1978, CUNY adopted the program as an upper-division baccalaureate program of SDSBE; in 2016, the program transitioned to a graduate program. The PA program has maintained its long-standing partnership with Harlem Hospital Center and remains committed to increasing the number of PAs of African American, Latino, and other backgrounds whose communities have been historically underrepresented and underserved in the medical field. To date, the program has graduated more than 1,000 PAs. Ninety-five percent of admitted students have been from the New York metropolitan region, where an overwhelming majority of graduates subsequently practice.

State funding:	$23.8 million
Tuition Revenues:	$12.0 million
Grants and contracts:	$ 2.0 million
Other revenues:	$ 2.8 million
Total revenue:	$41.2 million

Mission

Our mission has remained unchanged over the years to provide access to medical education to talented youth from social, ethnic and racial backgrounds historically underrepresented in medicine and to develop physicians committed to practicing in underserved communities with a special emphasis on primary care.

Admissions and Recruitment

Admission Team

The Office of Admissions includes 6 FTE employees. In total, the administrators and recruiters have more than 35 combined years of experience.

Recruitment

Entry to the 7-year BS/MD program is directly from high school. Recruitment of applicants to the CUNY SOM combines vigilant attention to area high schools, routine participation in various regional and school-based college fairs, longstanding partnerships with a network high school counselors and various enrichment programs, and most recently the initiation of our own pipeline program. The Office of Admissions staff and many current students in the school are involved in these efforts.

Students learn about Sophie Davis/CUNY School of Medicine via several mechanisms. The main way is through college fairs which occur annually in the fall and spring. These programs primarily occurred in person prior to the pandemic and are currently accomplished via virtual fairs. Outreach to students also includes hosting meetings with school counselors and college advisors. During the pandemic the meetings have been virtual. The next one is scheduled for December 2, 2021. These meetings offer opportunity to network with counselors/advisors while answering questions about our program and admissions into Sophie Davis/CUNY School of Medicine.

On November 18, 2021 The CUNY School of Medicine held its annual virtual open house where >300 guests (primarily students) attended. Community based organizations host events that we frequently attend like the annual Harlem Week held each August which includes a day dedicated to college information sessions.

We employ a team of student Medical Ambassadors who also attend college fairs and recruitment events. Participation at these events have included alumni. CUNY hosts an annual college conference attended by school counselors and college advisors representing the five boroughs, Long Island and Westchester. In addition, we have two pipeline programs: The Sophie Davis Health Professions Mentorship Program and the Health Professions Recruitment and Exposure Program (HPREP). These programs offer high school students ranging juniors to seniors, early exposure to careers in healthcare related professions. Enrolled students are tutored, mentored and provided instruction by students enrolled in CUNY School of Medicine and its faculty.

Advertisement of Sophie Davis/CUNY School of Medicine is through accessing our website which includes posting of student and alumni achievements. We advertise CUNY School of Medicine in our brochure which are mailed to students and school counselors. Social media is also a platform for advertisement and we hope to soon hire a professional to expand our presence on Facebook, Instagram and other such outlets. Students volunteering at high schools like A.P. Randolph located on the City College campus, is engagement that is both instructional and promotional.

Pipeline Programs

The CUNY School of Medicine/Sophie Davis Biomedical Education program offers two high school mentorship programs:

The **Health Professions Recruitment and Exposure Program (HPREP)** is recognized nationally in its effort to encourage underrepresented minority students to consider a career in the fields of science and medicine. Founded at Weill Cornell Medical College in the late '80s, the HPREP now exists at universities throughout the country, to provide high school students with the opportunity to explore various healthcare professions. HPREP was established at the CUNY School of Medicine/Sophie Davis Biomedical Education Program in the Spring of 2015.

Our mission is to expose underrepresented minority students from underserved communities to a variety of professions in healthcare, and to empower students to see themselves as exceptional, equipped, and highly capable, while creating opportunities for medical students to serve as leaders in their community. Participants in the HPREP are introduced to various healthcare professions through guest speakers and other activities. Although sessions are held at the Sophie Davis Biomedical Education Program/CUNY School of Medicine located at the City College of New York, in 2020-21 the sessions were held virtually. Student experiences are enriched by presentations in medicine. as they interact with physicians and current medical school students. The goal is to prepare each student with the necessary knowledge, insight, and experience that will support their decision-making regarding their future career. It serves to expose, inspire, recruit, and mentor aspiring minority high school students who are interested in medicine, science, and/or research.

HPREP students will typically engage in activities such as:

- Mentorship
- Visits to the Gross Anatomy Lab, a unique experience for students to learn about Anatomy by examining cadavers
- Clinical skills training such as blood pressure measurement and problem-based learning (PBL) workshops
- Medical lectures provided by CSOM/Sophie Davis students, faculty and staff members
- Networking with the CSOM/Sophie Davis community and gaining knowledge about the CSOM admissions process

The **Health Professions Mentorship Program** is for rising high school juniors who are considering a career in the health field, such as medicine, nursing, physician assistant, occupational therapy, public health, and research. The Health Professions Mentorship Program requires a two year commitment and includes two four-week summer sessions following the sophomore and junior years of high school, as well as monthly Saturday sessions. Students will conduct a community based project in which they will take part in recognizing challenges and developing solutions to health care problems in New York City. Students observe and discuss the social and economic determinants of health and disease, and explore how different health care professionals address these issues to improve the health of communities.

Mentorship sessions include presentations, group seminars, and problem-solving experiences led by CUNY School of Medicine faculty and students. Topics include current health challenges as well as an overview of the specific career paths designed to address them. During the Fall, Winter, and Spring seminars, medical students mentor and help high school students build the knowledge and skills needed to become a successful college student.

A pipeline program designed to provide the initial academic skill development and health care career exposure to high school students who are underrepresented in health professions. Thirty participants are recruited annually from the five New York City boroughs, Long Island, and upstate New York, and must be rising high school juniors. Thirty percent of participants are Hispanic, 33% Black and 2/3 are from economically disadvantaged high schools.

Results:

- Over the past five years, the program has graduated 120 students
- One hundred percent of the graduates enrolled in a college or university
- Sixty percent of the students have pursued a healthcare related major in college
- An average of five students over five years have enrolled Sophie Davis/CUNY School of Medicine
- Approximately 6% of students admitted to the Sophie Davis/CUNY School of Medicine between 2017 and 2021 are graduates of the Health Professions Mentorship Program. The first cohort of pipeline alums will graduate from Sophie Davis/CUNY School of Medicine in 2024.
- Currently, there are twenty-one pipeline alums enrolled at CUNY School of Medicine.

Admissions Process

The Sophie Davis/CUNY School of Medicine utilizes a holistic admissions process that closely follows recommendations of the Association of American Medical Colleges. The program assesses each applicant's unique experiences alongside traditional measures of academic achievement such as grades and test scores. Recruitment activities result in an applicant pool of slightly more than 1,000 applicants annually. Approximately 25 percent of the applicant pool is interviewed following a thorough review of applications, including academic performance, participation in school activities and community service. Invited applicants receive three interviews: one from a current student and two from faculty or staff of the School, including one who is a member of the Admissions Committee. The Admissions Committee ranks applicants based on whole file review and presentation by the interviewer to the full committee.

Our Fall 2021 Entering Class

We continue to be successful in enrolling students from communities underrepresented in the medical field. In addition, other noteworthy statistics are:

- 62 percent of the cohort are females, 38 percent are males
- 75 percent of the class are from groups traditionally underrepresented in medicine (48% Black/African American; 27% Hispanic/Latinx)
- 59 percent of the matriculated students are sons and daughters of immigrants; and 11 percent are immigrants themselves for a total of 70 percent
- 73 percent of the cohort are from the five boroughs of New York City:

- Bronx 7%
- Brooklyn 16%
- Manhattan 26%
- Queens 20%
- Staten Island 4%

25 percent are from Long Island, Upstate New York and Westchester:

- Long Island (Suffolk and Nassau counties) 18%
- Upstate New York and Westchester 7%

2% of the cohort are out-of-state students.

A complete list of high schools from which CUNY SOM students have been recruited is appended at the end of this document.

Sophie Davis / CUNY School of Medicine	**Year of Admission, 2013 through 2021**									**9-Year Average**
	2013	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	
Number of Applicants	705	909	1038	1015	1004	1011	1030	1041	1399*	**1017**
Interviewed	224	199	223	249	293	326	279	284	341	**269**
Admitted	94	101	114	113	115	92	104	97	102	**104**
Percentage Admitted	13%	11%	11%	11%	11%	9%	10%	9%	7%	**10%**
Matriculated	74	80	89	90	95	76	73	84	90	**83**
Percent Matriculated	79%	79%	78%	80%	83%	83%	70%	87%	88%	**81%**
African American Male Enrollment	8	6	12	13	10	12	11	9	10	**10**

***** The increase in applications in 2021 is wholly consistent with trends at medical schools across the country. The Association of American Medical Colleges (AAMC) reported an increase of more than 7,500 additional applicants in 2020. According to the AAMC: "Experts don't know exactly what's behind the increase, but they point to several likely factors. Some are rather mundane, including students having more time to focus on applications as college classes moved online. But at least some of this year's applicants are driven by COVID-19 patients' terrible suffering and front-line providers' extraordinary heroism." (https://www.aamc.org/news-insights/applications-medical-school-are-all-time-high-what-does-mean-applicants-and-schools).

ENROLLMENT BY Race/ETHNICITY, Entering classes 2013-2021									
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Black/African American	27	24	29	35	37	30	30	33	43
White	15	11	12	6	13	7	7	10	2
Hispanic/Latinx	19	13	13	21	12	16	11	15	24
Asian	24	30	34	27	32	23	23	24	19
Unknown/Other	1	0	2	0	1	0	2	2	1
Total	86	78	90	89	95	76	73	84	89

Tuition and Financial Aid

The CUNY SOM students pay the CUNY undergraduate tuition of $6,900/year for the first three years of the program (the baccalaureate college years) and $41,000/year for the medical school years (years 4-7). Currently, during the collegiate years of the program (years 1-3), most students approximately 80 receive financial support in the form of need-based federal and state aid, merit-based scholarships, or both.

Among the 259 undergraduate Sophie Davis students in 2020, nearly half (45.9%; n=119) are from low-income households and qualify for New York Tuition Assistance Program (TAP) and Pell grants, as well as need-based programs and benefits such as SNAP. Financial aid data further suggest that an additional 39.7% (n=113) are eligible for Pell based upon relatively low income status. Thus, 85.6% of our undergraduate students are eligible for need-based financial aid. In the 2021 academic year, 79% of the program's undergraduate students received financial aid (loans and scholarships).

For medical school and graduate school years, federal and state grants (e.g. Pell and Tap) are not available. Thus, financial aid for MD students is often in the form of loans. The CUNY SOM Office of Financial Aid and the Office of Student Affairs keep students apprised of funding opportunities through both on-campus and off-campus programs.

Although CUNY SOM has the least expensive tuition of all medical schools in the state, the tuition burden is high, considering the socioeconomic status of students we recruit. In 2020-2021 academic year, we awarded $559,800 in scholarship support to students, primarily through institutional funds; the average award was $10,360. We work continually and diligently to find opportunities to establish scholarships for our students through our development office.

New York's Medical Schools	Tuition, 2021-22
Albany Medical College	$ 57,598
Albert Einstein College of Medicine	$ 56,704
Columbia - Vagelos College of Physicians & Surgeons	$ 66,816
CUNY School of Medicine	***$ 41,600***
Hofstra - Zucker School of Medicine	$ 54,525
Mount Sinai - Icahn School of Medicine	$ 60,405
New York Medical College	$ 56,925
New York University School of Medicine	$ 58,226
SUNY Buffalo - Jacobs School of Medicine & Biomedical Sciences	$ 43,670
SUNY Downstate College of Medicine	$ 43,670
SUNY Stony Brook - Renaissance School of Medicine	$ 43,670
SUNY Upstate Medical University	$ 43,670
University of Rochester School of Medicine & Dentistry	$ 64,000
Weill-Cornell College of Medicine	$ 62,650

Student Demographic Information

Medical School Enrollment by Race/Ethnicity
Academic Year 2021-22

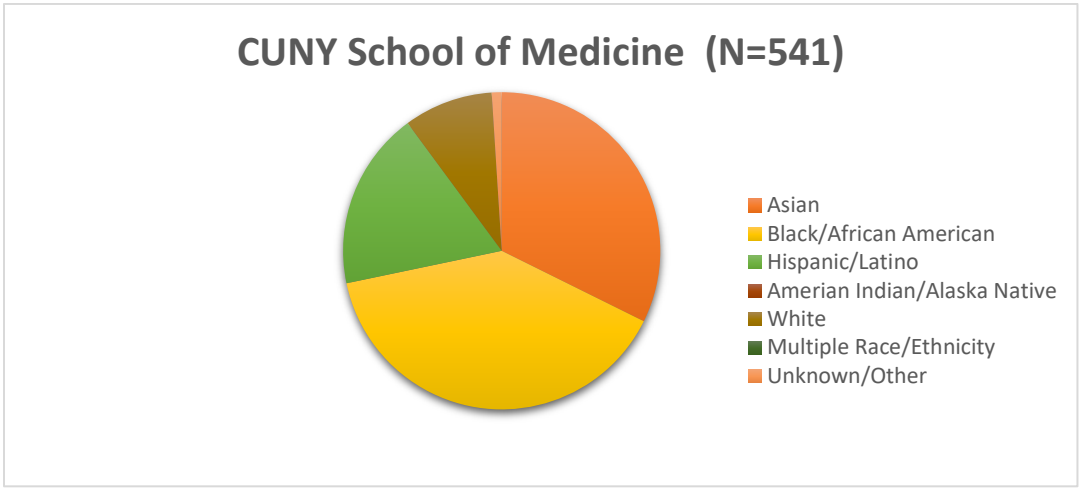
BS/MD Students	CUNY School of Medicine (N=541)	New York Medical Schools (N=8,871)	U.S. Medical Schools (N=95,475)
Asian	32%	27%	23%
Black/African American	39%	8%	8%
Hispanic/Latino	18%	6%	7%
American Indian/Alaska Native	0%	< 1%	< 1%
White	9%	43%	47%
Multiple Race/Ethnicity	0%	10%	10%
Unknown/Other	1%	4%	3%

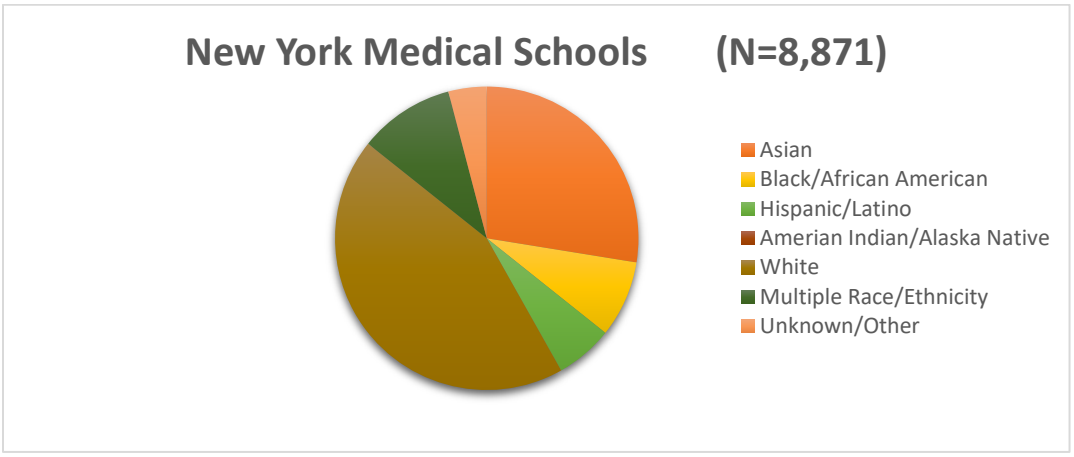
PA Students, Classes of 2020-2024 (N = 169)		Nationally Certified PAs (N = 139,675)*
Asian	34%	6%
Black/ African American	23%	4%
Hispanic/Latino	24%	7%
White	12%	87%
Native Hawaiian/Pacific Islander	0	< 1%
American Indian or Alaskan Native	0	< 1%
Other	0	3%
Multiple Race/Ethnicity	7%	2%
Preferred Not to Answer	0	4%

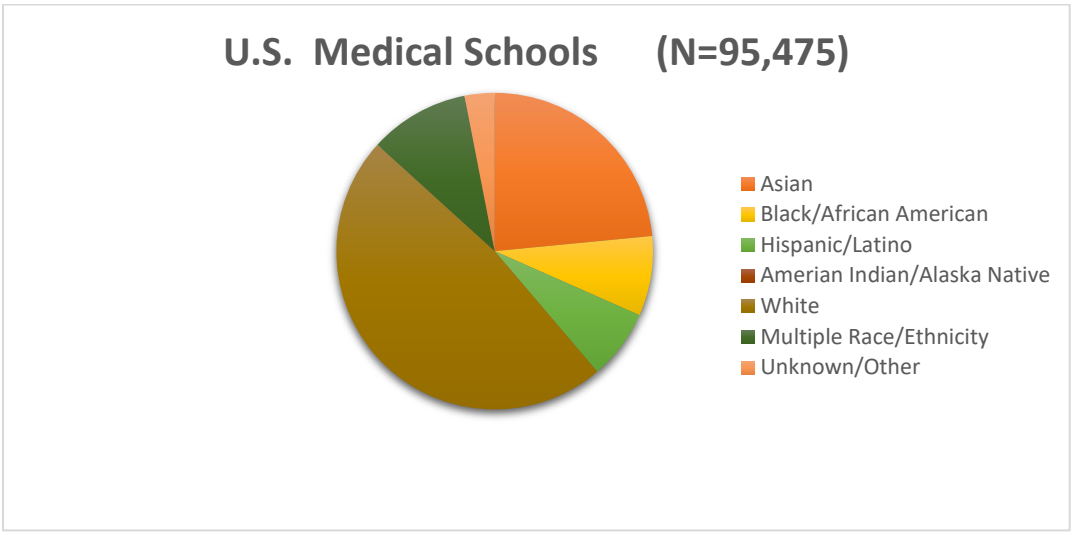
*2019 Data

First Generation Students	BS/MD students	PA students
first generation to attend college	29%	59%
first generation born in the U.S.	69%	58%

Medical School Enrollment by Race/Ethnicity
Academic Year 2021-22







Academic Performance

CUNY SOM MD students have demonstrated academic performance and graduation rates on par with the national mean.

4-Year Medical School Graduation Rates
US Medical Schools (1996-2016)* = 81.6% – 84.1%
CUNY School of Medicine: Class of 2020 = 85% (2% still in progress) Class of 2021 = 82% (8% still in progress)

* Source: Association of American Medical Colleges (AAMC). *AAMC Data Snapshot: Graduation rates and attrition rates of U.S. medical students.* October 2021.

	Class of 2020			Class of 2021		
	Graduated	Resigned/ Dismissed	Still In Program	Graduated	Resigned/ Dismissed	Still In Program
Black/African American	85%	11%	4%	74%	13%	13%
White	93%	7%	0%	91%	9%	0%
Hispanic/Latinx	64%	29%	7%	80%	0%	20%
Asian	91%	9%	0%	87%	10%	3%
Unknown/Other	100%	0%	0%	0%	0%	0%
Total	85%	13%	2%	82%	10%	8%

US Medical Licensure Exam (USMLE)
Pass Rates of First Attempt

	Step 1	Step 2 CK
CUNY School of Medicine (2021)	98.5%	99%
US/Canada Medical Schools (2020)	97%	98%

Residency Match
Percent of MD Graduates Who Matched to Residency Training Programs

	Class of 2020	Class of 2021
CUNY School of Medicine	100 %	92.1%
US Medical Schools (National)	93.7%	92.8%

63% of CUNY SOM's Class of 2021 matched to Primary Care Specialties;
78% matched to residency programs in NYC, Westchester and Long Island.

Faculty Demographic Information

The table below compares faculty demographic for CUNY SOM with AAMC national data for US medical schools (AAMC data) and CUNY's graduate/professional programs. All data are from 2020

2020 Faculty Data	CUNY School of Medicine N=56	U.S. Medical schools* N = 176,449	CUNY Graduate & Professional Schools [b]					CUNY-wide Faculty N=7253
			Graduate Center N=67	Law School N=60	School of Prof'l Studies N=26	School of Journal. N=15	School of Public Health N=46	
	%	%	%	%	%	%	%	%
Asian	13	21	7	20	4	7	15	14
Black/African American	**18**	**4**	**8**	**17**	**15**	**7**	**7**	**12**
Hispanic/Latinx	**16**	**4**	**5**	**7**	**12**	**0**	**9**	**11**
White	50	66	76	53	62	80	67	57
Amer. Indian/Alaska Native	0	0	0	0	0	7	0	0
Italian American[c]	4		4	3	4	0	2	5
Unknown/unreported		**4**						
Female	62.5	42.9	41.3	63.3	84.6	40.0	58.7	49.7

* Source: AAMC Faculty Roster, December 31, 2020

[a] *excludes* multiple race designations

[b] Includes schools where faculty total N > 10

[c] Italian Americans are designated as a protected population within CUNY snapshot, as of December 31, 2020.

Clinical Partners – Clerkship sites

- St Barnabas Health System
- Northwell Health System:
    - Staten Island University Hospital
    - Glen Cove / Southside / Phelps Hospitals
    - Planview Hospital
- Institute for Family Medicine (includes 3 Federally Qualified Health Centers)
- Jacobi Medical Center / North Central Bronx Hospital
- Harlem Hospital Center

Plus, more than a dozen additional ambulatory / community health center partner sites for our undergraduate/pre-clerkship longitudinal clinical training experiences.

High Schools Attended by CUNY SOM Entering Class of 2021

HS Name	Zip code	Borough	Region
University Heights High School	10455	Bronx	Hunts Point and Mott Haven
University Heights High School	10455	Bronx	Mott Haven
Harry S. Truman High School	10475	Bronx	Coop City, Northeast Bronx
Preston High School	10465	Bronx	Eastchester Bay|Southeast Bronx
Bronx High School of Science	10468	Bronx	Jerome Park|Bronx Park and Fordham
DeWitt Clinton High School	10468	Bronx	Jerome Park|Bronx Park and Fordham

HS Name	Zip code	Borough	Region
High School for Medical Professions	11236	Brooklyn	Canarsie and Flatlands
Medgar Evers College Preparatory School	11225	Brooklyn	Prospect Leffert |Flatbush
New Visions Advanced Math and Science III	11235	Brooklyn	Sheepshead Bay|Southern Brooklyn
High School For Medical Professions	11236	Brooklyn	Canarsie and Flatlands
Midwood High School	11210	Brooklyn	Marine Park|Flatbush
Brooklyn College Academy High school	11218	Brooklyn	Borough Park
Brooklyn College Academy	11218	Brooklyn	Borough Park
Medgar Evers College Preparatory School	11225	Brooklyn	Prospect Leffert|Flatbush
Midwood High School	11210	Brooklyn	Marine Park
Fontbonne Hall Academy	11209	Brooklyn	Bayridge
Medgar Evers College Preparatory High School	11225	Brooklyn	Prospect Leffert
Medgar Evers College Preparatory High School	11225	Brooklyn	Prospect Leffert
Science Skills Center	11201	Brooklyn	Downtown Brooklyn|Northwest Brooklyn
Cultural Academy for the Arts and Sciences	11203	Brooklyn	East Flatbush

HS Name	Zip code	Borough	Region
Half Hollow Hills High School West	11746	Long Island	Huntington
Baldwin Senior High School	11510	Long Island	Baldwin
Elmont Memorial High School	11003	Long Island	Elmont
Sanford H. Calhoun High School	11566	Long Island	Merrick
Hicksville High School	11801	Long Island	Hicksville, Oyster Bay
Herricks High School	11040	Long Island	New Hyde Park
The Wheatley School	11568	Long Island	Old Westbury
John F Kennedy High School	11710	Long Island	Bellmore, Hempstead
St. Mary's College Preparatory High School	11030	Long Island	Manhasset
Uniondale High School	11553	Long Island	Uniondale
Uniondale High School	11553	Long Island	Uniondale
Chaminade High School	11501	Long Island	Mineola

Valley Stream North High School	11010	Long Island	Franklin Square
Westbury High School	11568	Long Island	Old Westbury
Valley Stream North High School	11010	Long Island	Franklin Square
Elmont Memorial High School	11003	Long Island	Elmont

HS Name	Zip code	Borough	Region
Stuyvesant High School	10282	Manhattan	Battery Park City|Downtown|Manhattan
City College Academy of the Arts	10034	Manhattan	Inwood|Uptown|Manhattan
A Philip Randolph Campus High School	10031	Manhattan	Hamilton Heights|Uptown Manhattan
Fiorello H. LaGuardia High School for Music and Arts and the Performing Art	10023	Manhattan	Upper West Side|West Side|Uptown|Manhattan
Stuyvesant High School	10282	Manhattan	Battery Park City|Downtown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Central Park East High School	10029	Manhattan	East Harlem|Harlem|Uptown|Manhattan
Ramaz Upper School	10075	Manhattan	Yorkville, Upper East Side
High School for Health Professions and Human Services	10003	Manhattan	East Village|Downtown|Manhattan
Dominican Academy	10065	Manhattan	Upper East Side|Uptown|Manhattan
Central Park East High School	10029	Manhattan	East Harlem|Harlem|Uptown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Loyola School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
New Explorations into Science, Technology and Math	10002	Manhattan	LoDel|Lower East Side|Downtown|Manhattan
Stuyvesant High Sch	10282	Manhattan	Battery Park City|Downtown|Manhattan
Leadership and Public Service High School	10006	Manhattan	Wall Street|Downtown|Manhattan
Inwood Academy For Leadership Charter School	10034	Manhattan	Inwood|Uptown|Manhattan
St. Vincent Ferrer High School	10065	Manhattan	Upper East Side|Uptown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Regis High School	10028	Manhattan	Yorkville|Upper East Side|Uptown|Manhattan
Stuyvesant High School	10282	Manhattan	Battery Park City|Downtown|Manhattan
A. Philip Randolph Campus High School	10031	Manhattan	Hamilton Heights|Uptown|Manhattan

Bard High School Early College Manhattan	10002	Manhattan	LoDel|Lower East Side|Downtown|Manhattan

HS Name	Zip code	Borough	Region
St. Joseph High School	06611	Outside NY/Other (CT)	Trumbull
Gloucester County Institute of Technology (GCIT)	08080	Outside NY/Other (NJ)	Sewell

HS Name	Zip code	Borough	Region
Queens High School of Teaching, Liberal Arts and the Sciences	11426	Queens	Bellerose/Southeast Queens
Aviation Career & Technical Education High School	11101	Queens	Sunnyside/Northwest Queens
Townsend Harris High School	11367	Queens	Flushing|Kew Gardens Hill|Central Queens
York Early College Academy	11433	Queens	Jamaica, St. Albans
Archbishop Molloy High School	11435	Queens	Jamaica
Benjamin N. Cardozo High School	11366	Queens	Fresh Meadows, Utopia
International High School at Laguardia Community College	11101	Queens	Long Island City, Sunnyside, Northwest Queens
Saint Francis Prep	11365	Queens	Fresh Meadows|Auburndale
Energy Tech High School	11106	Queens	Astoria|Long Island City|Northwest Queens
Benjamin N. Cardozo High School	11364	Queens	Oakland Gardens|Northeast Queens
Forest Hills High School	11411	Queens	Cambria Heights|Laurelton|Southeast Queens
Archbishop Molloy High School	11435	Queens	Jamaica
The Renaissance Charter School	11372	Queens	Jackson Heights|West Queens
Forest Hills High School	11375	Queens	Forest Hills
Benjamin N. Cardozo High School	11364	Queens	Oakland Gardens|Northeast Queens
Francis Lewis High School	11365	Queens	Fresh Meadows|Auburndale
Benjamin N. Cardozo High School	11364	Queens	Oakland Gardens|Northeast Queens
Archbishop Molloy High School	11435	Queens	Jamaica

HS Name	HS Zip code	HS_Borough	HS Region
Staten Island Technical High School	10306	Staten Island	South Shore/ Great Kills
Susan E Wagner High School	10314	Staten Island	Bull's Head/Mid-Island
Staten Island Technical High School	10306	Staten Island	Great Kills|South Shore
Notre Dame Academy High School	10301	Staten Island	Silver Lake|Stapleton and St. George

HS Name	HS Zip code	HS_Borough	HS Region
Yonkers Middle High School	10705	Upstate NY/Westchester	Park Hill|Southwest Yonkers
Edgemont High School	10583	Upstate NY/Westchester	Scarsdale
Putnam Valley High School	10579	Upstate NY/Westchester	Putnam Valley
John F Kennedy Catholic High School	10589	Upstate NY/Westchester	Somers/ Westchester
Woodlands High School	10530	Upstate NY/Westchester	Hartsdale, Westchester
Suffern High School	10901	Upstate NY/Westchester	Suffern
Lincoln High School	10701	Upstate NY/Westchester	Northwest Yonkers

CUNY School of Medicine
2021 Graduate Medical Education (Residency) Placements

92% of applicants matched to residency programs.
63% matched to Primary Care Specialties
78% matched in NYC, Westchester, and Long Island

Anesthesiology

Icahn SOM Mount Sinai-Morningside - NY
University of Maryland Medical Center
Westchester Medical Center - NY-2

Dermatology

Emory University SOM – GA

Emergency Medicine

NY-Presbyterian/Queens
Stony Brook Teaching Hospital - NY
University of Connecticut SOM
Zucker SOM - Northwell North Shore/LIJ-NY
Zucker SOM-Northwell Staten Island University – NY

Family Medicine

Geisinger Health System - PA
Montefiore Medical Center/Einstein - NY
NYMC St. Joseph's Medical Center
SUNY HSC Brooklyn
Zucker SOM - Northwell Glen Cove Hosp - NY- 2
Zucker SOM-Northwell Phelps Hospital – NY

Internal Medicine

NYP Hospital-Weill Cornell Med Center
Icahn SOM at Mount Sinai Hospital - NY- 2
Stony Brook Teaching Hospital - NY - 2
SUNY HSC Brooklyn

Zucker SOM - Northwell North Shore/LIJ-NY-3
Zucker SOM-Northwell Staten Island University - NY

Internal Medicine - Primary Care

Icahn SOM at Mount Sinai - Morningside- NY

Obstetrics – Gynecology

Stony Brook Teaching Hospital - NY
Tufts Medical Center - MA
University of North Carolina Hospitals

Orthopedics

George Washington University, DC

Pediatrics

Brown University/Rhode Island Hospital - 2
Nemours Children's Hospital - FL
Stony Brook Teaching Hospital - NY
NYP Hospital - Weill Cornell Med Center - NY
Zucker SOM - Northwell Cohen Children's Hospital - NY - 2

Psychiatry

NYMC Metropolitan Hospital
Zucker SOM - Northwell Hillside - NY

Radiology Diagnostic

Icahn SOM Mount Sinai - Morningside West - NY
Nassau University Medical Center
Zucker SOM - Northwell North Shore/LIJ -NY

Surgery

NYU Long Island WINTHROP SOM

CUNY School of Medicine
2020 Graduate Medical Education (Residency) Placements

Forty-five of forty-six M4 students participated in the National Residency Matching Program. 100% matched. The national match rate is 93.7%.

Anesthesiology

Icahn SOM at Mount Sinai-NY

Emergency Medicine

Boston Univ Med Ctr-MA
Maimonides Med Ctr-NY
Montefiore Med Ctr/Einstein-NY [Jacobi]
NYU Grossman School Of Medicine-NY
SUNY Health Sci Ctr Brooklyn-NY
Zucker SOM-Northwell Southside Hosp-NY
Montefiore Med Ctr/Einstein-NY [Jacobi]

Family Medicine

Hunterdon Med Ctr-NJ
Icahn SOM So Nassau Comm Hosp-NY
Kent Hospital-RI [Brown]
Montefiore Med Ctr/Einstein-NY
Zucker SOM-Northwell Glen Cove Hosp-NY
Zucker SOM-Northwell Phelps Hosp-NY

Internal Medicine

Icahn SOM at Mount Sinai-NY
Icahn SOM St Luke's-Roosevelt-NY
Montefiore Med Ctr/Einstein-NY (2)
NYP Hosp-Weill Cornell Med Ctr-NY
Rutgers-R W Johnson Medical School-NJ
Stony Brook Teach Hosp-NY
Zucker SOM-Northwell North Shore/LIJ-NY
Zucker SOM-Northwell Staten Island Univ-NY

Medicine-Emergency Medicine

Zucker SOM-Northwell NS/LIJ-NY

Medicine-Pediatrics
U Rochester/Strong Memorial-NY

Medicine (Preliminary)
Flushing Hospital Med Ctr-NY
Maimonides Med Ctr-NY
Zucker SOM-Northwell NS/LIJ-NY

Medicine-Primary
NYP Hosp-Weill Cornell Med Ctr-NY

Neurological Surgery
U Massachusetts Med School

Neurology
Montefiore Med Ctr/Einstein-NY

Obstetrics-Gynecology
George Washington Univ-DC
Hackensack U Med Ctr-NJ

Pediatrics
NYU Winthrop Hospital-NY
U Florida COM-Shands Hosp [Arnold Palmer-Orlando]

Physical Medicine & Rehab
Burke Rehabilitation Hosp-NY
Montefiore Med Ctr/Einstein-NY

Physical Medicine & Rehab – Transitional *
Health Quest-NY

Psychiatry
NYU Grossman School Of Medicine-NY
Zucker SOM-Northwell Mather Hosp-NY
Zucker SOM-Northwell Staten Island Univ-NY

Radiology-Diagnostic

Maimonides Med Ctr-NY
NYP Hosp-Weill Cornell Med Ctr-NY
Thomas Jefferson Univ-PA
*Westchester Medical Ctr-NY (2)
Zucker SOM-Northwell Lenox Hill Hosp-NY
Zucker SOM-Northwell North Shore/LIJ-NY

Radiology-Diagnostic – Transitional *

Zucker SOM-Northwell Mather Hosp-NY (3)

Surgery – Preliminary *

Icahn SOM St Luke's-Roosevelt-NY
NYU Winthrop Hospital-NY

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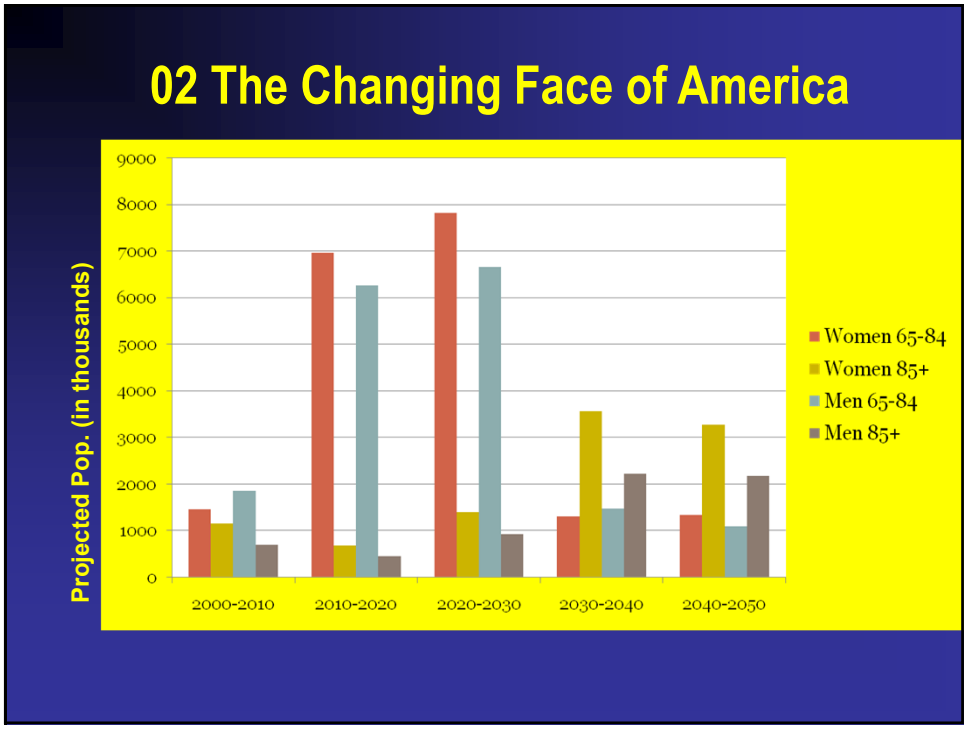
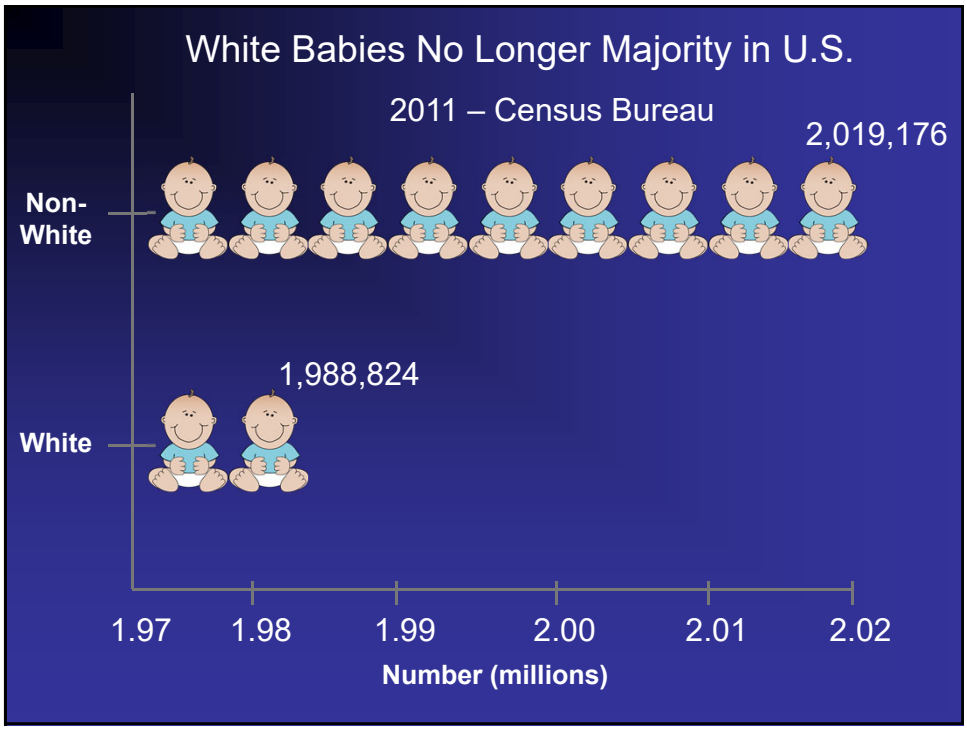
* Transitional and Preliminary Programs:
A preliminary position is a position offering only one to two years of training generally prior to entry into advanced specialty programs. Many internal medicine and surgery training programs offer preliminary positions in addition to categorical positions. Transitional year programs are also considered preliminary year training programs.

Advanced positions, which do not commence until one to two years after the match, are in specialty programs that require one or more years of preliminary training. Applicants without prior residency training (i.e., U.S. medical school seniors) may apply for advanced positions while also applying for preliminary positions that are compatible with their plans.

[Excerpt from *Washington University School of Medicine in St Louis Residency* available at https://residency.wustl.edu/residencies/categorical-vs-preliminary/]


02 The Changing Face of America
Projected Pop. (in thousands)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2000-2010
2010-2020
2020-2030
2030-2040
2040-2050
Women 65-84
Women 85+
Men 65-84
Men 85+


White Babies No Longer Majority in U.S.
2011 – Census Bureau
2,019,176
Non-White
1,988,824
White
1.97
1.98
1.99
2.00
2.01
2.02
Number (millions)

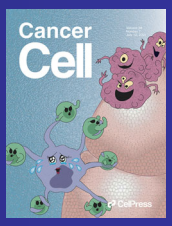
03 Disparities in common health conditions

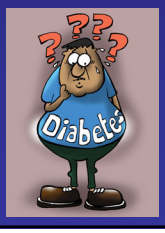
Heart Disease & Stroke

- Less African Americans and Hispanics than Whites had control of their blood pressure
- African Americans also have higher death rates from heart disease and stroke than Whites

Cancer

- African Americans are more likely to get and die from prostate, lung, and colon cancer
- African American women are less likely than whites to get breast cancer but are more likely to die from it





Diabetes

- Minorities have an increased risk of diagnosed in minorities compared to whites

- Minorities are more likely to die from COVID-19 than whites
- Minorites who trust their health care professional are more likely to be vaccinated
- Minorities have less access to health care professionals than whites

- Minorities are less likely to have their pain assessed
- Minorities receive less pain care than whites, even when being treated for broken bones and cancer

- Black people are 2-3 times more likely to have hospital security called on them compared to whites
- Black people are 2-2.5 times more likely than white men to be killed by police during their lifetime and twice as likely as white people to be unarmed

MISSION AND VISION

CUNY SOM is unlocking and cultivating its full potential within its excellent, diverse and inclusive community of healers and leaders who leverage the transformative power of compassion and empathy to improve the human condition and population health. CSOM will do so across its education, research, scholarship, clinical and service missions.

CSOM will leave a lasting impact on the world through its cadre of physicians, physician assistants, and scientists who courageously heal, lead with compassion, value all humanity, and treat all people with dignity and respect. Through their efforts CSOM will be the epicenter for generating the strategies designed to eliminate educational and health inequities in our time and by doing so will be the national exemplar.

CSOM Strategic Priorities

GOAL: Excellence across the quadripartite mission via sustainable programs and partnerships.

Increase CSOM's impact & footprint:

- Recruit, develop, and retain outstanding faculty and talented learners.
- Create, leverage and diversify scholarship.

Lead in the educational & research arenas:

- Build a sustainable and diversified infrastructure.
- Create programs and internal and external partnerships with key stakeholders.
- Support innovation.

CSOM Strategic Priorities

Invest in human capital:

- Recruit, develop, retain, honor, and diversify CSOM's most important resource – our people.
- Create environments where any individual or group feels welcomed, respected, supported, and valued.
- Support a culture of wellness.

Make people and communities healthier:

- Advocate for social justice in clinical, education, and research spaces.
- Generate solutions to optimize educational, social, clinical, and health outcomes.

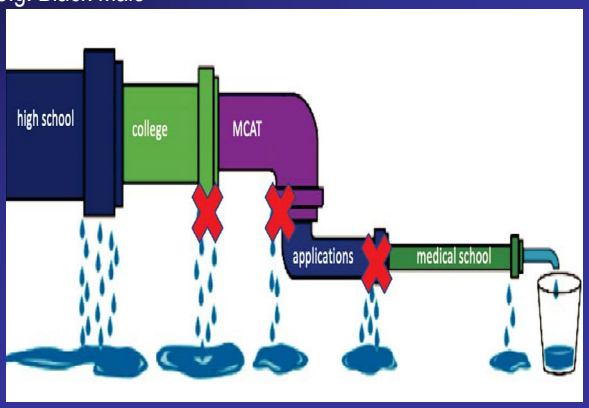
Social Justice: Generate transdisciplinary solutions to optimize educational, social, and health outcomes.

05 How CSOM is Responding to Educational and Health Disparities

- Addressing the social determinants of health
  - Expecting cultural competency
  - Hearing and addressing the unequal burden and unheard voices via narrative medicine and the arts
  - Leading in primary care
  - Leading in providing care to the underserved
- Increased training, research, and education
  - Training on cultural awareness and unconscious bias
  - Performing research to understand health disparities and their cause
  - Raising overall awareness about the negative effects of health care inequities
- Promoting workforce diversity
  - Increases the likelihood patients will find providers who speak their language and share their culture and values.
  - Improves patient – provider communication
  - Better health outcomes

Leading in workforce diversity by

- Remaining MCAT free
- Investing in pipeline programs
- Holistic admissions
- Supporting student wellness and success
- Expecting excellence
- Supporting affinity groups e.g. Black Male
- Staying in New York

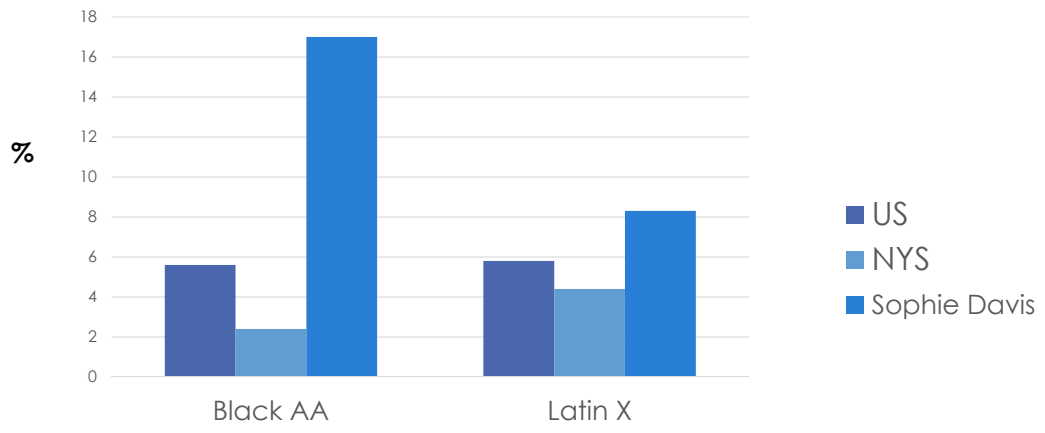


Contributions of Sophie Davis to local and national concerns in medicine

- The NYS and US physician work force does not represent the demographics of the patients it serves
- There are 50 more medical schools now then when Sophie Davis began in the 1970
- The absolute number of black men in US medical schools in 2014 was lower than in 1978

Association of American Medical Colleges. Altering the course: Black males in medicine. Washington, DC: Association of American Medical Colleges; 2015.

Diversity of Sophie Davis graduates vs NYS and US



National problem and our successes

- There are not enough primary care doctors to serve the public

  https://www.aamc.org/news-insights/press-releases/new-findings-confirm-predictions-physician-shortage

- 30% of NYS physician work force practice primary care but only 6-10% are US MD/DO graduates
- 42% of Sophie Davis graduates practice primary care

Our successes serving the underserved in Health Professional Shortage Areas

- NYS physician work force 14% work in HPSA
- Sophie Davis graduates 26% work in HPSA

*Division of Shortage Designation, Health Resources and Services Administration, U.S. Department of Health and Human Services: https://datawarehouse.hrsa.gov/tools/analyzers/hpsafind.aspx. Accessed April 14, 2017.

How do we do it? Holistic Admissions

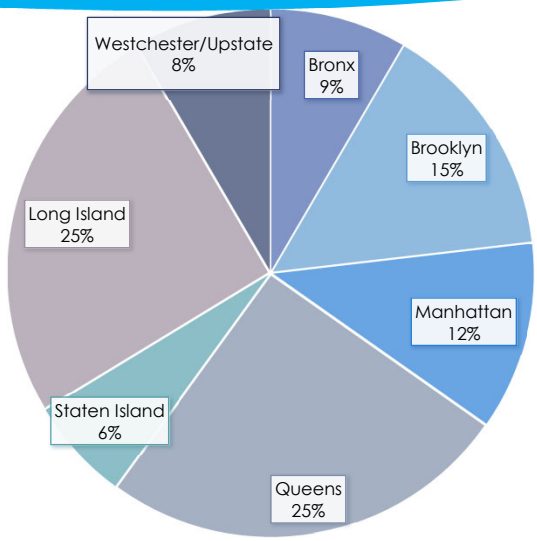
Applicants (~1200/year) are first screened for meeting the minimum academic qualifications

Reviewed for commitment to the mission, volunteer work, leadership, research, employment

250 students are interviewed by 2 faculty and 1 student

Our students come from New York

- 70 percent immigrants or first generation college students
- Small number (4) DACA



And stay in New York

- 45 % of graduates of NYS medical schools practice in NYS
- 65% of graduates of Sophie Davis practice in NYS

Overview of BS/MD Program Undergrad Years 1-3 (U1-U3)

YEAR	Science Courses	Clinical Courses	Population Health courses
U1	Biology Chemistry Physics	Narrative Medicine	Social determinants of health
U2	Bio-organic Chemistry Molecules to Cells part 1 Medical genetics	Course on how lifestyle impacts health	Epidemiology and Biostatistics Population health and Community Health Assessment Evaluations in Healthcare Settings
U3	Molecules to Cells part 2 Anatomy Fundamentals	Biomedical ethics Health coaching Longitudinal clinical experience Early communications skills	US Healthcare System

1

Overview of MD Program M1 through M4

Year	Basic Science	Clinical Science	Population Health
M1	Organ Systems (CV, Pulmonary, GI, Endocrine and Renal)	Practice of Medicine (history taking and physical exams)	EBM Research selectives
M2	Organ Systems (Heme-Onc, Reproductive; Neuroscience and Neuropsychology	Practice of Medicine (history taking, physical exam, note writing and oral presentation)	EBM
M3		Clerkships- IM, FM, Peds and Psych/Neuro 8 weeks each; Surgery and OB 6 weeks	
M4		Subinternship 4 wks; Critical care 4 wks Emergency Medicine 4 wks; Introduction to Internship Bootcamp- 2 wks- Electives	

Current Clinical Affiliates for Clerkships

SPECIALTY	CLINICAL SITE
INTERNAL MEDICINE	SBH AND STATEN ISLAND UNIVERSITY HOSPITAL (SIUH)
PEDIATRICS	SBH AND SIUH
SURGERY	SBH AND SIUH
OB/GYN	SBH, SIUH, FOREST HILLS, HARLEM
PSYCHIATRY/NEUROLOGY	SBH AND SIUH
FAMILY MEDICINE	PHELPS, UNION, IFH 3 SITES, GLENCOVE, SOUTHSIDE
SUBINTERNSHIP AND CRITICAL CARE	SBH AND SIUH
EMERGENCY MEDICINE	SBH, SIUH, HARLEM
INTERNAL MEDICINE	SBH AND STATEN ISLAND UNIVERSITY HOSPITAL (SIUH)

CSOM UNIQUE BS/MD CURRICULUM

- Med school courses integrated throughout all 7 years of the program
- BS in 3 years which includes strong population health focus (5 courses), Narrative Medicine, Lifestyle Medicine and Health coaching
- No requirement for MCATs- seamless transition into MD program
- MD curriculum integrates normal and abnormal- includes a one year required research course focused on population health
- 3 year continuity experience in a Federally qualified or community health center
- Clinical training at hospitals serving the underserved

Supporting Student Retention and Success

- Academic monitoring
- Wellness and counseling
- Learning Resource Center
- Bias training
- Recruiting and retaining a diverse faculty and administration
- Supporting student affinity groups- Black Male Initiative, Sisters Of Sophie and Vision Latina

4

Tuition and Indebtedness

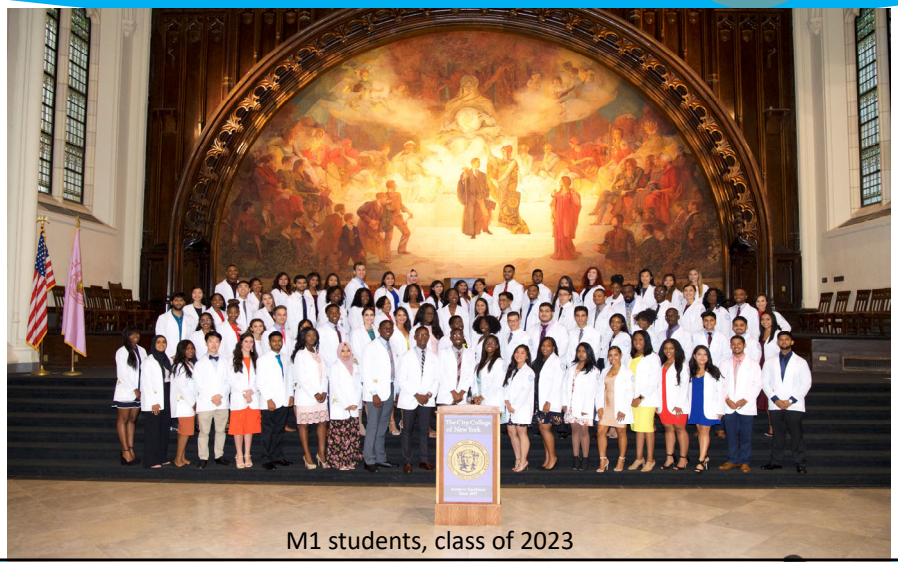
- BS: 70+% of students qualify for some form of financial aid
  - TAP & PELL, Excelsior Scholarship etc.; even with full financial aid, housing and extra costs are still a burden for many
  - BS students and parents hesitant to take out loans in BS portion; many students work part time
- MD: current in-state tuition about $42,000
  - Mission hasn't changed but tuition and payment model has- no longer a service commitment requirement
  - Average indebtedness of 2020 graduates $155,000 compared with an average national debt of $200,000

CSOM Budget

- No change in CSOM state allocation from when it was Sophie Davis program
- Tax levy allocation ~$10.5 million
- Student tuition ~ $12.6 million (MD and PA)
- CUNY contribution $3 million
- Total ~$26 million
- Tuition >50% med school funding (LCME issue)

White Coat Ceremony

September 2018



M1 students, class of 2023

LCME®

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule A

REVENUES AND EXPENDITURES SUMMARY

CUNY School of Medicine (834)

Fiscal Year 2019-20

	Recorded in Medical School Accounts	Not Recorded in Medical School Accounts	Total
REVENUES:			
M.D. program tuition and fees	$10,337,600	$0	$10,337,600
Other tuition and fees	$1,676,767	$0	$1,676,767
Total Tuition and Fees	$12,014,367	$0	$12,014,367
Federal Appropriations	$0	$0	$0
Adjusted State and Parent Support	$23,792,276	$8,691,418	$32,483,694
Local Appropriations	$63,661	$8,913	$72,574
Total Government and Parent Support	$23,855,937	$8,700,331	$32,556,268
Grants and Contracts Direct Costs	$2,071,483	$0	$2,071,483
Facilities & Administrative Costs	$0	$492,995	$492,995
Total Grants and Contracts	$2,071,483	$492,995	$2,564,478
Hospital Purchased Services and Support	$0	$0	$0
Gifts Revenues	$203,513	$0	$203,513
Endowment Revenues	$264,441	$0	$264,441
Practice Plans/Other Medical Service	$0	$0	$0
Other Revenues	$2,833,105	$0	$2,833,105
Total Revenues	$41,242,846	$9,193,326	$50,436,172
Total Expenditures & Transfers	$26,832,525	$9,193,326	$36,025,851
Net Revenues Over Expenditures	$14,410,321	$0	$14,410,321

Percent of Total Revenues

Tuition and Fees	24%
Government & Parent Support	65%
Grants & Contracts	5%
Practice Plan	0%
Hospital Support	0%
Other	7%
Total All Fund Sources	100%

LCME®

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule B

Grants and Contracts Summary

CUNY School of Medicine (834)

Fiscal Year 2019-20

	Recorded in Medical School Accounts	Not Recorded in Medical School Accounts	Total Medical School & Affiliates
Direct Costs			
Federal Grants and Contracts			
Organized Research	$294,916	$0	$294,916
Training/Instruction	$0	$0	$0
Other Sponsored Activities	$0	$0	$0
Total Federal Grants and Contracts Direct Costs	$294,916	$0	$294,916
State and Local Governments	$1,165,220	$0	$1,165,220
Private/Other Grants and Contracts	$611,347	$0	$611,347
TOTAL DIRECT GRANTS AND CONTRACTS	$2,071,483	$0	$2,071,483
Facilities & Administrative Costs			
Federal Grants and Contracts			
Organized Research	$0	$60,604	$60,604
Training/Instruction	$0	$0	$0
Other Sponsored Activities	$0	$0	$0
Total Federal Grants and Contracts F&A Costs	$0	$60,604	$60,604
State and Local Governments	$0	$179,461	$179,461
Private/Other Grants and Contracts	$0	$252,930	$252,930
TOTAL F&A (INDIRECT) COSTS	$0	$492,995	$492,995
TOTAL GRANTS AND CONTRACTS	**$2,071,483**	**$492,995**	**$2,564,478**

LCME®

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule C

Practice Plans and Other Medical Services

CUNY School of Medicine (834)

Fiscal Year 2019-20

Patient Care - Gross Charges	
Commercial	$0
Medicare	$0
Medicaid	$0
Self-pay	$0
Other	$0
TOTAL GROSS CHARGES	**$0**

Adjustments & Allowances	
Charity Care	$0
Bad Debt	$0
Medicare	$0
Medicaid	$0
All Other	$0
TOTAL NET ADJUSTMENTS & ALLOWANCES	**$0**

Revenues

Patient Care Revenues

Commercial		$0
Medicare		
Medicare Fee-for-Service	$0	
Medicare Other	$0	$0
Medicaid		$0
Self-pay		$0
Other		$0
Total Patient Care Revenues		**$0**

Other Revenues

Contracts (non-hospital)	$0
Other Operating Revenues	$0
	$0
Revenues from Hospitals	**$0**

Subtotal Practice Plan Revenues	**$0**
Less Hospital Revenues Transferred to Practice Plan	**$0**
TOTAL PRACTICE PLAN NET REVENUES *	**$0**

Expenses

Taxes and Transfers		
Medical School Support	$0	
Other Med School Taxes/Support	$0	
Departmental Support	$0	
Taxes/Support (Parent)	$0	
Taxes/Support (Univ Hosp)	$0	
Taxes/Support (Affiliated Hosp)	$0	$0
Compensation		
Physician Salary & Benefits	$0	
Other Compensation	$0	$0
Other Operating Expenses		$0
Subtotal Practice Plan Expenditures & Transfers		**$0**
Less Expenditures Supported by Hospital Revenues		**$0**
TOTAL PRACTICE PLAN NET EXPENSES *		**$0**
NET REVENUE OVER EXPENSES		**$0**

* Excludes $0 of revenues and associated expenditures from affiliated hospitals

LCME®

LIAISON COMMITTEE ON MEDICAL EDUCATION

LCME Part I-A Annual Financial Questionnaire on Medical School Financing

Schedule D
Hospital Services and Support
CUNY School of Medicine (834)
Fiscal Year 2019-20

	Recorded	Not Recorded	Total
University Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by university hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Housestaff Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total University Hospitals	**$0**	**$0**	**$0**
Veterans Admin Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by VA hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Resident and Fellow Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total Veterans Admin Hospitals	**$0**	**$0**	**$0**
Other Affiliated Hospitals			
Purchased Services			
Payments to medical school	$0		$0
Payments to faculty practice plan	$0	$0	$0
Direct payments by other affiliated hospitals		$0	$0
Total Purchased Services	$0	$0	$0
Resident and Fellow Stipends	$0	$0	$0
Hospital Investments in the Clinical Enterprise	$0	$0	$0
Strategic Support for Medical School Programs	$0	$0	$0
Total Other Affiliated Hospitals	**$0**	**$0**	**$0**
TOTAL HOSPITAL PURCHASED SERVICES AND SUPPORT	**$0**	**$0**	**$0**
Total Strategic Support of Medical School Programs	$0	$0	$0

Schedule E

Government and Parent Support

CUNY School of Medicine (834)

Fiscal Year 2019-20

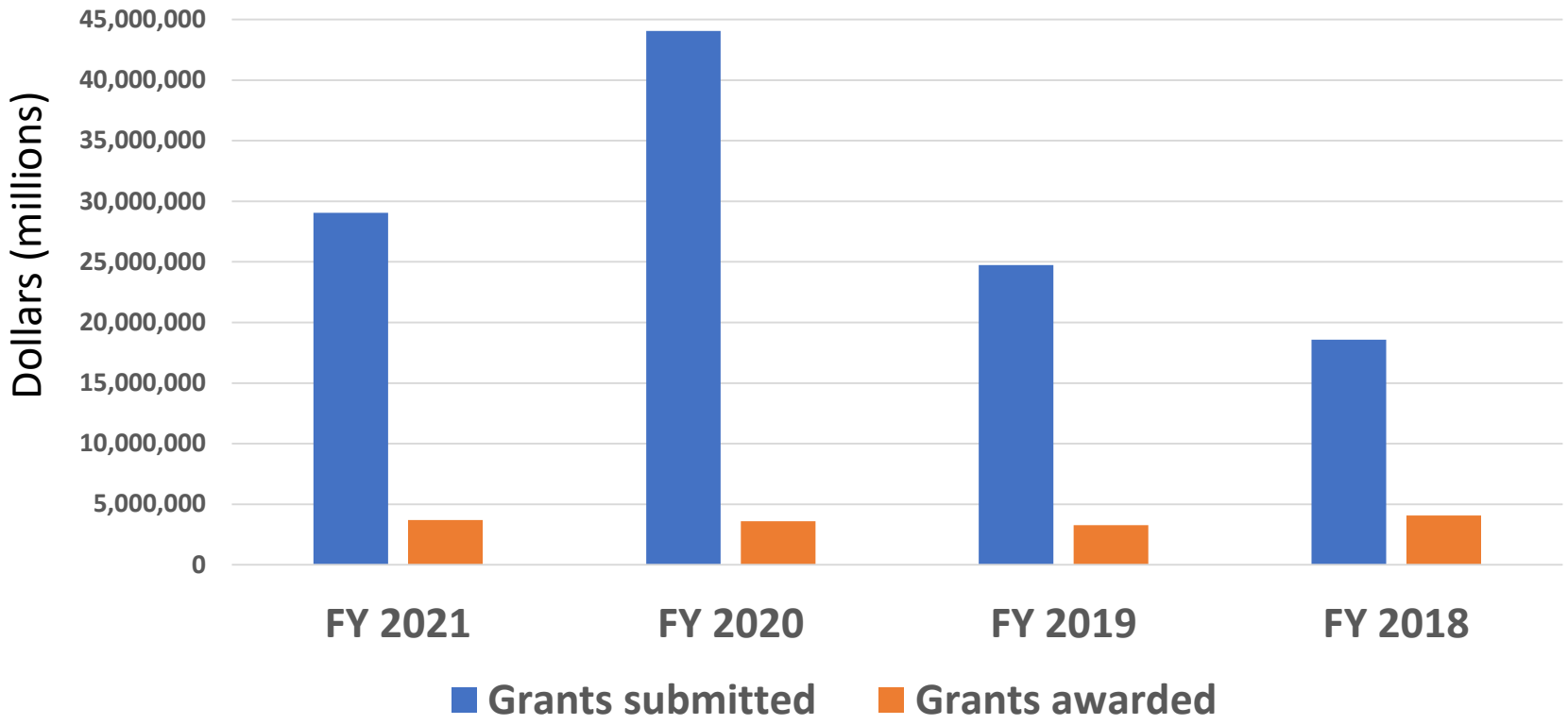
Support for General Operations of the Medical School

Federal Support	$0	
State and Parent Support	$23,792,276	
Local Support	$72,574	
		$23,864,850
Institutional support (medical school's share of parent's central support costs)		$8,691,418
Total Support for General Operations		**$32,556,268**
Less funds generated by the medical school but retained by the parent and/or state (includes parent assessments)		$0
Total Adjusted Operating Support		**$32,556,268**

Special Appropriations

Special Federal Appropriations	$0	
Special State Appropriations	$0	
Special Local Appropriations	$0	
Total Special Appropriations and Allocations		**$0**
TOTAL ADJUSTED GOVERNMENT & PARENT SUPPORT		**$32,556,268**

External Grant Funding of the CUNY School of Medicine (FY 2018-2021)



Preliminary Questions from the NY City Council

General…

1. What is the student-teacher ratio for the [B.S. / M.D.] portion of the program?

    a. How will the student-teacher ratio be impacted for the Class of 2028, which has 15 more students than originally anticipated?

    The student to faculty ratio stands at 13:1. This includes the newly admitted class of 2028 and excludes faculty serving in full-time administrative (e.g. deans) roles.

2. How many faculty members and staff are employed by CSOM, total and disaggregated by part- and full-time status? Adjunct?

    Full-time faculty (excluding deans with teaching titles): 48
    Full-time staff (non-teaching): 78
    Adjuncts: (approx.) 35
    Part-time faculty > 300. Total includes affiliate clinical faculty at partner hospital sites

3. What is the annual cost of attending CSOM's B.S./M.D. program? How does the M.D. portion compare to the B.S. portion?

    MD program tuition: $41,600 (lowest of all New York medical schools)
    Undergraduate tuition: $ 6,930 (CUNY Full-time undergraduate tuition rate)

4. How did the pandemic impact CSOM?

    The University instituted an 18-month lockdown during the height of the pandemic. All courses were moved to remote instruction and clinical rotations curtailed. The College provided laptops for all students and employees in need. The Medical School enhanced the availability (hours) of its Counseling services to provide extra support for students in need.

    a. How did it impact the CSOM's partnership with St. Barnabas Health System?

    Throughout the pandemic, St Barnabas' focus was to provide care for COVID patients. Due to the demand placed on hospital staff and to ensure the safety of all personnel, student clinical rotations were curtailed at the height of the pandemic; however, MD students completing their final year were permitted to graduate slightly earlier to provide support to the hospital's staff. Through the generous donation of a Sophie Davis alum, PPE was supplied for all St Barnabas staff and CUNY students. Student rotations at St Barnabas resumed in Fall 2021.

Admissions…

5. According to City College, there were 980 applicants to the CSOM's 7-year B.S./M.D. program's Class of 2028. How does the number of applicants compare to previous years?

    a. How does CUNY/CSOM account for this increase in applicants?

    The final count of applications exceeded 1390. This sharp increase in applications is entirely consistent with trends seen at medical schools across the country. The Association of American Medical Colleges (AAMC) reported an increase of more than 7,500 additional medical school applications submitted in 2020. According to the AAMC, "Experts don't know exactly what's behind the increase, but they point to several likely factors. Some are rather mundane, including students having more time to focus on applications as college classes moved online. But at least some of this year's applicants are driven by COVID-19 patients' terrible suffering and front-line providers' extraordinary heroism." (https://www.aamc.org/news-insights/applications-medical-school-are-all-time-high-what-does-mean-applicants-and-schools).

6. Out of 980 applicants to CSOM, 102 received admission letters to fill the target class size of 75 first year students, representing a 10.4 percent selectivity rate, and 90 students agreed to attend. How will the addition of 15 more students than anticipated impact the program? (i.e., will additional instructors be hired? An extra lab class created? Etc…)

    The school has previously admitted classes of 85-90 students over the past decade without major challenges. Facilities and faculty numbers are adequate to support the newly admitted class.

7. According to City College, candidates for the B.S./M.D. program graduating class are from backgrounds underrepresented in medicine (URiM)—defined as students from Black, Latinx and mixed-race backgrounds—the highest ever for the program at 76 percent. Currently 57 percent of CSOM students are URiM, 62 percent identify as female and 38 percent identify as male.

    a. How does CUNY/CSOM account for this increase in URiM applicants?

    Our URiM applicant pool is due largely to the School's recruitment efforts, in collaboration with high school counselors with whom the Admissions staff have developed longstanding working relationships. The increase in applicants pool overall aligns with the national increase in medical school applications observed during the pandemic, as described above (#5).

    b. Of the students in the Class of 2028, disaggregate the demographic makeup

ENROLLMENT FREQUENCY BY ETHNICITY CLASS OF 2028	
African American	43 (48%)
White	2 (2%)
Latin	24 (27%)
Asian	19 (21%)
Unknown/Other	1 (1%)
Total	89

8. Not unlike people of color, LGBTQI+ individuals regularly face barriers accessing appropriate and comprehensive healthcare. Moreover, healthcare trainees report few training opportunities and low levels of preparedness to care for LGBTQI+ patients.

    a. How has CSOM been working to address such gender inequities in its admissions process?

Students…

9. Of students currently in the B.S./M.D. program, disaggregate demographic makeup

	CUNY School of Medicine (N=547)	U.S. Medical Schools (N=95,475)	Medical Schools in New York (N=8,871)
Asian	32%	23%	27%
Black/African American	39%	8%	8%
Hispanic/Latino	18%	7%	6%
American Indian/Alaska Native	0%	0%	0%
White	9%	47%	43%
Multiple Race/Ethnicity	0%	10%	10%
Unknown/Other	1%	3%	4%

10. Of students currently in the Physician's Assistant program, disaggregate demographic makeup

	CSOM PA Program Students: Classes of 2020-2024	**Nationally Certified PAs (2019 data)** (N=139,675)

	(N=169)	
Gender		
Female	74.0%	69.3%
Male	26.0%	30.7%
Ethnicity		
Asian	34.3%	6.0%
Black/ African American	22.5%	3.6%
Hispanic/Latino	24.3%	6.6%
White	11.8%	86.7%
Native Hawaiian/Pacific Islander	0	0.3%
American Indian, Alaskan Native	0	0.4%
Other	0	3.0%
Multiple Race/Ethnicity	7.1%	2.1%
Unknown	0	4.1%

11. How many students are currently in each cohort of the 7-year B.S./M.D. program?

U1: 89
U2: 81
U3: 79
M1: 82*
M2: 67
M3: 67
M4: 82

U = undergraduate years
M = medical school years

12. What supports, academic or otherwise, are offered to students in the [B.S. / M.D. / Physician's Assistant program]

- CSOM Learning Resource Center – provides tutoring, workshops, learning assessments and support from Learning Specialists
- CCNY Laptop loaner program ensured students had the necessary equipment for remote learning during COVID-19 lockdown
- Pre-matriculation and orientation programs for new students, to facilitate their transition to college
- Free Confidential Counseling services by licensed professional staff
- Career Advising
- Academic Advising
- Financial management workshops
- CCNY Access-ability Center – ensures appropriate accommodations for students with disabilities
- CCNY Food Pantry
- CCNY Student Health Services

- CCNY Gender Resources center - provides education, outreach and resources on sexual violence prevention, gender identity and sexuality
- Small group study spaces
- Student housing assistance – assists students in locating affordable housing near campus, facilitates student sharing of apartments, and offers tenancy information and advice
- CCNY Shuttle to facilitate safe transit to nearest subway stations and campus dormitories
- Affinity groups / student-led organizations

Post-Graduation…

13. At the last hearing the Committee had on CSOM, which was in 2017, CUNY had recently announced a campaign to raise $20 million in interest-free loans for the inaugural B.S./M.D. class.

    a. What is the status of this campaign?

    Although not achieved as initially envisioned, the University continues to proactively pursue funding streams (philanthropy) to support the medical school and its students,

    b. Have similar campaigns been launched for subsequent CSOM cohorts?

14. Describe how CSOM intends to track students after graduation.

    The medical school recently established and activated a Sophie Davis/CUNY School of Medicine Alumni Board, which is working in collaboration with the School's Development Team and alumni relations staff to effectively connect with and engage alumni, from graduation through their residency training and professional careers, utilizing a peer outreach and other mechanisms to engage alumni as mentors for current students, as lecturers and teachers, as advocates for the School's programs and donors.

Diversity and Inclusion…

15. According to the Dean's Initiative, which was last updated Oct. 16, 2018 on City College's website, CSOM has undertaken a proactive approach to ensure that it "has an environment that celebrates diversity and is inclusive and welcoming…"

    c. This includes the regular administration of a culture and climate survey with a committee to review, track, and report results with implementable recommendations for improvement.

        i. How many such surveys have been administered?

ii. What is the return rate (disaggregated by faculty, staff & students)?

iii. What recommendations for improvement have come out of these surveys that have since been implemented?

d. This includes the identification and training of liaisons to serve as channels for students and faculty/staff to contract the administration in a timely manner in order to address any concerns.

i. How many such liaisons are there currently working in this capacity? Are they hired, students?

ii. Describe the types of issues such liaisons have relayed to the administration?

iii. How are students and faculty/staff made aware of the liaisons, and know how to contact them?

e. This includes the establishment of a professionalism code that outlines clear expectations of conduct and engagement of all CSOM community members with each other and identify consequences for violations to the code.

i. How are CSOM community members made aware of the professionalism code?

ii. Please provide examples of the professionalism code and consequences for violations thereof.

f. This includes the creation of a Bias and Education Support Team ("BEST"), which many other medical schools across the country have instituted. What is the status of CSOM's BEST?

g. This includes the commission of an independent assessment of CSOM's structure, policies procedures, etc., as it relates to the school's mission of diversity and inclusion. What is the status of this assessment? What was the outcome and how did it inform change?

h. This includes the creation of a "timely, transparent and effective communication strategy for the dissemination of information to the CSOM community on matters of institutional racial, bias and hate incidents." Please describe the strategy and its effectiveness.

i. This includes the institution of cultural sensitivity, implicit bias and micro-aggression awareness training for all leadership, faculty and staff. Who developed this training, is it mandatory, and how often is it administered?

In early 2019, the school underwent a major leadership change resulting from the resignation of the Dean. Additionally, a new Assistant Dean for Diversity was appointed in late 2019, who undertook the development of several initiatives to enhance the culture and climate of the school. Several initiatives, including a school-wide climate assessment were undertaken, however due to the COVID-19 pandemic impact and 18-month lockdown at CUNY, many planned activities were sharply curtailed.

Nonetheless, the CUNY School of Medicine has remained committed to making diversity a central component to all work across the school by engaging in a number of actions across three major areas: learning environment, curriculum, and community building. In the spring of 2021, CSOM conducted a climate study to assess needed practices, programs, resources, and/or policies that ensure students, faculty and staff can learn, live, and thrive at CSOM and beyond, and to assess and monitor progress regarding specific learning environment issues and concerns raised by members of the CSOM community. Results of the survey are being compiled and evaluated at this time. Further, as a way to build capacity for faculty, students and staff to foster a more inclusive learning environment and community, implicit bias, microaggressions, and active bystander trainings were instituted into all student orientations as well as faculty and staff development workshops. We have also taken a number of actions to create opportunities for our students to engage in conversations related to anti-bias and anti-racism, particularly as it pertains to the field of medicine and achieving health equity. Perhaps the most impactful action was to conduct a full review of the CSOM undergraduate and medical student curriculum to examine the ways in which important content related to issues of power, privilege, inequality, and social justice in medicine could be added to our students' learning experience. Further, a series of workshops on inclusive pedagogy in teaching practices have also been developed and implemented for faculty to ensure this revised curriculum is delivered in culturally competent manner. Finally, a number of events and community conversations were also hosted as part of our community building initiatives. These include:

- Honoring Black Lives Vigil – June 5, 2020: Vigil for the CSOM community to honor the lives of George Floyd, Breonna Taylor, Ahmaud Arbery, Tony McDade and the countless others who have lost their lives due to the insidious effects of racism. The vigil included poetry readings, songs, and art pieces from our CSOM community.
- Black Men in White Coats – February 8, 2020: Film screening of Black Men in White Coats followed by a panel discussion featuring CSOM alumni discussing their reflections on the film. The purpose of this gathering was to raise awareness around the disparities and systemic barriers preventing Black men from becoming medical doctors and to provide a collective space to elevate and discuss the experiences of Black identified medical students and physicians.
- Annual Martin Luther King, Jr. Lecture – February 26, 2020: CSOM hosted its first annual Martin Luther King, Jr. keynote lecture. This lecture will be hosted each year in February and will feature thought leaders who provide insight and advocacy to the current civil rights issues of education and health inequities. This year's inaugural keynote speaker was Dr. Noel Manyindo, CSOM's new Chair of Community Health and Social Medicine and former Assistant Commissioner of the NYC Department of Health and Mental Hygiene.
- Connecting and Reflecting Community Conversations – Various conversations were hosted to acknowledge the impact of events in our world. For instance, conversations were scheduled to reflect on election day, the storming of the Capitol, and the Derek Chauvin

trial. These conversations were rooted in restorative justice practices and community building circles and were open to all CSOM faculty, students, and staff.

- How to be an Anti-Racist Book Club – During the month of September, all faculty and staff were invited to participate in a month long reading and discussion of Ibram Kendi's book, How to be an Anti-Racist.

Other Initiatives

With support from a CUNY SOM faculty member, the Assistant Dean for Diversity, a post-doctoral student in the CCNY Division of Science (DOS) and leader in the DOS Women in Science (WINS) conducted an awareness raising talk on anti-Asian bias. This group has also held a series of meetings and webinars on advancing the careers of women in science during the COVID-19 pandemic. Finally, the Assistant Dean for Diversity applied for and received from the Association of American Medical Colleges (AAMC) and the University of San Diego Center for Restorative Justice, a grant to develop a Restorative Justice (RJ) program at the CUNY School of Medicine. The AAMC pilot on Restorative Justice in Academic Medicine (RJAM) reflects the institution's commitment from senior leadership to implement Restorative Justice practices and institutional capacity to lead such an initiative. This pilot will offer CCNY an opportunity to incubate an RJ approach with support from experts in RJ as well as leadership from the Assistant Dean for Diversity. CCNY's Chief Diversity Officer and CUNY SOM's Assistant Dean of Diversity developed and delivered an anti-racism training that included elements of bystander intervention.

With the re-opening of the campus and appointment of our new Dean, the School will be engaging in strategic initiatives related to diversity.

Curriculum…

16. We all have biases that affect the way we live and work in the world. While increasing the number of physicians of color is one way to combat implicit bias based on race in the clinical setting, how does CSOM's curriculum include implicit bias training?

    Implicit bias training has now been included in the medical school curriculum, in the BS/MD program's pre-matriculation program, and as required curriculum for students in the medical school clinical years.

    a Is such implicit bias training a requirement for all CSOM students?

    Yes

Visiting Black Patients: Racial Disparities in Security Standby Requests

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Abstract: Background: Structural inequalities exist within healthcare. Racial disparities in hospital security standby requests (SSRs) have not been previously explored. We speculated hospital SSRs varied based upon race with black patients and their visitors negatively impacted.

Methods: An 8-year retrospective study of hospital security dispatch information was performed. Data were analyzed to determine demographic information, and service location patterns for SSRs involving patients and their visitors. The race of the patient's visitors was imputed using the patient's race. The observed and expected (using hospital census data) number of patients impacted by SSRs was compared. Descriptive statistics were computed. Categorical data were analyzed using chi-square or Fisher exact test statistic. A $p < 0.05$ was statistically significant.

Results: The majority of the 1023 SSRs occurred for visitors of patients who were white (N = 642; 63%), female (56%), or < 21 years old (50.7%). However, SSRs differed significantly based upon the patient's race. Although Black patients represent 12% of the hospital population, they and their visitors were more than twice as likely ($p < 0.0001$) to have a SSR generated (N = 275; 27%) when compared to the visitors of both White and other (*i.e.,* race unknown) patients (N = 106; 10%) *combined* ($p < 0.0001$).

Conclusion: This study adds to the medical errors and healthcare disparities literature by being the first to describe racial disparities in SSRs for Black patients and their visitors. It also introduces the concept of "security intervention errors in healthcare environments." New metrics and continuous quality improvement initiatives are needed to understand and eliminate racial/ethnic based disparities in SSRs.

Keywords: Racial disparities and inequities■Health and healthcare disparities and inequities■Medical errors■Security intervention errors in healthcare environments

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INTRODUCTION

Healthcare disparities remain a national priority and public health issue.[1] Present day Black−White disparities are a reflection of historic practices in the U.S. (*i.e.,* segregated and lower quality health resources) that have consistently resulted in lower quality healthcare and poorer health outcomes for Black patients.[1,2] Despite matching for socioeconomic and insurance status, abundant evidence indicates that Blacks have less access to quality healthcare, receive lesser quality healthcare, and have worse health outcomes than Whites for most diseases studied (*e.g.*, cancer, chronic pain, and heart disease).[1−4]

Across health sectors, several strategies have been proposed to address disparities by focusing on the preparation, recruitment, retention, and promotion of underrepresented racial/ethnic minority healthcare providers.[5,6] Unfortunately, at every stage of this process, the current pace of these initiatives lags behind comparable efforts for Whites, with little prospect of providing a timely response to reducing health and healthcare disparities.[7−9] Moreover, the role of institutional healthcare inequities, bias, prejudice, and stereotyping within healthcare systems remains largely unacknowledged and unaddressed. At a time when the U.S. is increasingly diverse, the racial/ethnic diversity of college campuses, health professional schools and healthcare systems have *not* kept pace; resulting in a failure to provide the needed excellence and diversity in the health professions to address persistent healthcare disparities.[10−12]

This article examines issues of race/ethnicity in relation to healthcare disparities and reports on a first-ever systematic study of race disparities in hospital security standby requests (SSRs) for patients and their visitors *i.e.,* security being called for a present, imminent, or perceived incident/threat. The following sections discuss issues of race/ethnicity in terms of the broader U.S. context, as well as within healthcare interactions and institutions. A case study and data analysis from a quartenary care Midwestern teaching hospital are presented demonstrating consistently higher rates of SSRs in response to Black patients and their visitors as compared to White patients and their visitors. Discussion of study findings highlight interpersonal and organizational factors operating within healthcare settings impacting patient and hospital employee interactions, including enhanced security and policing practices that characterize current hospital settings and the potential escalating role this may have in patient-employee encounters. The article concludes with recommendations for the training and education of hospital employees, description of study limitations, and call for further research efforts that expand the scope and depth of this first effort at examining an under-researched issue.

RACE/ETHNICITY IN THE BROADER SOCIAL CONTEXT

Accumulated micro-aggressions and macro-aggressions, both within and outside of healthcare systems, over the life course contribute to increased health and healthcare disparities for Blacks and other racial/ethnic minorities (*e.g.,* decreased quality of life, increased co-morbidities, and decreased life expectancy).[1,13,14] Specifically, racial/ethnic minorities are at increased risk for experiencing micro-aggressions, both explicit and implicit discrimination and racism, everyday discrimination and unfair treatment, as well as macro-aggressions such as physical, emotional, and social trauma.[14–16] Particularly troubling when viewed from a historical perspective and as an ongoing public health issue, are the number of documented macro-aggressions such as the recent killing of unarmed Black men, women, and children by police and security officers.[17–19] These deaths have generated important conversations on the role of race, systemic and systematic biases, as well as protests (and counter-protests) regarding the use of deadly police force in communities across the country.[14,20–23,40–43] Sadly, in 2017 these macro-aggressions, including the deaths of unarmed people, continue and are often accompanied by criminal and civil litigation.[43]

Persistent micro-aggressions and macro-aggressions directed at racial/ethnic minorities, have also heightened awareness about the negative impact of stereotyping, bias, and marginalization.[13–16,20] Beginning in the Fall of 2014, undergraduate and graduate students across U.S. college and university campuses engaged in non violent protests, medical students engaged in "White Coats for Black Lives die-ins," and many football players in the National Football League and other allies engaged in silent protests by taking a knee during the national anthem to raise awareness about racial discrimination, injustice, and inequality as well as the number of unarmed black people seriously harmed or killed by police.[14,20–23,44–46] Their activism yielded increased awareness about the role of Black race and premature mortality due to police. Unfortunately, the increased activism regarding micro-aggressions, discrimination, and racial hatred has also led to violent protests and bodily harm including a death in one university community, i.e., Charlottesville.[47,48]

Research on racial/ethnic differences in health and healthcare, as well as public awareness about the personal costs and social injustice of these disparities is growing. Health and healthcare disparities are associated with significant individual, social, and economic costs that are disproportionately borne by minorities, low income individuals, and marginalized populations. The literature identifies several critical factors including the operation of racial/ethnic based stereotypes, structural barriers in hospitals and healthcare settings, and variability in medical and administrative decision-making.[4,24,25] Further, conscious and unconscious bias operating systematically at individual, systemic, and institutional levels, lead to suboptimal healthcare access, quality, treatment, and outcomes.[4,24–26] Finally, variability in decision-making processes within the clinical encounter and healthcare enterprise is known to contribute to health and healthcare disparities.[4,24–26]

CASE STUDY

In November 2013, a hospital chaplain practicing in a large teaching hospital, approached a senior administrator. The chaplain expressed concern that hospital security was being called to attend to patient encounters when the more appropriate referral would have been to contact spiritual care (Appendix A). More specifically, the chaplain observed security was called more for Black patients and their visitors than for White patients and their visitors than for white patients and their visitors.

Our research team was approached as an independent party to ascertain the veracity of the observations. We speculated that healthcare was not immune to larger societal problems regarding interracial social perceptions and interactions. The case represented a previously unexamined question in the healthcare disparities literature that deserved further scrutiny. That is, what are the social circumstances associated with hospital SSRs with patients and their visitors. Specifically, a retrospective study was designed to examine 1) whether hospital employee and patient characteristics influence decision-making with regard to SSRs and 2) whether there were racial differences in SSRs for patients and their visitors.

METHODS

This research project design was submitted and approved by the Institutional Review Board. Written informed consent was waived. A secondary analysis of a unique hospital database containing security dispatch information (since inception in 2006 through June 30, 2014) was performed. The data were analyzed to determine the patterns, location, and types of SSRs generated for patients and their visitors. Using the patient's medical record number, limited patient demographic information (*i.e.,* age, gender, and race) was obtained and the associated medical record was cross-matched with the dispatch data. A detailed analysis examining patient service location (*e.g.,* emergency care, general care, and surgical and intensive care) for SSRs from early 2013 to June 30, 2014 was conducted.

Analyses were conducted in several stages and compared to the hospital census. Descriptive statistics were computed to establish sample demographic

Table 1. Descriptive results of security standby requests by patient age, 2006 to 6-30-2014.

Age in years	Standby requests; N (%)
<21	519 (50.7%)
21–40	147 (14.4%)
41–60	174 (17.0%)
61–80	140 (13.7%)
Unknown	43 (4.2%)
Total	1023 (100%)

characteristics. Categorical data were analyzed using chi-square or Fisher exact test statistic. Statistical significance for all analyses were determined by using 2-tailed tests, with the probability of Type I error $p < 0.05$.

RESULTS

Limited demographic information (*i.e.,* age, race, and gender) was analyzed for 1023 patients who had SSRs generated; their service location was available during the six-year study period (1/1/2006 to 6/2013). Consistent with patient census, the majority (56%) of the SSRs were for female patients and their visitors. Most SSRs (50.7%) were for the youngest patient population (*i.e.,* < 21 years old) and their visitors (Table 1).

Security standby requests differed significantly based upon patient race (Table 2). Although the number of SSRs most often occurred for White patients (N = 642; 63%) and their visitors, this was less than their expected representation in the population (63% vs. 79%). The number of observed and expected (using hospital census data) patients impacted by SSRs generated was compared. By census, Black patients represent 12% of the hospital population. Once the patient's race was determined, the race of the patient's visitors was imputed. The visitors of Black patients were significantly more negatively impacted by SSRs ($p < 0.0001$). Specifically, Black patients and their visitors were significantly more likely ($p < 0.0001$ *i.e.* > twice as likely) to have a SSR generated (N = 275; 27%) than both White patients and their visitors (N = 642; 63%) and other (*i.e.* race unknown) patient and their visitors (N = 106; 10%) *combined* ($p < 0.0001$). A similar pattern in generating SSRs was found when only Black–White differences are considered. However, for Black patients and their visitors the differential adverse impact increased and the impact on White patients and their visitors decreased ($p < 0.0001$).

A change in the hospital's organizational structure allowed us to examine the role of patient location and SSRs. From 1/1/13 to 6/30/14, there were 356 SSRs generated where the patient's service location was available. Table 3 shows the majority (68.5%) of the SSRs occurred in the medical (N = 132; 37%) and surgical (N = 112; 31.5%) care areas. The overall number of SSRs was greatest for White patients (N = 88; 37%) and their visitors. However, the number of SSRs generated differed significantly based upon the patient's race (Table 3). When the observed and expected number of patients impacted was compared, SSRs for Blacks (24%) was disproportionately and statistically higher *i.e.,* twice expected ($p < 0.0001$).

Across all service locations, the observed number and percentage of SSRs for Black patients and their visitors was more than twice their expected representation in the population, except in the surgical care area which was slightly lower than double. Like the pattern observed for both White and other patients and their visitors, the pattern of SSRs for Black patients and their visitors was greatest in the medical (37.2%), surgical (25.6%), and emergency (24.1%) care areas. However, the number of SSRs generated for this population was statistically greater overall ($p < 0.0001$).

DISCUSSION

People come to hospitals for sanctuary, respite, and healing. Despite multiple independent witness accounts

Table 2. Descriptive results of security standby requests (SSR) by patient's race/ethnicity by hospital census race/ethnicity, 2006 to 6-30-2014.

Patient race/ethnicity	Unweighted patient hospital census average by race/ethnicity (%)	Expected SSR; N	Observed SSR; N(%)
Black	(12%)	123	275 (27%)
White	(79%)	808	642 (63%)
Other	(9%)	92	106 (10%)
Total	(100%)	1023	1023 (100%)

Other: Non-White/Non-Black/Unknown race.

Table 3. Inpatient security standby requests (SSR) by patient location, 1/1/2013-6/30/2014.

	Patient race/ethnicity						
	Black		White		Other		
Service location (N; %)	Expected SSR; N	Observed SSR; N (%)	Expected SSR; N	Observed SSR; N (%)	Expected SSR; N	Observed SSR; N (%)	*P* value
Medical (132; 37%)	15	32 (37.2%)	102	88 (37.0%)	15	12 (37.5%)	0.0001
Surgical (112; 31.5%)	13	22 (25.6%)	86	80 (33.6%)	13	10 (31.3%)	0.021
Emergency (72; 20.2%)	8	21 (24.4%)	56	48 (20.2%)	8	3 (9.4%)	0.0001
Other (40; 11.2%)	4.5	11 (12.8%)	31	22 (9.2%)	4.5	7 (21.8%)	0.0012
Total (356)	40.5	86 (24.2%)	275	238 (66.8%)	40.5	32 (8.9%)	0.0001

concerning differentials in hospital SSRs; to our knowledge, this study is the first to systematically examine the role of patient race while identifying racial disparities in SSRs. Survey data suggests most hospitals have security officers who carry guns, pepper spray, batons, handcuffs, and other gear traditionally associated with policing and control.[27] This compels us to consider whether the presence of these implements unnecessarily escalates interactions and increases the potential for harm. These statistically significant results introduce evidence of an important source of structural inequality. Specifically, we showed that hospital security was called more often for Black patients and their visitors when compared to Whites. Collectively, these results describe race-based disparities in the form of more than a two-fold increase in SSRs that are generated for Black patients and their visitors, over their representation in the hospital population. While not measured in the current study, we would also expect a significant increase in "threats" of security calls for these populations (i.e., "I'm going to call security if…") even before the actual SSRs are made as well as the number of undocumented SSRs. These encounters contribute directly to healthcare disparities, low patient satisfaction, and diminished health outcomes.

Racial/ethnic minorities account for more than one third of the U.S. population and will soon represent the majority.[28] Despite this, they remain in the minority as healthcare professionals and well below representation in the U.S. population impacting healthcare access, cultural competency, and patient satisfaction.[5,29,30] The impact of micro-and macro-aggressions and the intersection of bias, discrimination, and stereotyping on patient satisfaction and healthcare service delivery and quality has not been well explored in the context of hospital security and policing actions. Despite increased use of Tasers, physical restraints, and firearms by hospital security, there is little publicly available data to examine the epidemiology of SSRs, and the potential impact on healthcare quality and disparities at the national or local level. Our results revealing disproportionate SSRs involving Black patients and their visitors; results underscore the need to examine why, when, how, and on whom, and whom security is called while identifying trends and potential interventions.

Although the current and historical lens is the potential overreaction by police, it seems in the case of hospital SSRs the issue rests with who is calling hospital security and how social determinants (*e.g.,* class, income, residence) contribute to structural inequalities and ineffective communication. Specifically, cultural, trust, and attitudinal differences contribute to communication difficulties with Black patients.[1,31] The urgency of addressing racial/ethnic disparities micro- and macro-aggressions, is underscored by two case studies.[32–34] Both clearly demonstrate the physical and psychological harm to patients and structural inequalities within healthcare due to interactions with hospital security: Ms. Barbara Dawson an overweight African-American woman died and Mr. Alan Pean a Haitian/Mexican-American man was critically wounded in 2015 (Appendix B). An important consideration is whether non-threatening situations were unnecessarily escalated due to bias, stereotyping, and poor communication.

The literature suggests hospital employees may lack the resilience and tolerance as well as cultural awareness, competence, and humility to deal with stressful situations (*e.g.,* extreme grief, expected and unexpected loss, death, critical and emergent illnesses) involving minorities.[1,36,37] Both patient and clinician phenotype, communication styles, stereotypes, and fear may contribute to employees' perceiving greater threat, tolerating less disruption, and expecting violence from patients, especially minority patients.[37] Negative perceptions may, in turn, result in decreased restraint in calling security for non-threatening situations involving minority patients. Further, cultural differences in how racial/ethnic minorities express

themselves during times of distress (*e.g.,* grief), may be viewed by hospital employees as abnormal and alarming (*e.g.,* too demonstrative, loud). Coupled with prejudice and stereotyping directed at minorities, these factors may contribute to the observed racial disparity in security calls.

Medical decision-making remains highly idiosyncratic and the type of response by hospital staff, such as 'authoritative obey and control' in an emotionally charged situation, may contribute to friction, discord, and negative confrontations. Several vignette studies found patient race independently influenced medical decision-making.[26] Minorities report less trust and involvement in medical decision-making than Whites.[38] The medical decision-making model focuses on social norms, and has been criticized for failing to account for the effects of social context (*e.g.,* patient, clinician, and healthcare system characteristics) on the medical encounter. Nonetheless, our findings clearly underscore variability in SSRs based upon patient and visitor race.

Despite our significant findings, there are limitations. First, this retrospective analysis used an inpatient database that was not developed for research purposes. Second, race was assigned by observation and may not reflect how people identify themselves. Furthermore, the race of the patient's visitor was not available and was imputed from the patient's race. Third, despite the increasing racial/ethnic diversity of the U.S. population, we focused on Black-White differences since other racial/ethnic groups were too small for analyses. Lastly, we did not control for other social determinants (e.g., socio-economic status), potential inherent sources of bias (*e.g.,* religion, income, insurance, class) or by the type of organization (e.g., size, geography). Thus, we cannot determine the potential intersection of race and other social determinants of health, although future studies should attempt to do so. Nonetheless, our data reflect important quality and statistically significant racial disparities in SSRs at a large Midwestern teaching hospital.

Racial/ethnic-related differences in healthcare outcomes are well documented, but this is the first time differences have been documented in hospital SSRs. Forthcoming studies will address the following areas of inquiry:

- The role of staff and clinician diversity in hospitals.
- The role of cultural competence and humility, community engagement, and culturally-sensitive practice on how hospital security services are delivered and all hospital employees are trained.
- The need for qualitative studies and better data (including near misses and never events) focused on security calls.
- How patient/visitor, employee, and security officer characteristics influence SSRs.

Using an historical lens and cognizant of recent events, our research should stimulate exploration in several health equity areas.[39] First, how patients' and hospital employees' bias and verbal and non-verbal communication styles influence perception of threat and SSRs including security's decision-making once called. Second, the potential intersection of patient characteristics associated with stigma and stereotype (*e.g.,* socio-demographics, co-morbidities, cultural beliefs, support systems, decision-making, preferences) and hospital employee characteristics (*e.g.,* capacity to understand variability in communication-styles, especially grief) and how they influence the healthcare experience (*e.g.,* Black race and male gender). Third, attention must be directed at understanding the role of medical decision-making, stereotyping, bias, discrimination, and trust when considering variability in SSRs. Fourth, we previously demonstrated that socio-economic status is protective for Whites but not for Blacks.[4,24,49] Thus, a critical examination of the role of socio-economic status, age, gender, and race/ethnicity in SSRs is needed. Lastly, vitally important for communities being served and for eliminating racial disparities in SSRs and security errors is ensuring transparency (*i.e.,* sharing available data with the community and creating metrics) and accountability for healthcare organizations by those accrediting (*e.g.,* JCAHO) and regulating (*e.g.,* CMS) them.

In conclusion, to our knowledge, this study is the first to demonstrate major racial disparities in SSRs for Black patients and their visitors. Thus, this paper can serve as an important teaching tool for medical and health professionals, administrators, ethicists, and those involved in quality assurance and patient relations activities. Consistent with the healthcare disparities and medical errors literature, we are the first to introduce the concept of "security intervention errors in the healthcare environment" in the context of employee patient interactions and their importance to racial/ethnic based differences in healthcare quality.[35] Thus, high quality healthcare requires: 1) transparency, 2) hospitals maintain a safe environment, 3) hospital employees ensure respect, tolerance, and empathy for all patients and visitors, and 4) hospital security equitably protect and serve all.[39] To ensure the highest quality of healthcare, continuous quality improvement initiatives must include audits for SSRs and security intervention errors in healthcare environments. Specifically needed are multidisciplinary approaches using mixed-methods *i.e.,* qualitative and quantitative research to understand and develop needed interventions (*e.g.,* educational strategies, institutional practices audits) to ultimately improve healthcare quality and eliminate racial disparities in SSRs. Essential to ensuring quality healthcare is a patient's (and their visitor's) right to be free from all aggressions.

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APPENDIX A. CASE STUDIES

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New York City Council Committee on Higher Education
Oversight Hearing: The CUNY School of Medicine and Implicit Bias in Healthcare
Testimony of Cory Provost
Student, School of Law, City University of New York (CUNY)
Interim Chairperson & Vice-Chair of Legislative Affairs, CUNY University Student Senate (USS)
DECEMBER 3rd, 2021

Good Morning Members of the New York City Council,

My name is Cory Provost and I'm a third-year law student attending the City University of New York School of Law. I currently serve as Vice Chairperson of Legislative Affairs and Interim Chairperson for the City University of New York University Student Senate, representing more than 500,000 CUNY students within New York State. I also have the distinct honor to serve as the only student on the City University of New York Board of Trustees. At the CUNY Law School, I serve as Co-President of the Student Government Association and Director of Alumni Relations for the Northeast Black Law Student Association, as well as the Black Law Student Association at the CUNY School of Law. Previously, I served as USS Chairperson and CUNY Trustee from 2009-2011 and received both my B.A. in Philosophy and M.A. in Urban Policy and Administration from Brooklyn College. In addition, I serve as Democratic State Committee Member and District Leader for Brooklyn's 58th Assembly and as an Executive Committee Member of the Kings County Democratic Party.

The CUNY School of Medicine (CSOM) at the City College of New York (CCNY) is a hidden gem in the CUNY system and a rare example of a medical school where the student demographics mirror those of the communities it intends to serve. According to an article from February 2019, 53% of the student population came from underrepresented minorities, of which 35% were African-American and 18% were Hispanic. Compare that with the national average demographic at medical schools of which 59% are white. Over 80% of medical students come from an immigrant background either as immigrants themselves or direct first-generation descendants, with 63% of all students being women. The school also takes into consideration students who come from economically disadvantaged backgrounds. According to CCNY's Associate Director of Admissions Jerrold Erves, these numbers can partially be attributed to CCNY's pipeline programs NYC public high schools, especially those with enrichment programs in STEM areas which have been encouraging more female students to go into the sciences. Mr. Erves regularly travels to speak with high school students about healthcare

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education related opportunities at CUNY. The high school applicants that are received have a strong desire to become doctors and physicians. For many it is the pipeline programs or through volunteer opportunities, where students come to realize and identify their desire to go into medicine based off lived experiences involving their families or communities, and leading students to find improved ways to deliver healthcare access.

The CUNY School of Medicine currently has two Physician Assistant (PA) pipeline programs. The first is the Health Professions Recruitment and Exposure Program (HPREP) which is a national program that was expanded to CSOM where students are introduced to healthcare professionals through guest speakers and other activities. The second program is the Sophie Davis Health Professions Mentorship Program (HPMP) for rising High School Juniors for students considering health related professions. The program has a two-year commitment consisting of two four-week summer sessions following one's sophomore and junior spring semesters, monthly Saturday sessions, in addition to mentorship sessions. During the program, students will conduct a community-based project which identifies health care problems in New York City and looks at solutions to tackle those issues.

As the CUNY School of Medicine moves into its 6th year of existence, its primary partnerships with Saint Barnabas Health System in the South Bronx and Staten Island University Hospital, in addition to Harlem Hospital, Jacobi/North Central Bronx, Forest Hills Hospital, and several clinical practices where medical students also do their rotations, continues to flourish. The 7-year program consists of a three-year bachelor's degree curriculum, followed by four years of medical school.

The program curriculum itself seeks to ensure that students can identify barriers to healthcare, while thinking critically about healthcare disparities. According to a recent alumnus of the program, the school has classes dedicated to learning about empathy, maintaining patient's dignity, as well as cross-cultural competency in areas such as counseling, in addition to Spanish language classes aimed specifically at medical terminology and servicing Spanish speaking patients. The school has also made it a priority to discuss topics such as "race, gender, sexual orientation and systemic injustice."

The CUNY School of Medicine continues to be a rare success story in the CUNY American Dream Machine, where students from underprivileged backgrounds are able to not only attain access to high quality educational, professional and career based resources through attending a complete program covering an undergraduate and medical school education, but also by identifying and developing leaders in the field of healthcare who go on to reinvest in their own

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communities and tackle problems that are faced. At a time when communities of color have been hit hardest throughout the COVID-19 Pandemic, we cannot let up the fight and must continue to provide the program with the full resources it needs to continue training the next generation of health and medical professionals in our communities. The CUNY School of Medicine is CUNY's answer in the continuing fight and struggle in tackling implicit bias in healthcare, ensuring proper health care delivery and equity. We must ensure that the program continues to be prioritized and supported in this coming budget session and beyond.

Thank you for your time and consideration.

Sincerely,

Cory Provost