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Closing the Gap: Advancing Equitable Cancer Care

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MCW Surgery
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Endocrine Section




Division Chief
Surgical Oncology

Breast Section






Research Section



Gastrointestinal/Skin & Soft Tissue Section









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SURGERY

MCW Division of Surgical Oncology

MEDICAL COLLEGE OF WISCONSIN

PEOPLE

25 Staff

- 20 Full Time Faculty
- 9 Assistant
- 5 Associate
- 6 Professor
- 17 Advanced Practice Providers

EDUCATION

- 3 Clinical Fellows
- 2 Research Residents
- 82 Rotating Residents AY23-24
- 52 Medical Students

SECTIONS/PROGRAMS

5 Sections/ Programs

- Breast
- Endocrine
- Gastrointestinal
- Regional Therapies
- Skin/Soft Tissue

CLINICAL

FY 2023 to FY 2024

- ↑12% Total number of clinical appointments
- ↑8.1% wRVUs
- ↑13% Total number of operations

RESEARCH

FY 2024

- $8.8 Million Total Research Funding FY20-24
- $1.32 Million Total Research Funding FY24
- 30+ Competitive Grant Applications FY24
- 97 Active Human Research Projects FY24
- 89 Unique Faculty Publications

Disclosures

- No disclosures

Objectives

- Define health disparities and equity
- Contextualize current disparate surgical oncology outcomes
- Describe key components to drive health equity

Healthcare is a Microcosm of Society

Cancer Disparities

Structural Inequity and Social Injustice
(marginalization, discrimination)

Inequities in Institutional Environments
(laws, regulations, policies)

Inequities in Living Environments
(pollution; lack of green spaces, sidewalks, fresh food, and neighborhood safety)

Disparities in the Burden of Preventable Cancer Risk Factors
(tobacco use, poor diet, physical inactivity, alcohol use, obesity)

ESW4

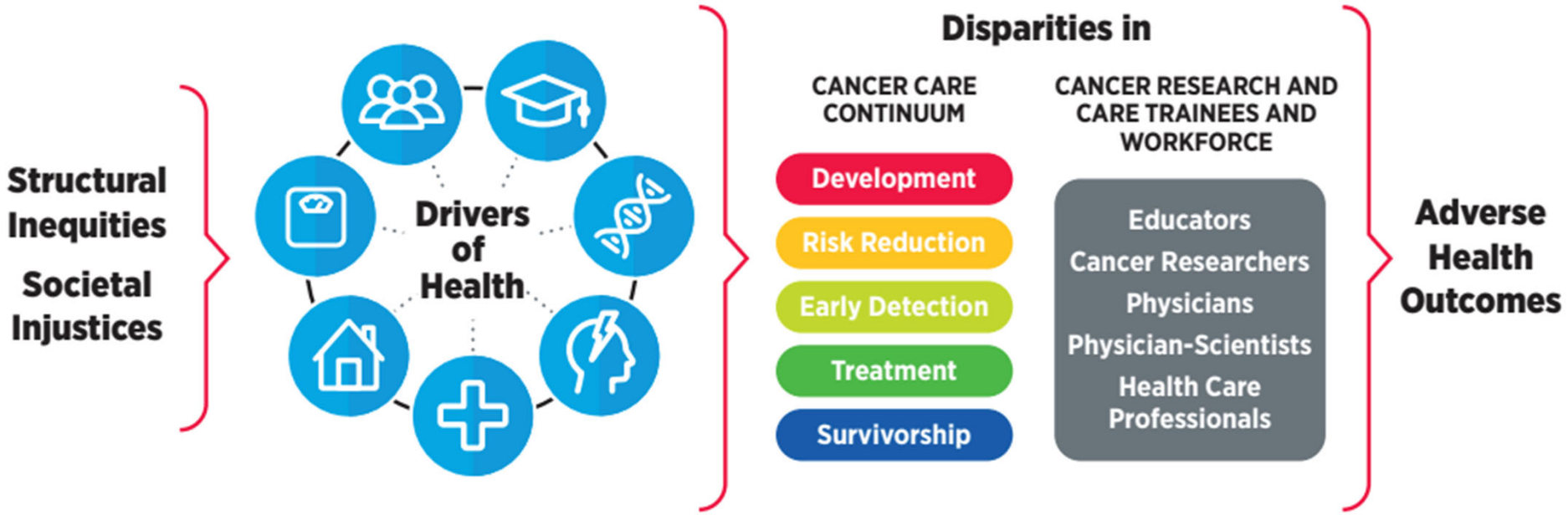
21% of African Americans, 18% of Hispanics, and 8% of non-Hispanic whites were **living below the federal poverty level in 2018**.

10% of African Americans, 18% of Hispanics, and 5% of non-Hispanic whites were **uninsured in 2018**.

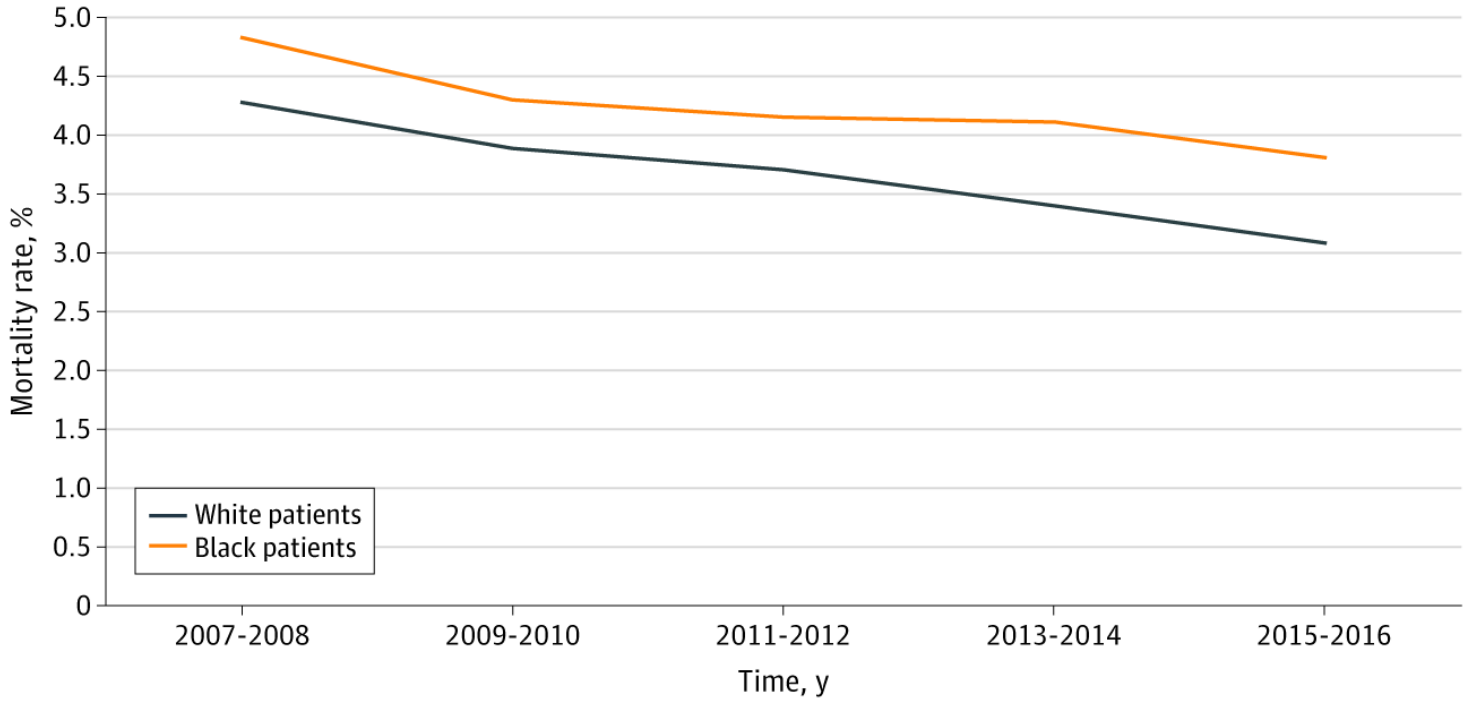
18%
LESS LIKELY

13%
LESS LIKELY

Black and Hispanic patients with triple-negative breast cancer are 18 percent and 13 percent **less likely**, respectively, to **receive guideline-adherent treatment** (including surgery, radiation, and/or chemotherapy) compared to White patients.


Structural Inequities
Societal Injustices
Drivers of Health
Disparities in
CANCER CARE CONTINUUM
Development
Risk Reduction
Early Detection
Treatment
Survivorship
CANCER RESEARCH AND CARE TRAINEES AND WORKFORCE
Educators
Cancer Researchers
Physicians
Physician-Scientists
Health Care Professionals
Adverse Health Outcomes

30-Day Mortality for Oncologic Operations



Lam MB, Raphael K, Mehtsun WT, et al. JAMA Network Open. 2020;3(12).

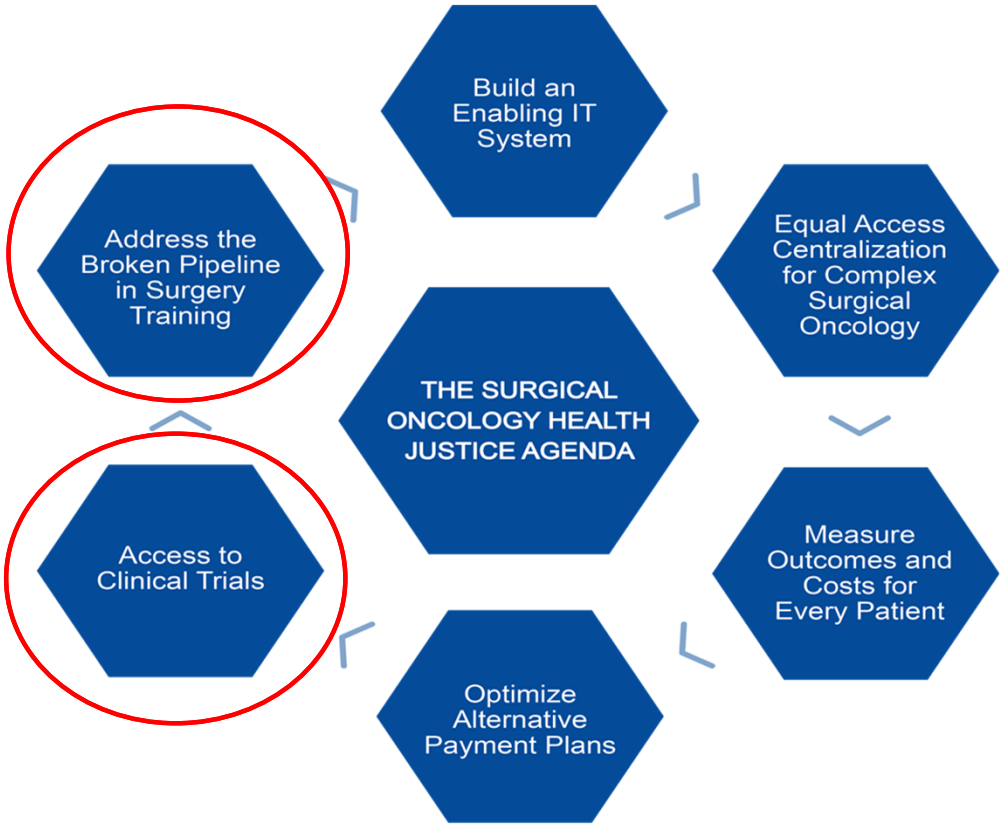
Disparities: “Double Jeopardy’

Our findings suggest a possible double jeopardy for minority patients: Long understood to be at risk of receiving less effective care, they also appear to be often at risk of receiving more ineffective care.

Schpero WL et al, Health Affairs 2017

How do we address these barriers and drive cancer equity?

Multiprong Approach to Cancer Equity



Stewart, JH ....

Addressing the cancer workforce

2023 SNAPSHOT

State of the Oncology Workforce in America

STATE OF CANCER CARE IN AMERICA™

THE U.S. ONCOLOGY WORKFORCE

15,959 Oncologists engaged in patient care*[1]

1,555 Oncology practices~[1]

AGE*[2]

14% Oncologists are 40 and under

23% Oncologists are 64 and older

WOMEN IN ONCOLOGY*[1]

36% Oncologists identify as female

GEOGRAPHY*[1,4]

10% Oncologists practice in a nonmetro area

RACE AND ETHNICITY^[3]

50% Oncologists are White

30% Oncologists are Asian

9% Oncologists did not disclose

5% Oncologists are Hispanic or Latino (any race)

3% Oncologists are Black or African American

1% Oncologists are Multiracial (non-Hispanic)

1% Other^

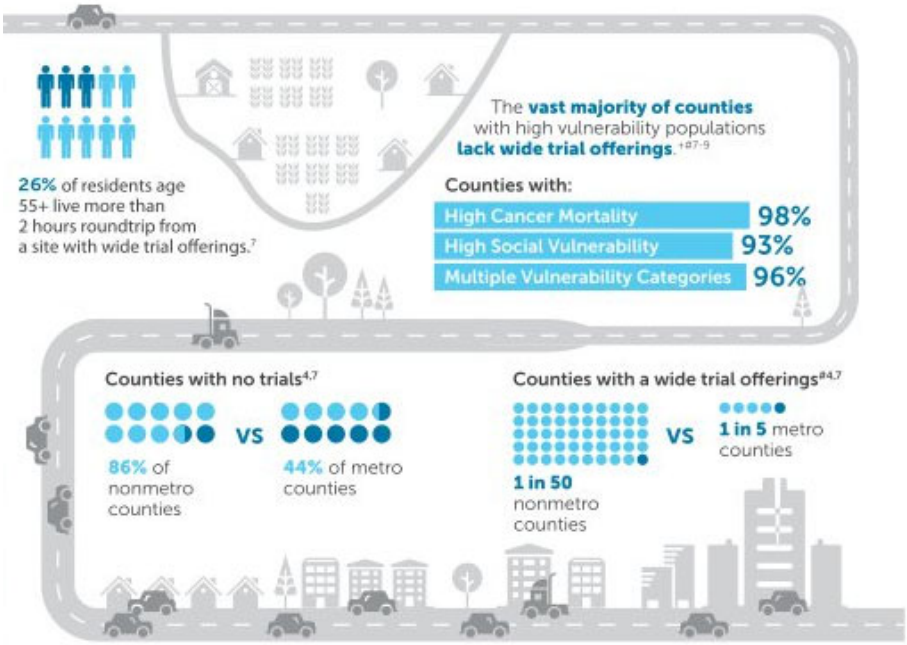
Geographic Access to Treatment Trials

Geographic disparities in clinical trial accessibility contribute to lower participation rates.

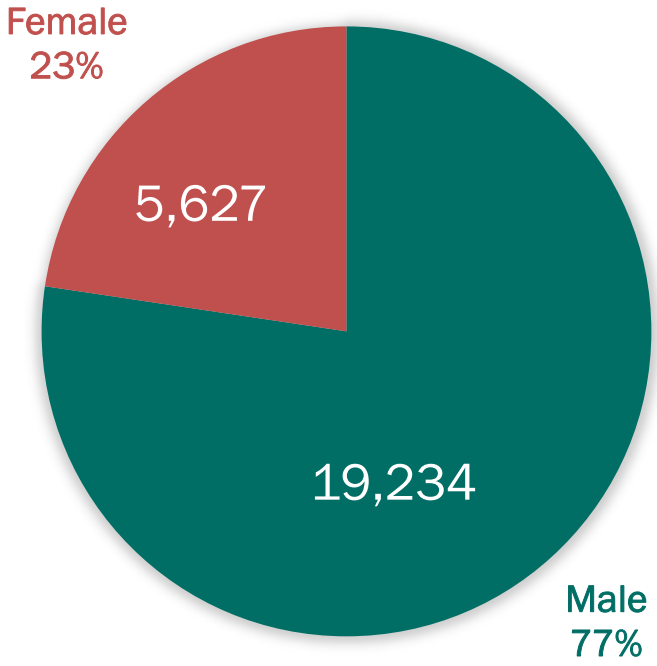
>90% of adult patients with cancer do not participate in clinical trials.[5]

56% of cancer patients do not have trials available at their care site.[6]

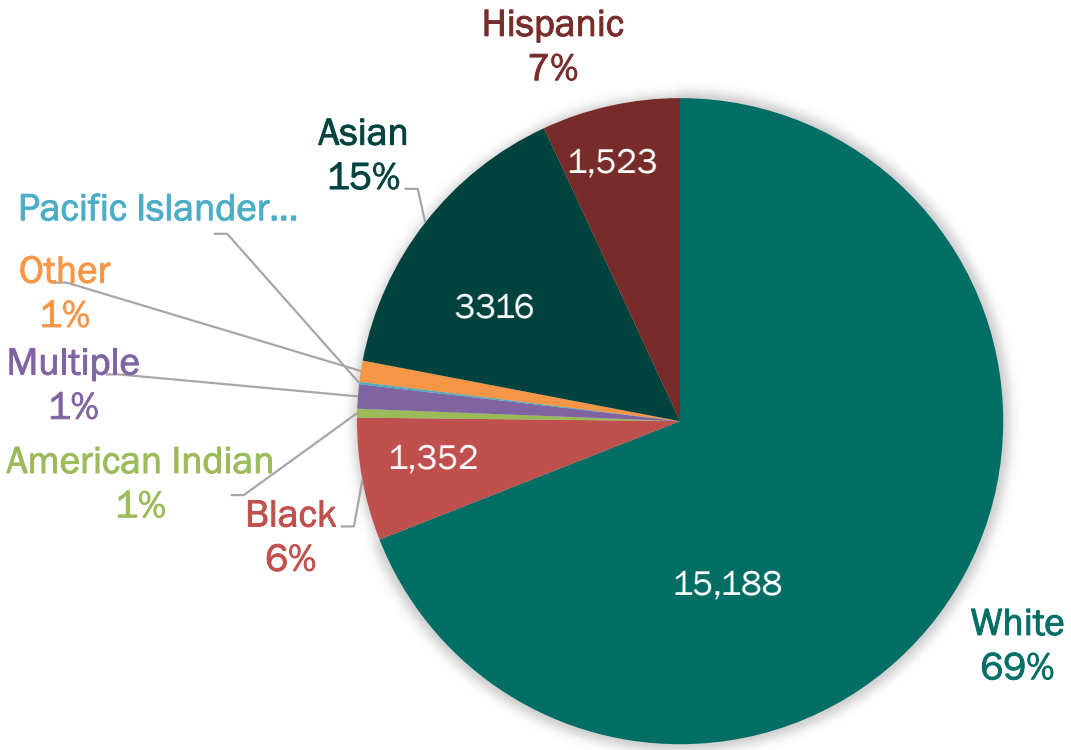
70% of US counties lack a single active cancer treatment trial.[7]



ACTIVE GENERAL SURGEONS BY GENDER, 2021 AAMC



ACTIVE GENERAL SURGEONS BY RACE/ETHNICTY, AAMC 2021



Does a representative surgical oncology workforce matter?

- Racial and ethnic minorities are more likely to provide care for medically underserved communities
- Minoritized patients are often to seek out minoritized physicians to provide their care.
  - Race concordant care is associated with improved rates of cancer screening, medication compliance
- LGBTQ+ physicians are more likely to serve LGBTQ+ patients

Women are more likely to die from surgery if their doctor is male versus female, study suggests

Anna Medaris Miller Jan 6, 2022, 5:04 PM

"Women patients operated on by male surgeons had a 32% increased risk of death, 16% increase in major complications and 11% increase in readmission to the hospital within a 30-day window post-surgery, compared to women operated on by female surgeons, researchers found."

Advancing Equitable Cancer Care

- We must view case disparities as a deficiency in healthcare
- Health equity is a means to achieve elimination of these disparities
- Increasing workforce diversity is ONE means to achieve health equity
- Inclusion is a tool to ensure that cancer workforce matches the patients we serve

What happens now…

- Several states have banned race-conscious admissions >15 years
  - In California: Resulted in a 2% reduction in URM representation at all four-year colleges[1]
  - Across 6 States (California, Texas, Washington, Florida, Michigan, and Nebraska) that banned race-conscious admissions experienced a 17% decline in URM medical school enrollment[2]

1. The Review of Economics and Statistics (2022) 94 (3): 712–722.
2. Garces LM et al. Racial Diversity in the Medical Profession: The Impact of Affirmative Action Bans on Underrepresented Student of Color Matriculation in Medical Schools. *J High Educ*. 2015,86(2):264-294.

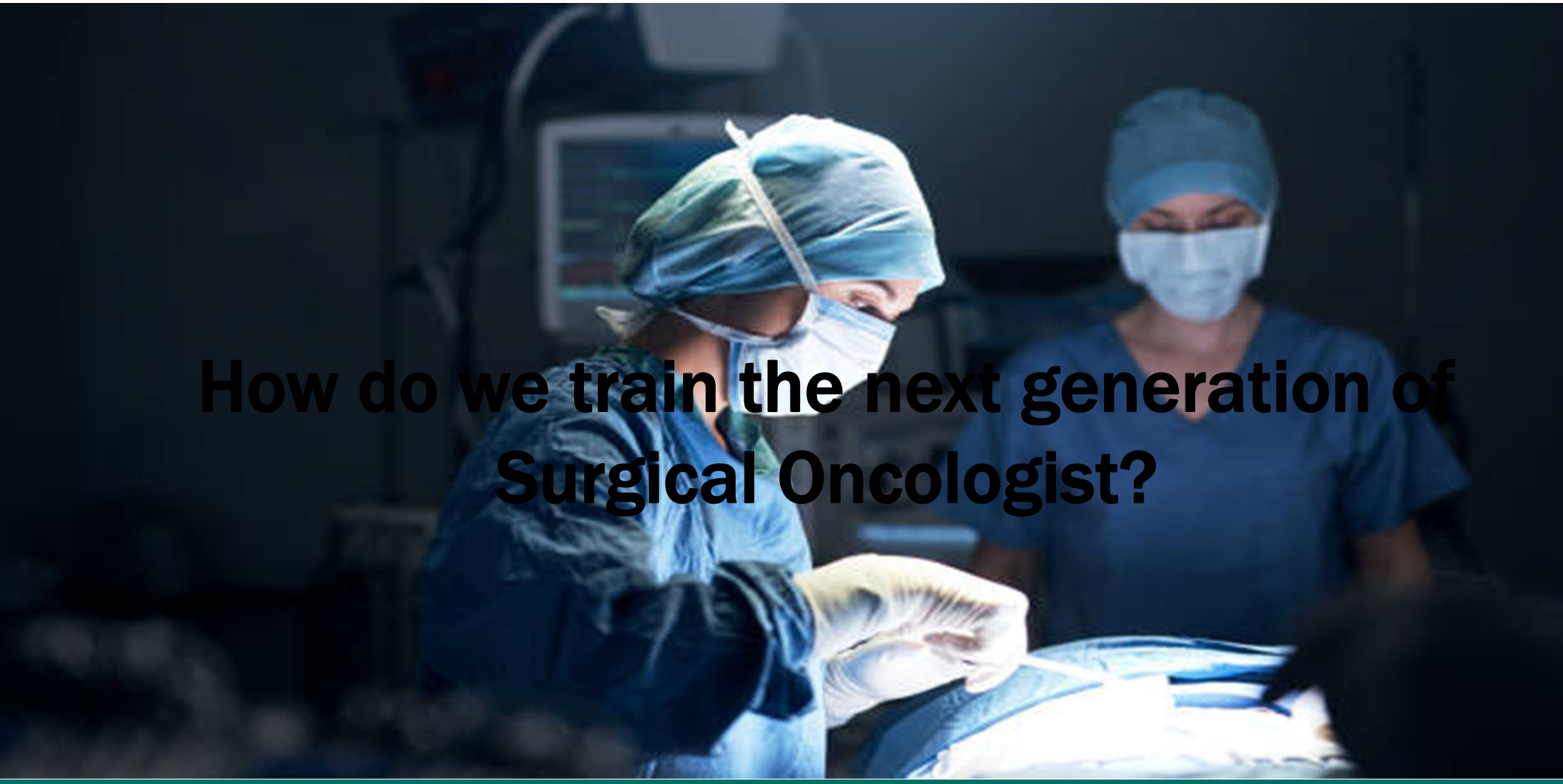

How do we train the next generation of Surgical Oncologist?

Table 2. Race/ethnicity and stage in training, 2015-2020.

	Black/African American median (IQR)	P-Value	Hispanic/Latino median (IQR)	P-Value	URM median (IQR)	P-Value	White median (IQR)	P-Value
MS Applicants	8.2 (8.2-8.3)	*0.008	6.3 (6.2-6.3)	0.167	14.8 (14.7-14.9)	0.053	46.6 (44.6-47.5)	0.09
MS Matriculants	7.1 (7.1-7.4)		6.4 (6.4-6.5)		13.7 (13.4-14.1)		49.7 (47.3-50.9)	
GS Applicants	8.0 (7.9-8.23)	*0.005	9.9 (9.5-10.4)	*0.005	19.2 (19.0-19.5)	*0.005	50.1 (49.4-50.7)	0.69
Active GS Residents	4.4 (4.3-4.8)		5.0 (4.8-6.4)		9.7 (9.6-11.7)		45.7 (45.6-51.7)	
CGSO Applicants	3.9 (3.9-4.1)	0.054	6.0 (5.9-7.3)	*0.008	10.8 (10.1-12.8)	*0.005	57.4 (56.2-58.6)	0.9
CGSO Active Fellows	2.2 (1.9-2.4)		3.6 (3.5-4.1)		6.6 (6.6-7.1)		58.7 (57.3-63.1)	

IQR, interquartile range; URM, underrepresented minority

Collins R, et al. ASO 2023 Aug;30(8):4579-4586

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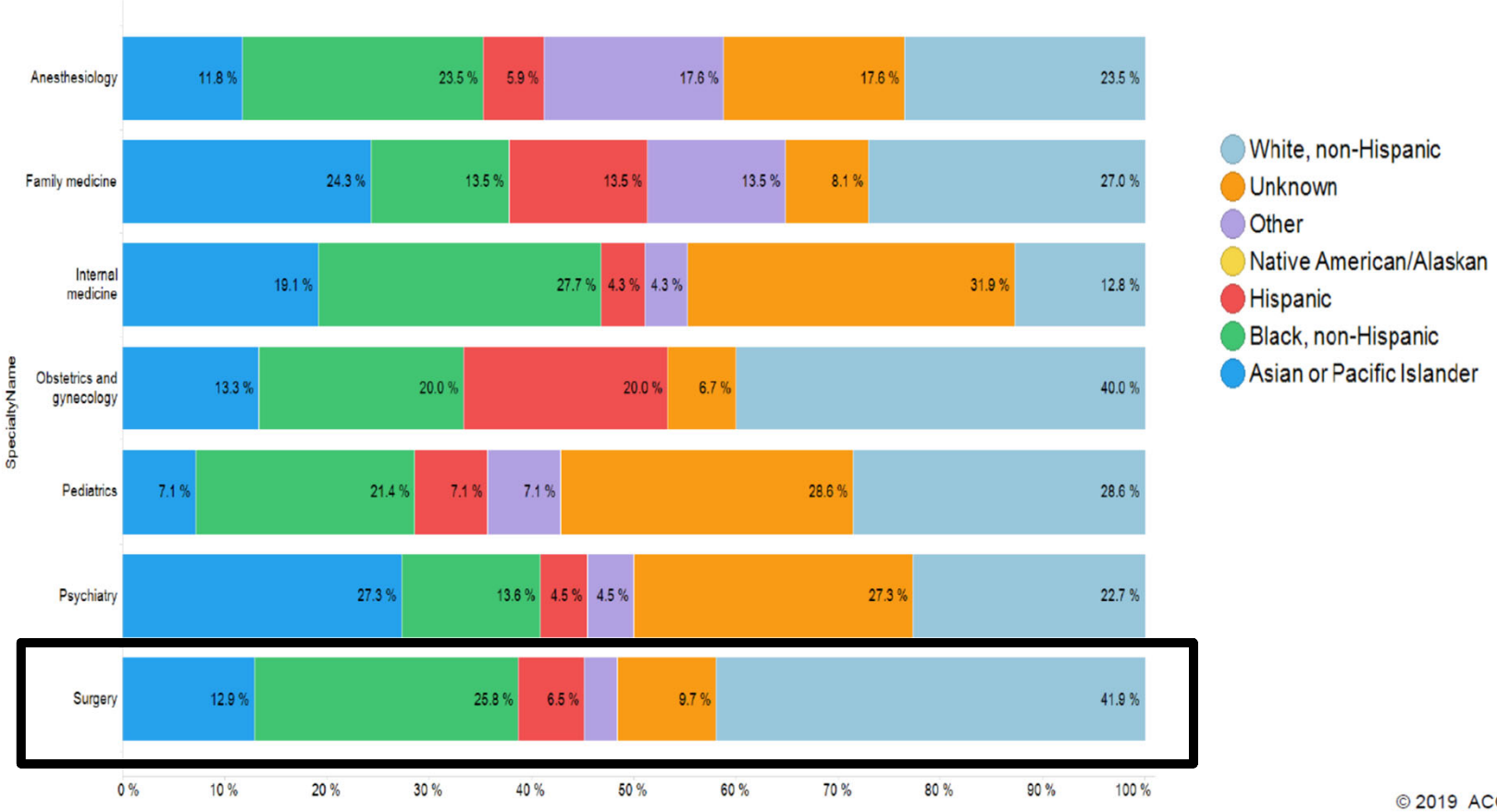
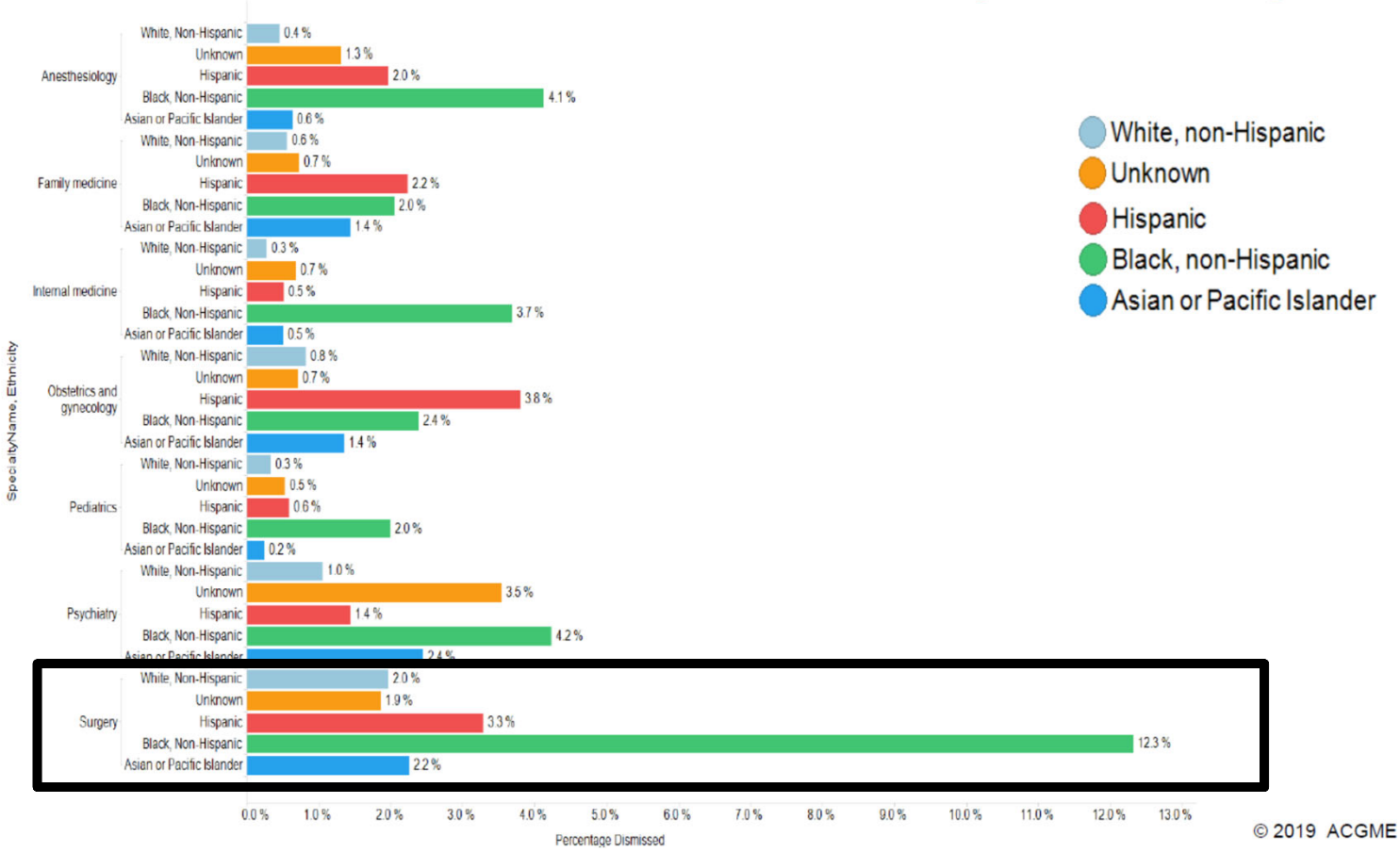
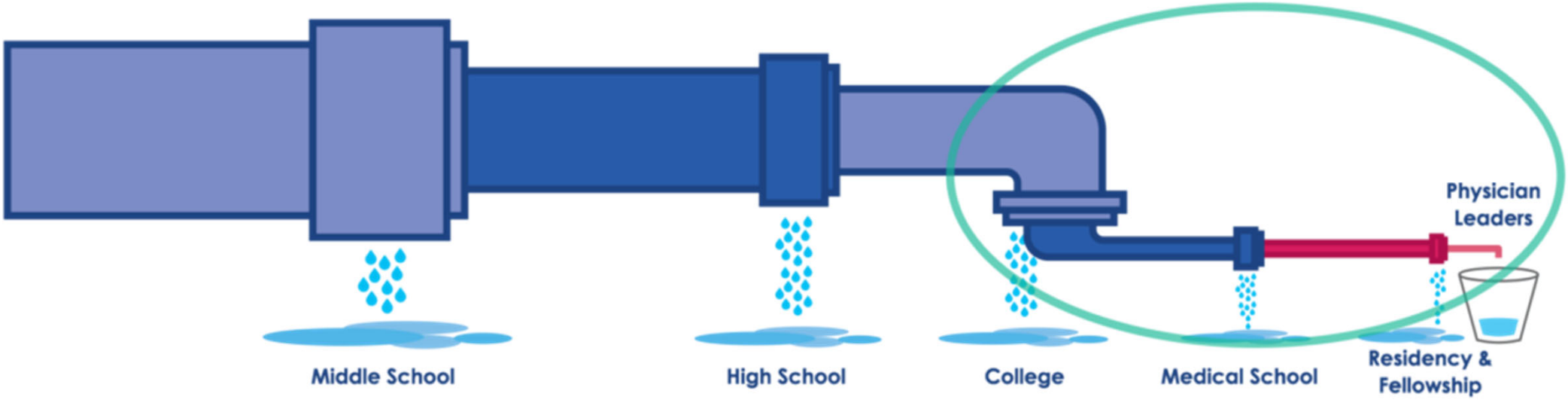
2015-2016 Pipeline Dismissed by Specialty



2015-2016 Pipeline Grads Dismissed by Specialty



URMs in Surgery



National Evaluation of Racial and Ethnic Discrimination in U.S. Surgical Residency Programs

6,956 responses (85.6% response rate) after 2019 ABSITE

41% of Non-White Residents Report Experiencing Discrimination

71% Black

46% Asian

25% Hispanic

33% Other

Select Discriminatory Behaviors Among Non-White Residents

8% Denied Opportunities

14% Subject to Slurs

7% Socially Isolated

Discrimination Impacts Resident Wellness

51% Burned Out

16% Thought of Leaving the Program

7% Considered Suicide

Experiences of 314 LGBTQ General Surgery Residents

THE SECOND TRIAL

Surgical Outcomes and Quality Improvement Center SQIC Northwestern Medicine

Northwestern Medicine Feinberg School of Medicine

More Likely to Experience Mistreatment

46.8% Sexual Harassment

58.9% Discrimination

75.2% Bullying

Attendings Are Most Common Source

34.1% of Sexual Harassment
35.1% of Discrimination
48.1% of Bullying

Just as likely to be satisfied with the decision to become a surgeon, but…

More likely to consider leaving program (21.1%)

More likely to consider suicide (8.3%)

SBAS Anonymous Reporting App

- Study Design: A pilot study involving 44 surgical trainees (interns, residents, and fellows) across academic institutions in the U.S.
- Data Collection: Over a 6-month period, 15 transcripts from anonymous reports were selected for content review.
- Analysis:
  a) Deductive Coding: Utilized an inclusion framework from social/cultural psychology.
  b) Inductive Analysis: Employed a constant comparative method to allow themes to emerge.
  c) Consensus Resolution: Discrepancies in coding were resolved by consensus among the research team.

Natalianyah M. et al AJS 2025 – in press

Results - Identified Themes

1. Microaggressions and Discrimination: Frequent experiences of subtle or overt racial bias.
2. Power Dynamics and Authority Abuse: Trainees reported feeling powerless and facing authority abuse.
3. Professional Challenges and Barriers: Difficulty in career progression due to systemic barriers.

Results - Identified Themes

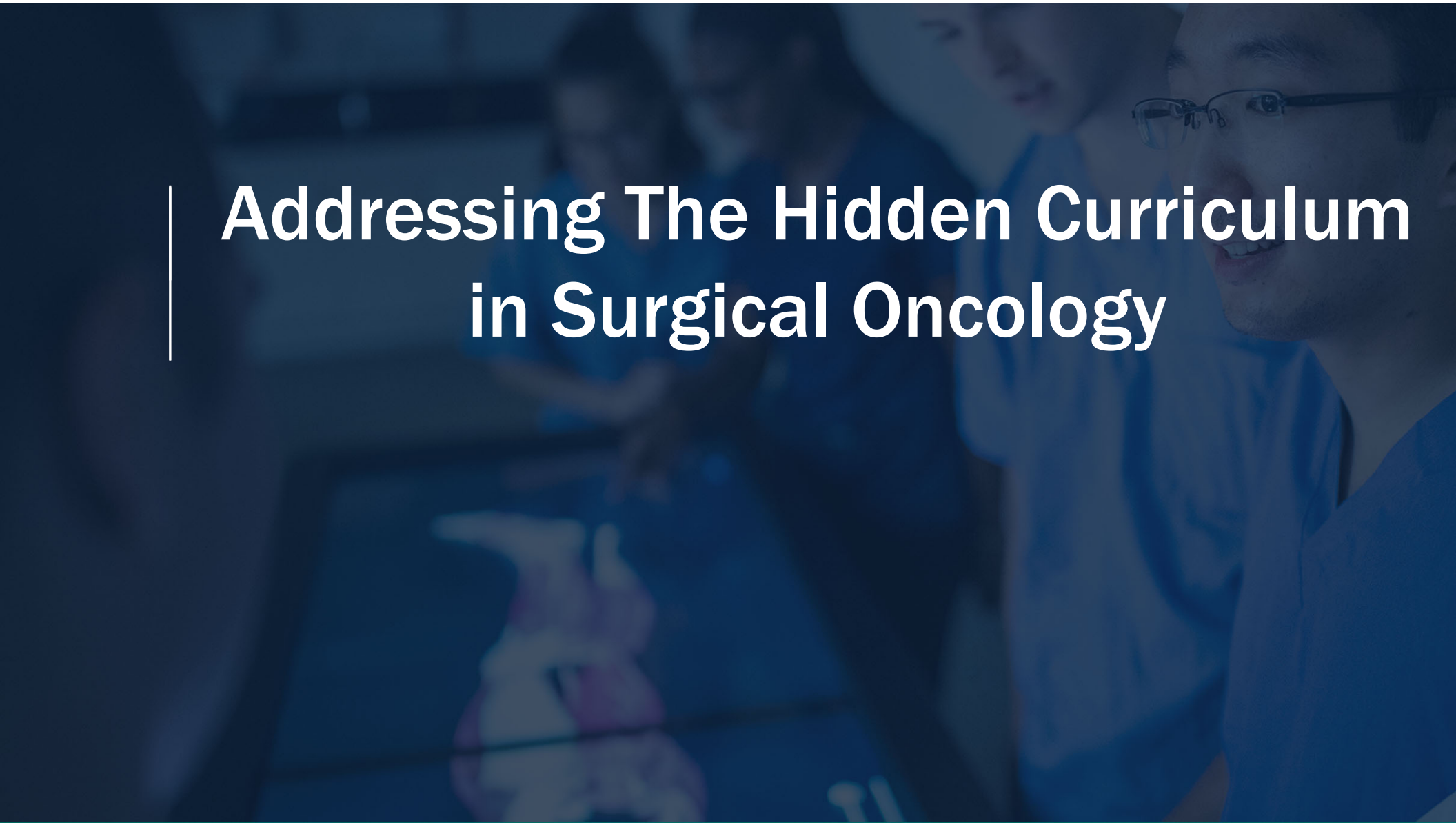
4. Support and Advocacy: Poor availability and effectiveness of support systems.
5. Impact on Wellbeing: Reports highlighted significant effects on mental health and job satisfaction.
6. Identity and Visibility: Issues of hypervisibility and invisibility in their roles were common.

AAS-SECOND Trial Mentor Match

- 30% of residents reported lack of meaningful mentorship at their home institution
  - Higher in residents who identified as URM, LGBTQIA
- We created a National Mentorship Network AAS/SECOND Mentor Match Program to address this need
- SECOND Trial Intervention Arm (106 general surgery programs ~400 residents)

- 122 residents (~ 25%) requested a mentor and were matched to 85 faculty.
  - 72.9% female
  - 65.6% non-White
    - 28% Black/African American
    - 7% Hispanic/Latino
    - 20% Asian American
  - 17.2% LGBTQIA
  - 119 (97.5%) identified with at least 1 of these minoritized groups.

- Topics Discussed
  - Career (e.g., fellowship match) 76.5%
  - Mental health 44.1%
  - Minoritized identity 15.8%
- 22.2% of female residents had not yet but plan to talk about family planning and pregnancy
- 75.9% of residents rated their mentor as a good fit
- 71.4% felt comfortable discussing sensitive topics
- 57.8% reported that their mentor had provided them with opportunities they would not have had otherwise.



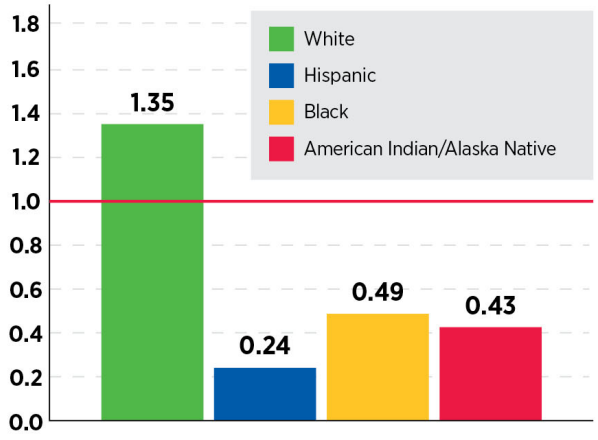
Addressing The Hidden Curriculum in Surgical Oncology

Targeting CGSO and HPB Surgery

- URM Travel grants
- URM Research Scholarships and Awards
- So you want to be a Surgical – How to successfully apply and match in CGSO

Addressing Clinical Trial Equity

In a recent **analysis of 93 precision oncology clinical trials** with 5,867 participants, **representation of racial and ethnic minorities** was calculated using the **ratio of the actual number of enrolled cases to the expected number of cases** based on their corresponding U.S. population.



Ratio >1 signifies **overrepresentation**
Ratio <1 signifies **underrepresentation**

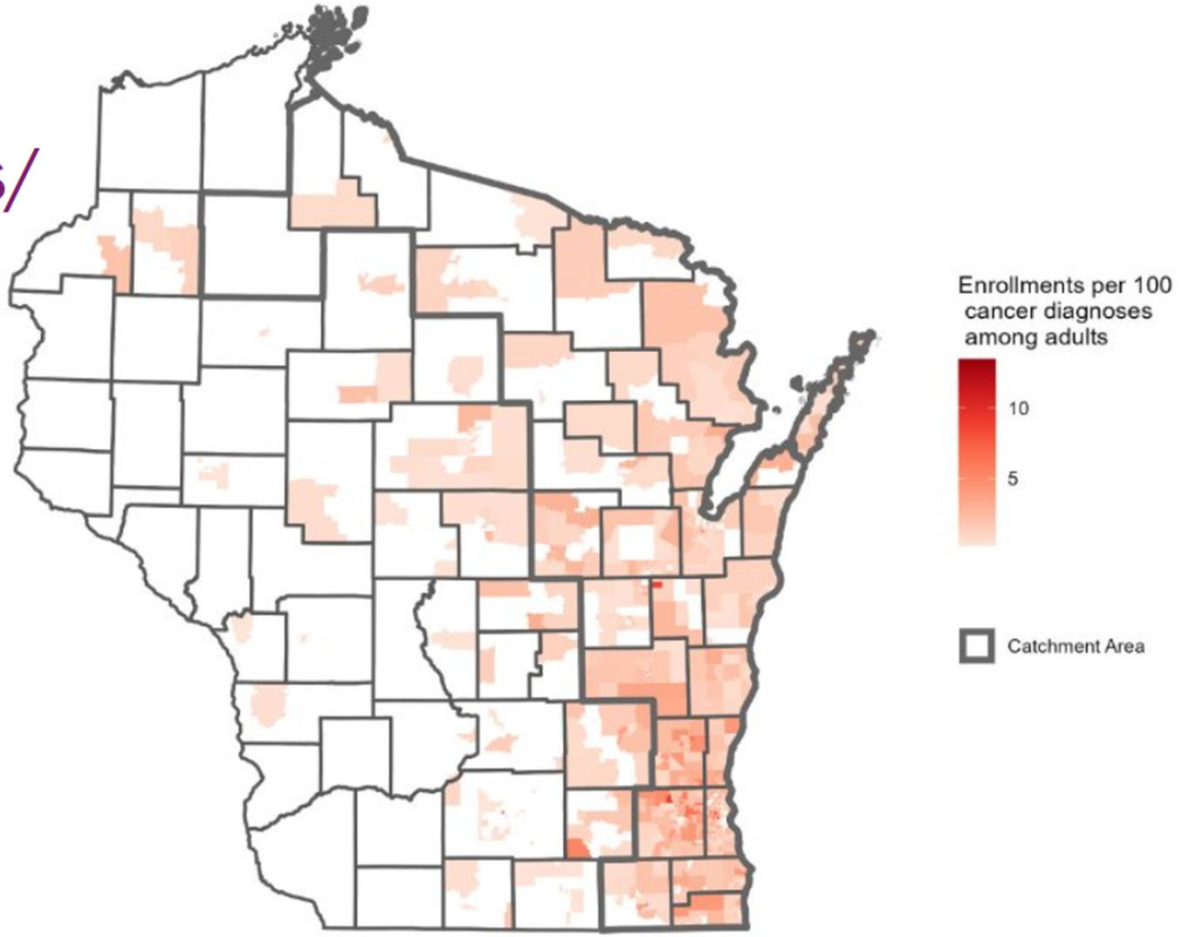
American Association for Cancer Research® (AACR) Cancer Disparities Progress Report 2022

Why Equity Matters in Cancer Clinical Trials

- Generalizability of Results
  - The Food and Drug Administration (FDA) has recognized the importance of diversity in clinical trials and has taken steps to encourage more inclusive research practices, including Project Equity.
- Addressing Health Disparities
  - timely and effective treatments
- Access to Advanced Treatments
  - Potentially life-saving new treatments that may not be available otherwise,

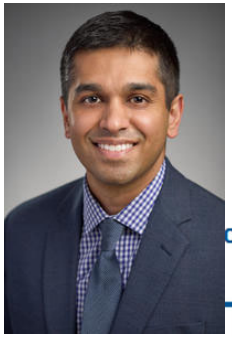
Identifying underserved regions of catchment area using Geocoding

Trial Participants/ # Cancer Diagnoses



Accrual Demographics – FY2023 / FY2024 / FY2025 to date (8 months)

	Catchment Area Demography (N=3,356,683)	Catchment Area Cancer Cases (N=21,214)	MCW Cancer Cases (N=5,439)	Interventional Treatment Accrual N=547/613/397	Interventional Non-Treatment Accrual N=510/524/129	Non-Interventional Accrual N=471/745/214
Gender						
Male	49%	52%	52%	57 / 60 / 56%	36 / 80 / 47%	50 / 39 / 38%
Female	51%	48%	48%	43 / 40 / 44%	63 / 20 / 53%	50 / 60 / 62%
Unknown	0%	0%	0%	0%	1 / 0 / 0%	0 / 1 / 0%
Ethnicity						
Hispanic	9%	3%	4%	5 / 5 / 5%	8 / 11 / 5%	6 / 2 / 3%
Non-Hispanic	91%	97%	96%	94 / 94 / 94%	89 / 89 / 95%	90 / 96 / 94%
Unknown	0%	0%	1%	1 / 2 / 1%	3 / <1 / 0%	4 / 2 / 3%
Race						
White	81%	90%	86%	88 / 88 / 88%	66 / 69 / 76%	87 / 87 / 88%
Black/Afr. Amer.	9%	8%	10%	8 / 7 / 9%	19 / 15 / 20%	6 / 8 / 4%
Amer. Ind./Alaskan	1%	<1%	<1%	1 / <1 / 1%	2 / <1 / 0%	<1 / 1 / 1%
Asian	3%	1%	2%	1 / 1 / <1%	2 / 3 / 1%	1 / 1 / 0%
Hawaiian/PI	<1%		<1%	0 / <1 / 0%	0 / <1 / 1%	<1 / <1 / <1%
Unknown/mixed	5%	<1%	2%	3 / 3 / 2%	12 / 12 / 2%	6 / 2 / 6%



Trailblazers in Innovation: MCW Researchers Harness the Power of AI to Improve Clinical Trial Matching

Clinical trials are the cornerstone of advancing cancer research and care, where connecting the right trial to the right patient can significantly improve treatment outcomes. But for healthcare teams, matching patients to suitable trials is a complex task—one that requires carefully sifting through medical records and comparing them against the strict criteria of hundreds of studies. This process is not only time-consuming but also prone to human error, leading to missed opportunities for patients to access potentially lifesaving cancer treatments.

Investigators at the MCW Cancer Center and the Clinical and Translational Science Institute of Southeast Wisconsin (CTSI) have found a way to streamline this process and ensure that no patient is overlooked for trial eligibility: by harnessing the power of artificial intelligence (AI). Their new pilot study automates patient-trial matching by using a large language model (LLM), a Triomics platform called OncoLLM, to analyze vast amounts of data in a fraction of the time it would take a human, and with greater precision. As the first medical institution in the nation to adopt the AI-driven platform, MCW is not only setting new standards for clinical trial equity and inclusion, but also is redefining the benchmarks for how innovative technology can be used to enhance patient care.

"Early results of this study are very promising. Since implementing the OncoLLM platform in July, we've been able to evaluate all the patients in the Disease Oriented Teams (DOTs) that are part of our pilot project. This means that every patient who has an upcoming appointment will be rigorously assessed for eligibility for open clinical trials at the MCW Cancer Center," said co-principal investigator (PI) of the study Anai Kothari, MD, MS, Assistant Professor of Surgery and Co-Director of the Center's Geospatial, Epidemiology and Outcomes Shared Resource.

"Clinical trials are an essential part of optimizing cancer care but only when patients have fair opportunities to participate in them. Using a generative AI-powered model like OncoLLM can help us ensure that every patient is being assessed comprehensively for the trials we have open. This could potentially be transformative for the clinical research process and ultimately, improving overall outcomes," said Dr. Kothari.

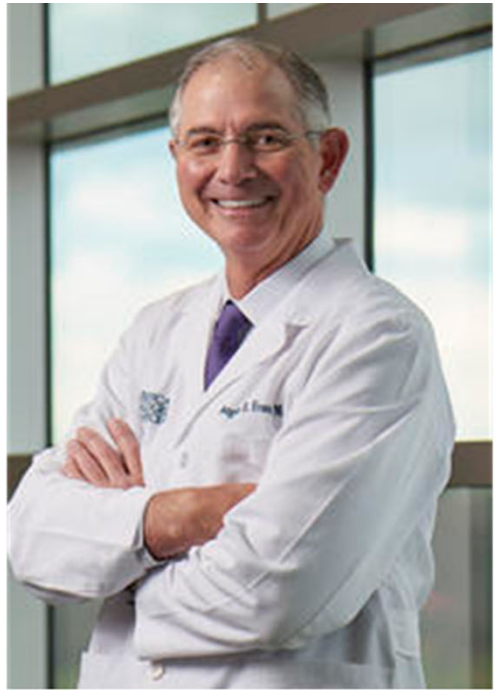
Real World Experience

Piloted the platform in gastrointestinal (GI) surgical oncology clinics (July - December 2024)

- 514 (100%) patients during the study period were successfully evaluated using OncoLLM
- 35 (6.8%) were matched to a trial
  - 27 patients (77.1%) represented unrealized trial enrollments (Not identified by manual screen)
    - 8 patients were enrolled on trial (29.6%).
    - 9 were ultimately ineligible (33.3%), 6 remain potential candidates pending change in clinical status
    - 5 declined participation (18.5%)
    - 4 did not enroll based on provider discretion (14.8%)
    - 1 the reason for non-enrollment was not.
    - Of ineligible patients only 3 were model inaccuracies.

Conclusion:

- OncoLLM can successfully automate the process of clinical trial matching in surgical clinics
- Potential for an AI-based platform to automate the labor-intensive process of manual clinical trial matching by systematically screening all patients.
- Identifying and addressing reasons for unrealized trial enrollments can optimize accrual, reduce disparities, and advance cancer care.



MCW Surgery

knowledge changing life

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Thank You