MOREHOUSE SCHOOL OF MEDICINE

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Advancing Health Equity in Maternal Health

Morehouse School of Medicine Update to the House Study Committee on Maternal Mortality

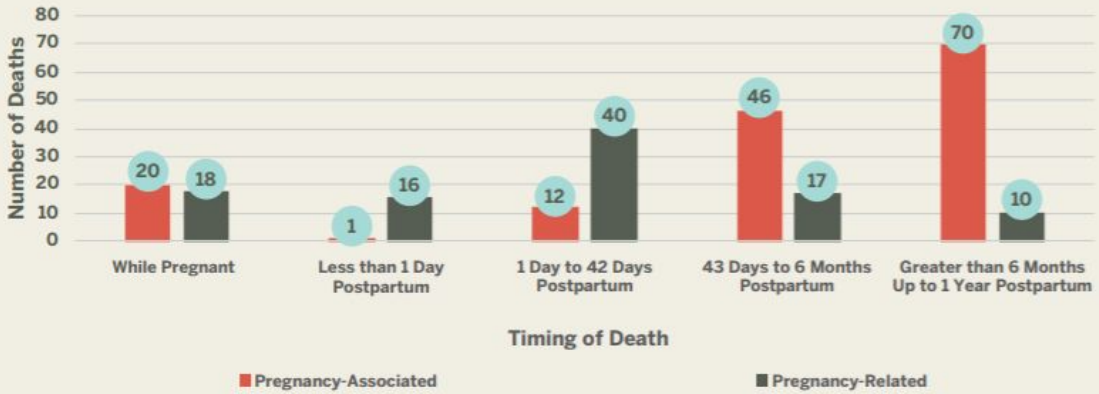
October 17, 2019

Presented by: Valerie Montgomery Rice, MD

President and Dean | Morehouse School of Medicine

- More mothers die from pregnancy-related causes in the United States than any other high-income country.
- Maternal health outcomes in the U.S. are only getting worse. From 2010 to 2014, our pregnancy-related mortality ratio jumped from 15.2 to 18.0 deaths per 100,000 live births (for comparison, during the same time period, the ratio in the U.K. decreased from 10.1 to 8.8).
- Women of color are 3 to 4 times more likely to die from pregnancy-related causes than white, non-Hispanic women.

FIGURE 4 Number of Maternal Deaths by Timing of Death in Relation to Pregnancy, Georgia, 2012-2014 (N= 250)



Source: Georgia Maternal Mortality Review Committee Report 2014

Pregnancy-Related Deaths

PREGNANCY-RELATED MATERNAL MORTALITY RATIO BY RACE (PER 100,000 LIVE BIRTHS), GEORGIA, 2012-2014

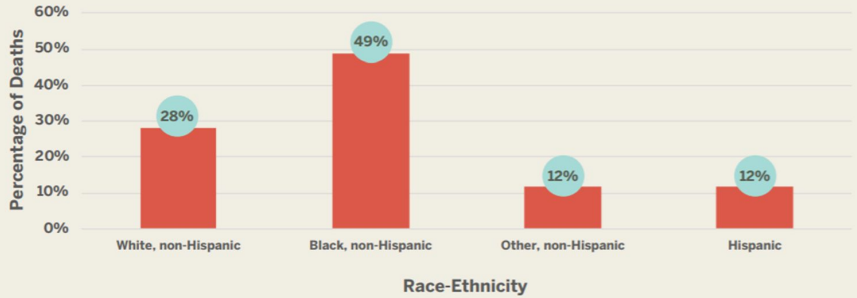
White, Non-Hispanic: **14.3** deaths PER 100,000 LIVE BIRTHS

Black, Non-Hispanic: **47.0** deaths PER 100,000 LIVE BIRTHS

MATERNAL MORTALITY RATIO BY RACE FORMULA:

Maternal deaths for specific race (2012-2014) *100,000 = Maternal Mortality Ratio by Race (per 100,000 births), Georgia, 2012-2014, Live births for specific race (2012-2014)

FIGURE 5 Distribution of Pregnancy-Related Deaths by Race-Ethnicity, Georgia, 2014 (N= 43)

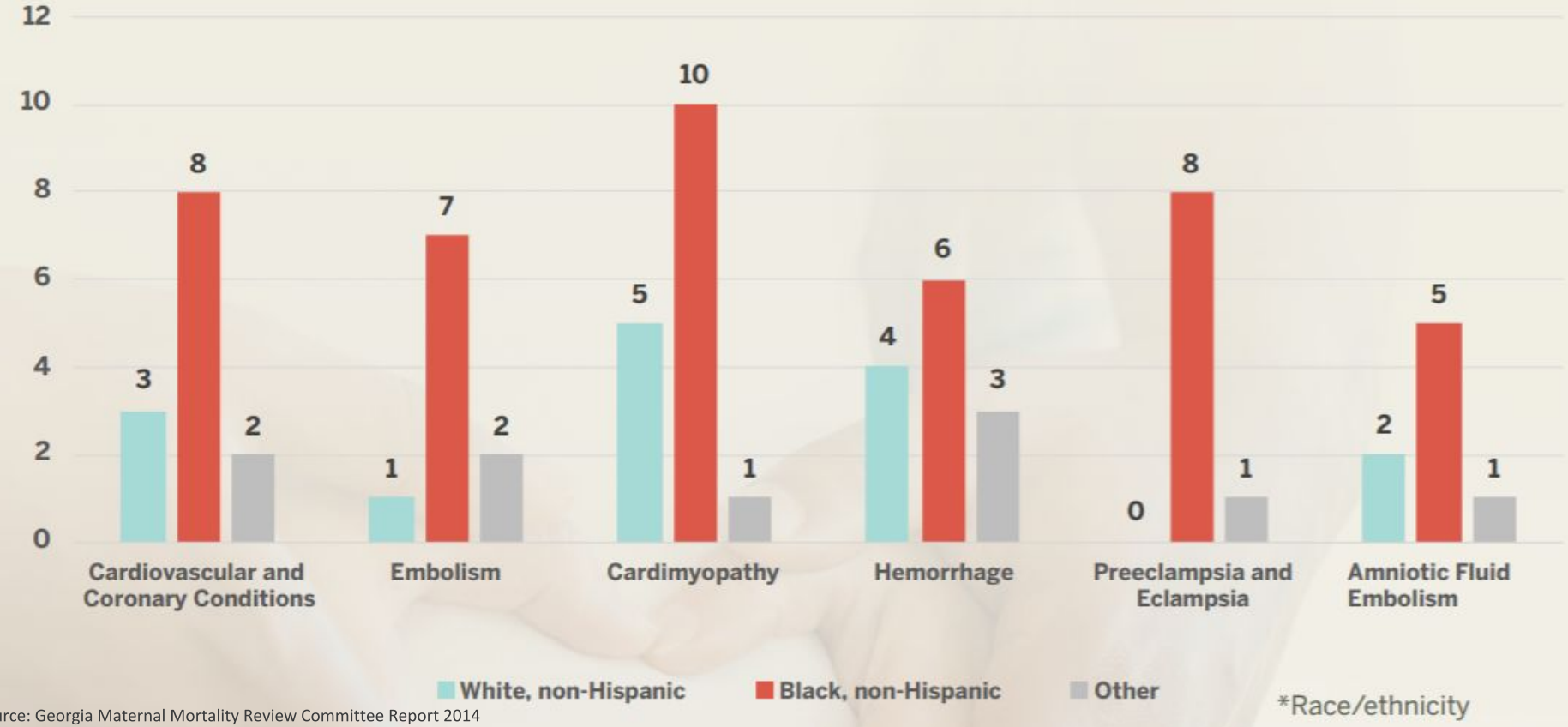


There is a stark racial-ethnic disparity in pregnancy-related maternal deaths. In 2014, of the 43

Source: Georgia Maternal Mortality Review Committee Report 2014

CAUSES OF MATERNAL DEATH BY RACE

FIGURE 11 | Leading Causes of Death Among Pregnancy-Related Cases by Race, Georgia, 2012-2014



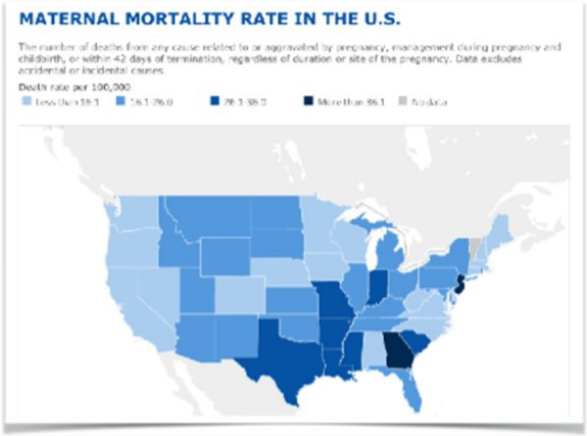
Source: Georgia Maternal Mortality Review Committee Report 2014

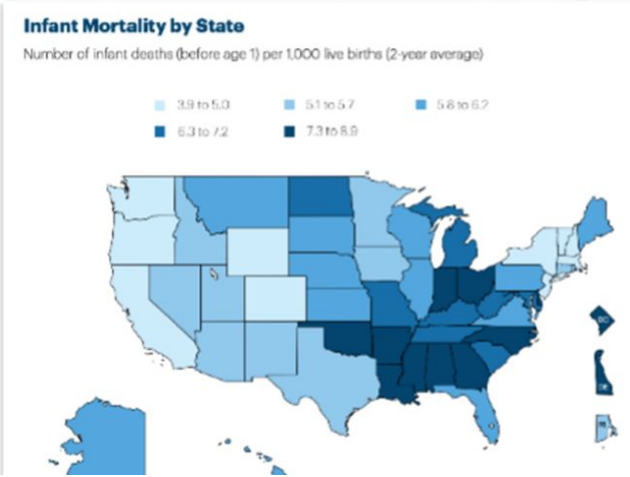
INDIVIDUAL TRANSFORMATION

INFANT & MATERNAL HEALTH IN GEORGIA - FOUNDATION

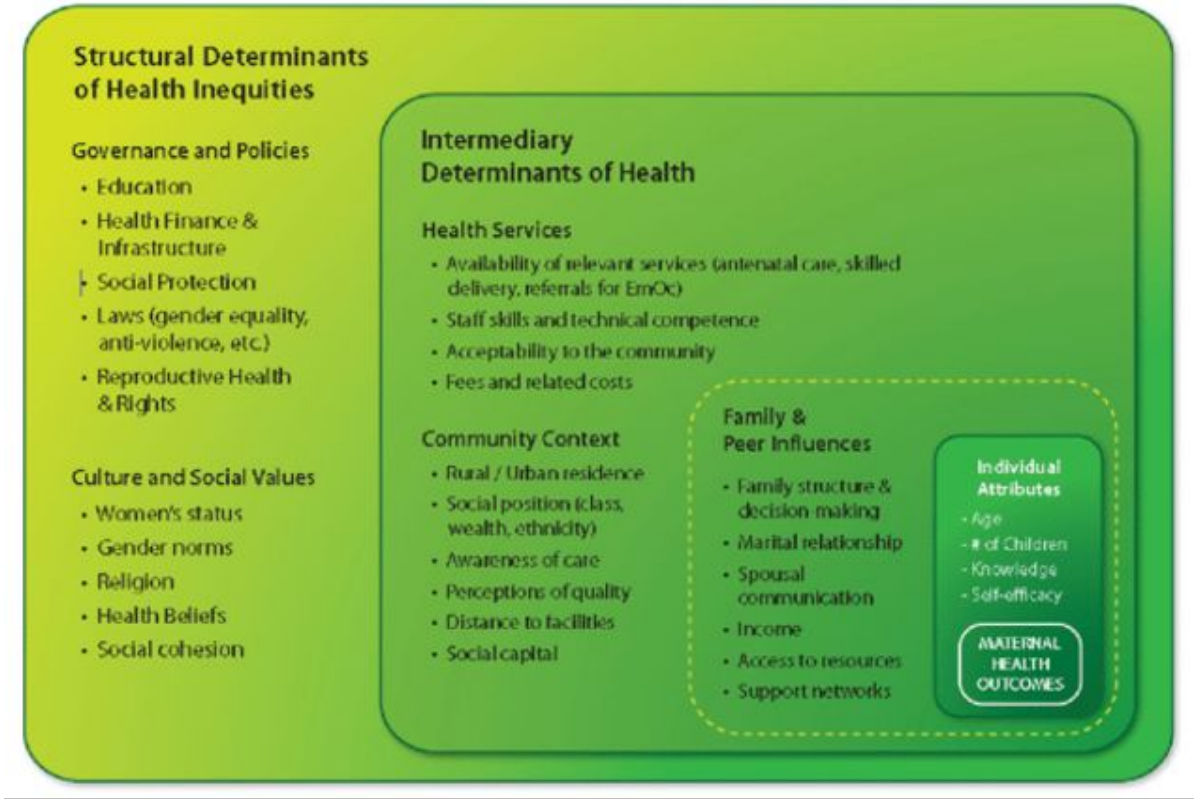
	GA	National
Maternal Mortality Rate	39.3 deaths Per 100,000 births	17.2 deaths Per 100,000 births
Infant Mortality Rate	7.6 deaths Per 1,000 births	5.9 deaths Per 1,000 births
MEDICAID		
% of Women Delivering a Live Birth who had More than 80% of Expected Prenatal Visits	38.2%	61.7%
% of Women Delivering a Live Birth with a Prenatal Care Visit in the First Trimester or within 42 Days of Medicaid/CHIP Enrollment	67.6%	81.6%
% of Women Delivering a Live Birth who had a Postpartum Care Visit on or Between 21 and 56 Days after Delivery	52.5%	60.1%

Source: Information from America's Health Rankings, 2018 Annual Report
Source: Pregnancy Mortality Surveillance, CDC.gov,





Maternal Mortality and Social Determinants of Health



Source: https://www.who.int/maternal_child_adolescent/epidemiology/maternal-death-surveillance/case-studies/india-social-determinants/en/

What We Know

- Maternal Mortality is related to three delays models
  - a) Delay in decision to seek care
  - b) Delay in reaching care and
  - c) Delay in receiving adequate health care

- Approximately 65% of Georgia's pregnancy-related deaths that occurred between 42 days to one year postpartum were preventable

Hypertensive Disorders of Pregnancy

- Complicates ~10-15% of pregnancies worldwide
- Increasing incidence of 50% over the past ten years
- Mortality rate is increased 4x in African American women
- Major contributor of premature births

Moussa HN, et al. **Management of hypertensive disorders in pregnancy.** Women's Health. 2014. 10(4):385

Racial/Ethnic, Nativity, and Sociodemographic Disparities in Maternal Hypertension in the United States, 2014-2015
Gopal K. Singh,[1] Mohammad Siahpush,[2] Lihua Liu,[3] and Michelle Allender[1]

Near Misses and Maternal Mortality

PLOS ONE

RESEARCH ARTICLE

Validity of WHO's near-miss approach in a high maternal mortality setting

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Abstract

Objective

To evaluate the validity of WHO's near-miss approach in a low-resource, high maternal mortality setting.

Design

Prospective cohort study.

Setting

Mnazi Mmoja Hospital, the main referral hospital of Zanzibar, Tanzania, from 1 April 2017 until 31 December 2018.

Population

All women, pregnant or until 42 days after the end of pregnancy, admitted at Mnazi Mmoja Hospital, the tertiary referral hospital in Zanzibar.

Methods

Cases of maternal morbidity and mortality were evaluated according to WHO's near-miss approach. The approach's performance was determined by calculating its accuracy through sensitivity, specificity and positive and negative likelihood ratios. The approach's validity was assessed with Pearson's correlation coefficient between the number of organ dysfunction markers and risk of mortality.

Main outcomes measures

Correlation between number of organ dysfunction markers and risk of mortality, sensitivity and specificity.

OPEN ACCESS

Citation: Herklots T, van Achl L, Khamis RS, Meguid T, Franx A, Jacod B (2019) Validity of WHO's near-miss approach in a high maternal mortality setting. PLoS ONE 14(5): e0217135. https://doi.org/10.1371/journal.pone.0217135

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- Maternal near-miss (MNM) refers to a woman who nearly died but survived a complication that occurred during pregnancy, childbirth or within 42 days of termination of pregnancy
- The near-miss concept and the criterion-based clinical audit have been proposed as useful approaches for obtaining beneficial information on maternal and newborn health care.
- A total of 370 health facilities from 29 countries took part in the study aimed to promote best practices, improve quality of care, and achieve better health outcomes for mothers and children.

Georgia is Invested in Improving Outcomes

- Georgia should be commended for initiating several programs focused on addressing the maternal mortality crisis
  - Establishment of a Georgia Maternal Mortality Review Committee (MMRC)
  - Georgia Perinatal Quality Collaborative (GaPAQC)
    - Maternal Initiatives-Alliance for Innovation on Maternal (AIM) Health Patient Safety Bundles
    - Rural Hospital Initiative
  - Perinatal Psychiatry Access Program
  - Rural Perinatal Satellites

There is more to understand, more to do, and more to accomplish

WE Need More Data

We Must…

- Recognize and understand the social determinants of health at play
- Acknowledge and address unconscious biases
- Educate and train to increase cultural competency
- Engage the community

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Morehouse School of Medicine and Maternal Mortality

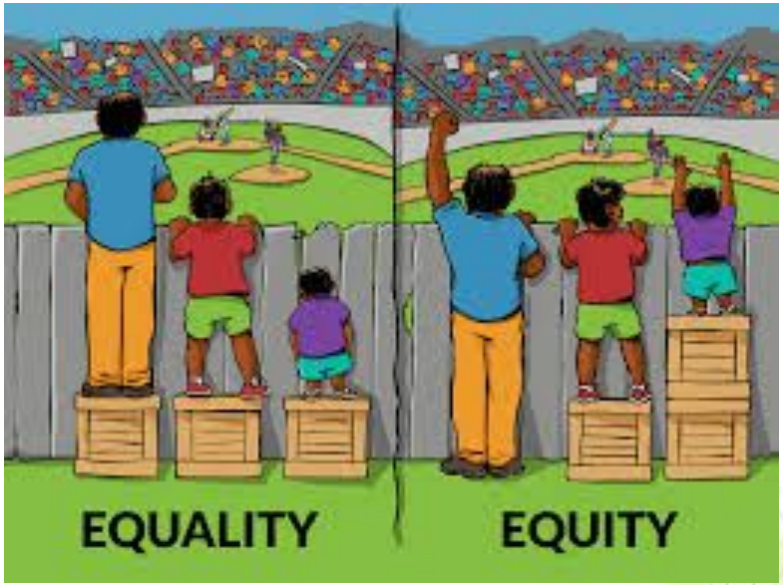
MSM.edu

#MSMHealthEquity

Morehouse School of Medicine's Mission

We exist to:

- Improve the health and well-being of individuals and communities
- Increase the diversity of the health professional and scientific workforce
- Address primary health care through programs in education, research, and service



With emphasis on people of color and the underserved urban and rural populations in Georgia, the nation, and the world.

Diversity in the Health Workforce

- URM health professionals, particularly physicians, disproportionately serve minority and other medically underserved populations;
- Minority patients tend to receive better interpersonal care from practitioners of their own race or ethnicity, particularly in primary care and mental health settings;
- Non-English speaking patients experience better interpersonal care, greater medical comprehension, and greater likelihood of keeping follow-up appointments when they see a language-concordant practitioner, particularly in mental health care

http://bhpr.hrsa.gov/healthworkforce/reports/diversityreviewevidence.pdf

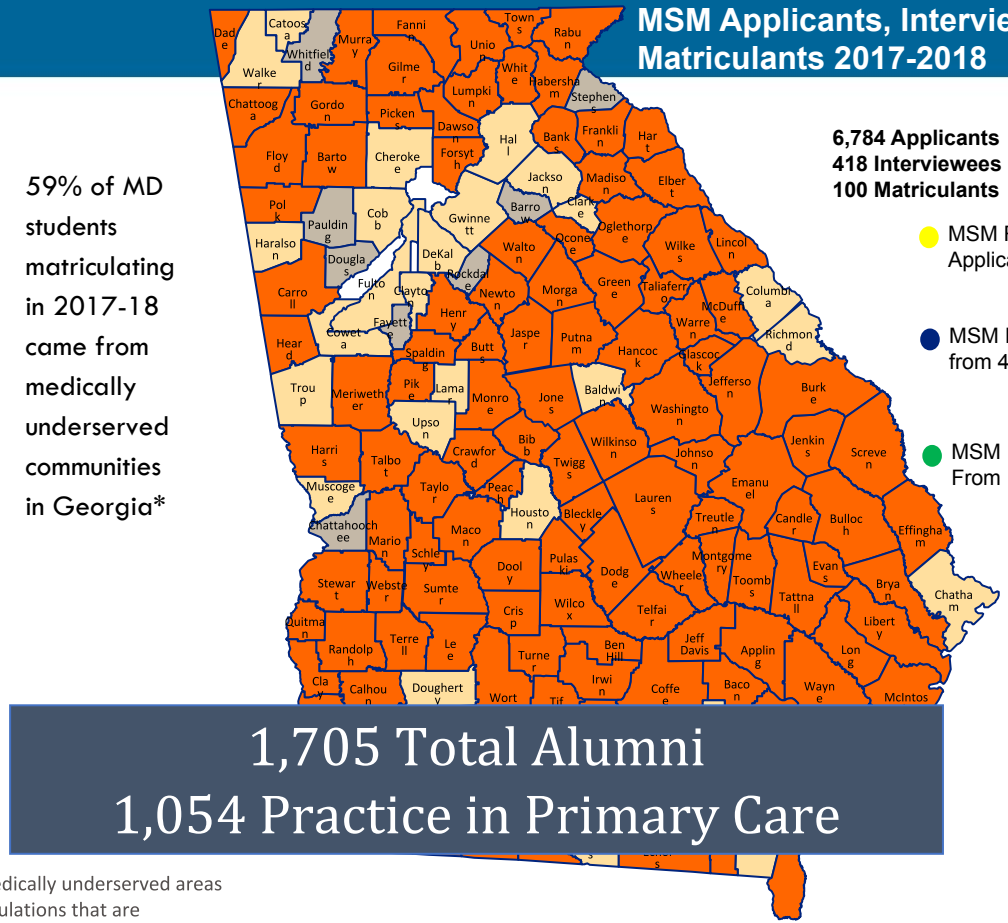
Cultural Competence

Cultural competency is critical to reducing health disparities and improving access to high-quality health care, health care that is respectful of and responsive to the needs of diverse patients.

Medically Underserved Areas, GA

Mission Alignment

59% of MD students matriculating in 2017-18 came from medically underserved communities in Georgia*



MSM Applicants, Interviewees, & Matriculants 2017-2018

6,784 Applicants
418 Interviewees
100 Matriculants

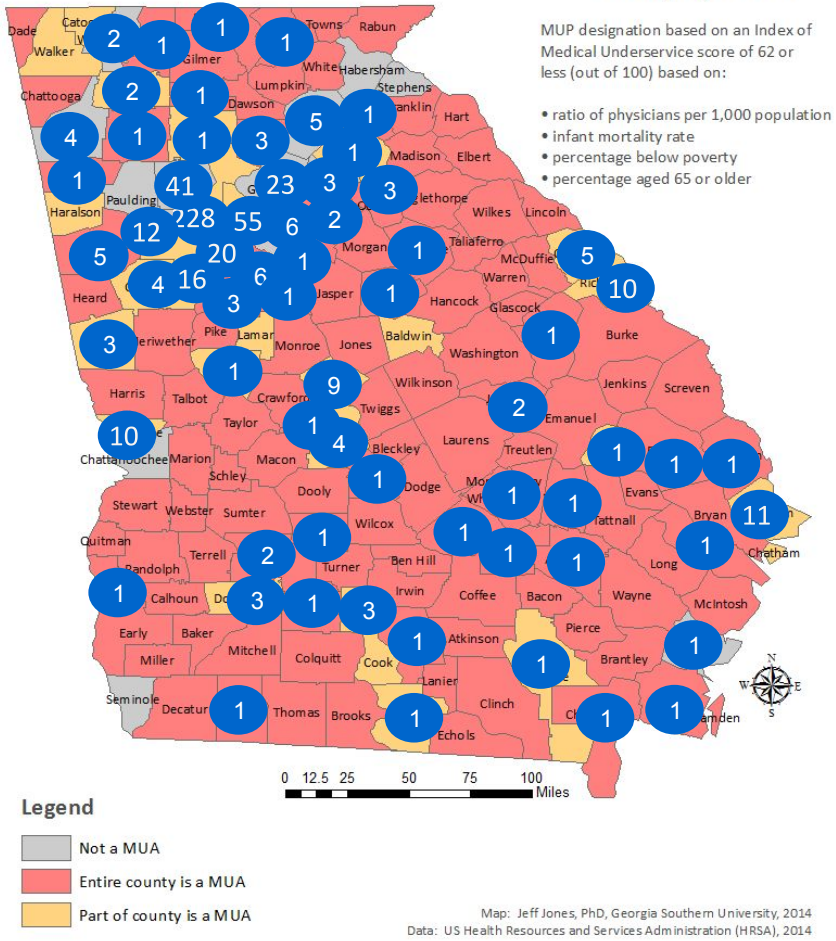
- MSM Received Applications from 762 Applicants from 76 Counties in GA
- MSM Interviewed 203 Applicants from 43 Counties in Georgia
- MSM Matriculated 63 Applicants From 18 Counties in Georgia

1,705 Total Alumni
1,054 Practice in Primary Care

Legend

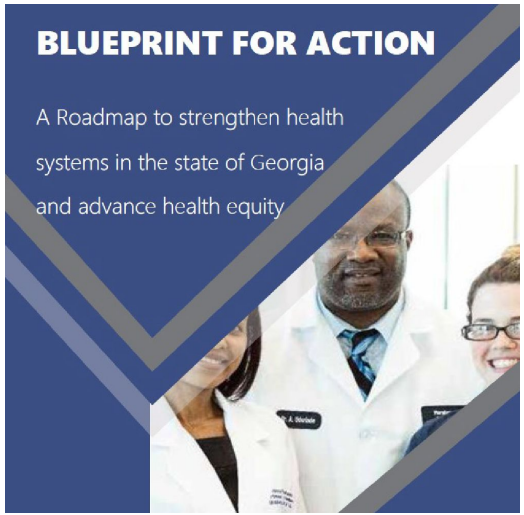
- Entire county is a MUA
- County contains areas that are not MUAs and areas that are MUAs or have MUPs
- Not a MUA and does not contain MUPs

*Counties designated as medically underserved areas or counties which have populations that are medically underserved.



- MSM UME Alumni Practicing in GA 2019

Greater than 500 UME MSM Alums practicing in Georgia
64% practicing primary care



Blueprint For Action

- Targeting regions experiencing greatest challenges:
  - Access to primary and behavioral health care
  - Hardest hit by opioid epidemic
  - Highest maternal and infant death
- Leveraging partnerships to address the multiple, interacting determinants of health
- Developing innovative community-led solutions
- Strengthening rural health systems across the state

ADVANCE HEALTH EQUITY

Blueprint for Action

Pink Counties=highest need based on health outcomes

Green Counties=highest need based on health factors

Orange Counties=worst performing county in 4 selected variables

Purple Counties=most in need for prevention and treatment services based on use of prescription drugs without a prescription

Blue Counties=highest rates of drug overdose deaths

Significant number of overdose deaths

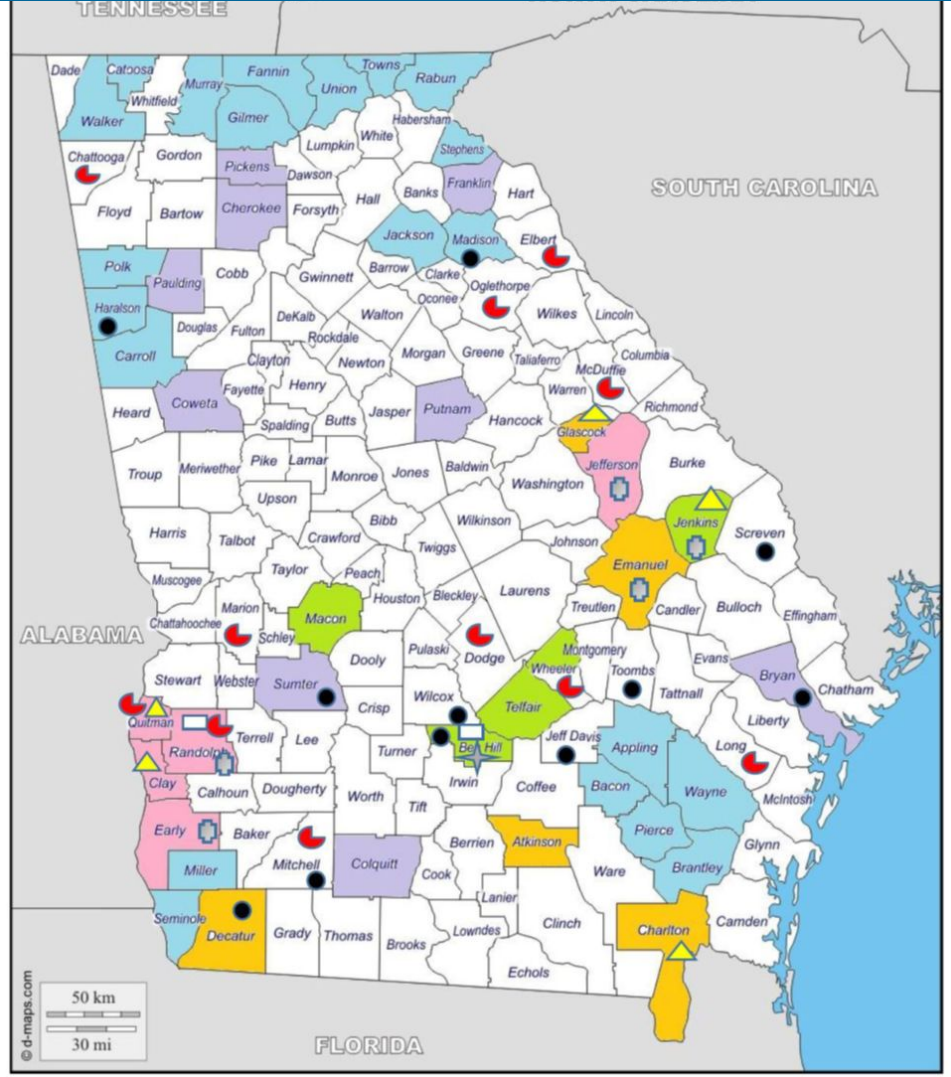
Worst in Health Factors and high in need for prevention and treatment services

Highest number of prescriptions per person

Accounted for approximately ¼ of the maternal deaths in 2016

Highest infant mortalities

Had at least 1 infant death



Blueprint for Action

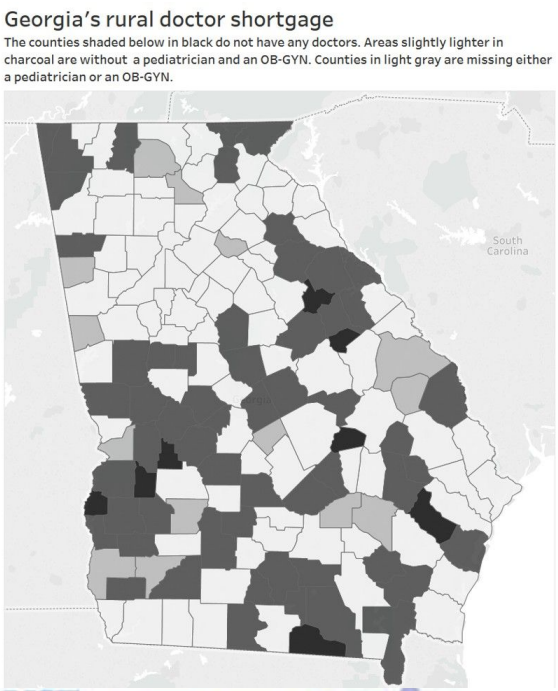
Phase 1:
Roadmap

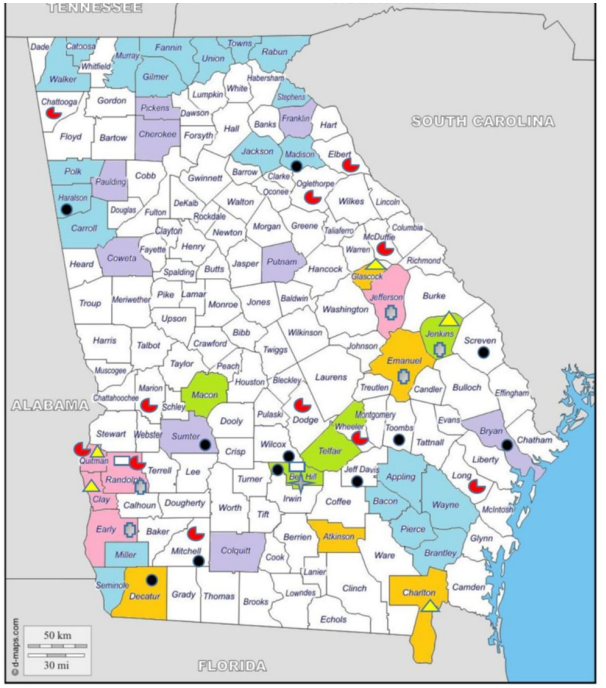
Phase 2:
Community
Engagement

Phase 3: Resource
Implementation

Phase 4:
Sustainability

Addressing Georgia's Primary Care Physician Shortage is Critical






HeLa
SYMPOSIUM
24th Annual HeLa
Women's Health Symposium
Hypertension in Pregnancy:
Optimal Management of Care
September 27, 2019 in Atlanta, GA
MOREHOUSE
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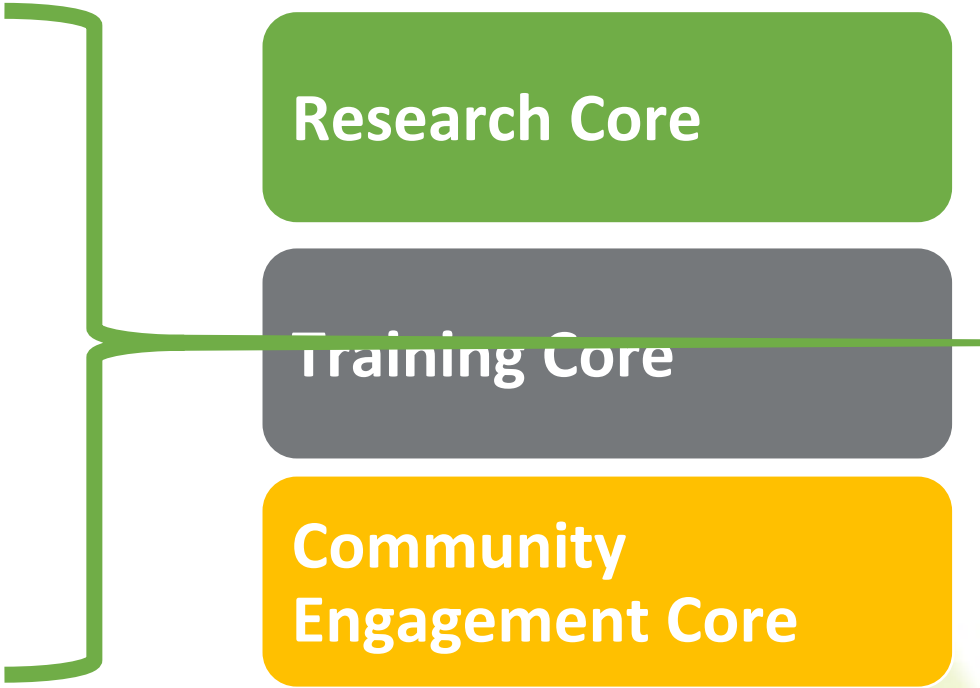
Center of Excellence (COE) on Maternal Mortality

- Advance scientific research and dig deeper into the problem in order to find answers and identify solutions for preventing deaths among mothers.
- Develop strategies and institute systemic changes to decrease and prevent maternal deaths in Georgia
- Integrated approach aimed to create sustainable differences in maternal mortality



COE: Research Core

- Statewide needs assessment to compile data on **WHY** these women are dying
  - Focus on the women who nearly died (near miss) and not replicate what the AIM bundles or MMRC are doing.
  - Aim to "improve surveillance and research" since there is still a need for more data.
- Serve as a resource center to implement solutions that come out of the needs assessment.
- Monitor effectiveness of the program on an ongoing basis by establishing measures such as reduction in adverse outcomes.
- Partner with the CDC to establish a statewide data collection tool of information, if not already being done, that would guide future education and strategies to reduce maternal mortality.

COE: Training Core

- Develop a curriculum of established best practices/safety bundles to educate all providers on the top diagnoses that are impacting maternal mortality
- Train providers to serve as local trainers for ongoing education and refresher.
- Serve as a resource center to implement solutions that come out of the needs assessment
- Training will include improving communication between patient and provider,
  - unconscious/implicit bias trainings,
  - cultural competency trainings,
  - social determinants of health,
  - how to use different tools like PRAPARE,
  - working with non-English language proficiency (need of interpreters, etc,)
- Support and train para-professionals (midwives, community health workers) who will remain in rural areas when qualified
- Practicum opportunities for students (MPH, Pas, MD students, residents).
- Inter-professional training in MCH.

- Setup regional teams that would go to hospitals, clinics, churches, etc. to do on-site education. Same testing as above can be administered for effectiveness and educational direction of the curriculum.
- Provide communities (men and women) with information on pregnancy, childbirth and newborn healthcare so they know when to seek medical help.
- Training for community outreach to gatekeepers on information
- Facilitate dissemination of our findings to community
- Hold regional summit on Maternal mortality
- HS community health worker program
- HEAL on Wheels focus on MCH

Extension of Postpartum Care

- The American College of Obstetricians and Gynecologists (ACOG) and the American College of Nurse Midwives (ACNM) recommend postpartum care tailored to the patient
- Access to postpartum care is critical to addressing the maternal mortality crisis
- Recommend extending access to healthcare coverage to one year postpartum
  - Ensure management of medical and behavioral health conditions
  - Promote early detection and treatment of postpartum related mental health conditions
  - Reduce rate of low birthweight and preterm births in future pregnancies

Solutions

- More data, specifically around near misses
- Access to both culturally competent care provider and insurance beyond the current 6 weeks postpartum
- Comprehensive Training
- Community Engagement

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