

USING AI DECISION MAKING SYSTEMS TO BRIDGE THE HEALTH CARE GAP IN CARDIOVASCULAR DISEASE DIAGNOSTICS FOR BIPOC WOMEN

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Introduction

- **Cardiovascular disease (CVD)** is the leading cause of mortality for women nationally and worldwide. 2
- Racial disparities in cardiac health care can be a driving force to poorer health outcomes for BIPOC women who face higher risks for developing CVD especially for BIPOC women who are struggling with social and economic hardships. 2
- BIPOC women continue to face major underrepresentation in clinical cardiovascular trials resulting in limitations of key cardiovascular research data being applicable to this population. 1
- BIPOC: Black, Indigenous, and People of Colour

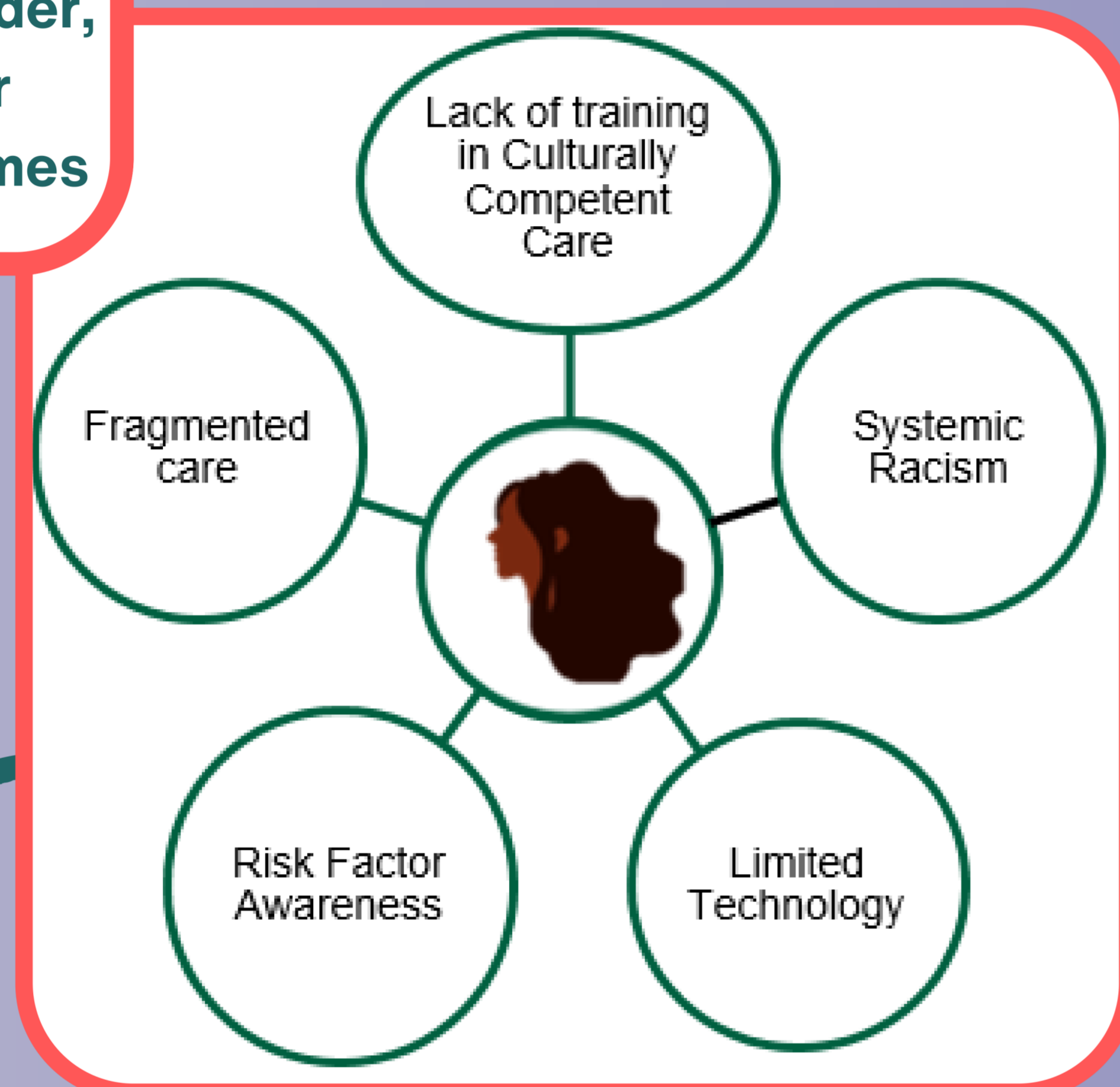
Purpose of Study

- The goal of this study is to investigate and identify quality of care disparities and healthcare inequality challenges negatively impacting cardiac assessment, diagnostic and treatment outcomes regarding cardiac care for BIPOC women.
- I aspire to explore how clinicians could feasibly merge digital stethoscope technology and artificial Intelligence-based (AI) clinical decision making systems to accurately detect, assess, and diagnose CVD in racialized and ethnic women thereby reducing poor health care outcomes for BIPOC women.

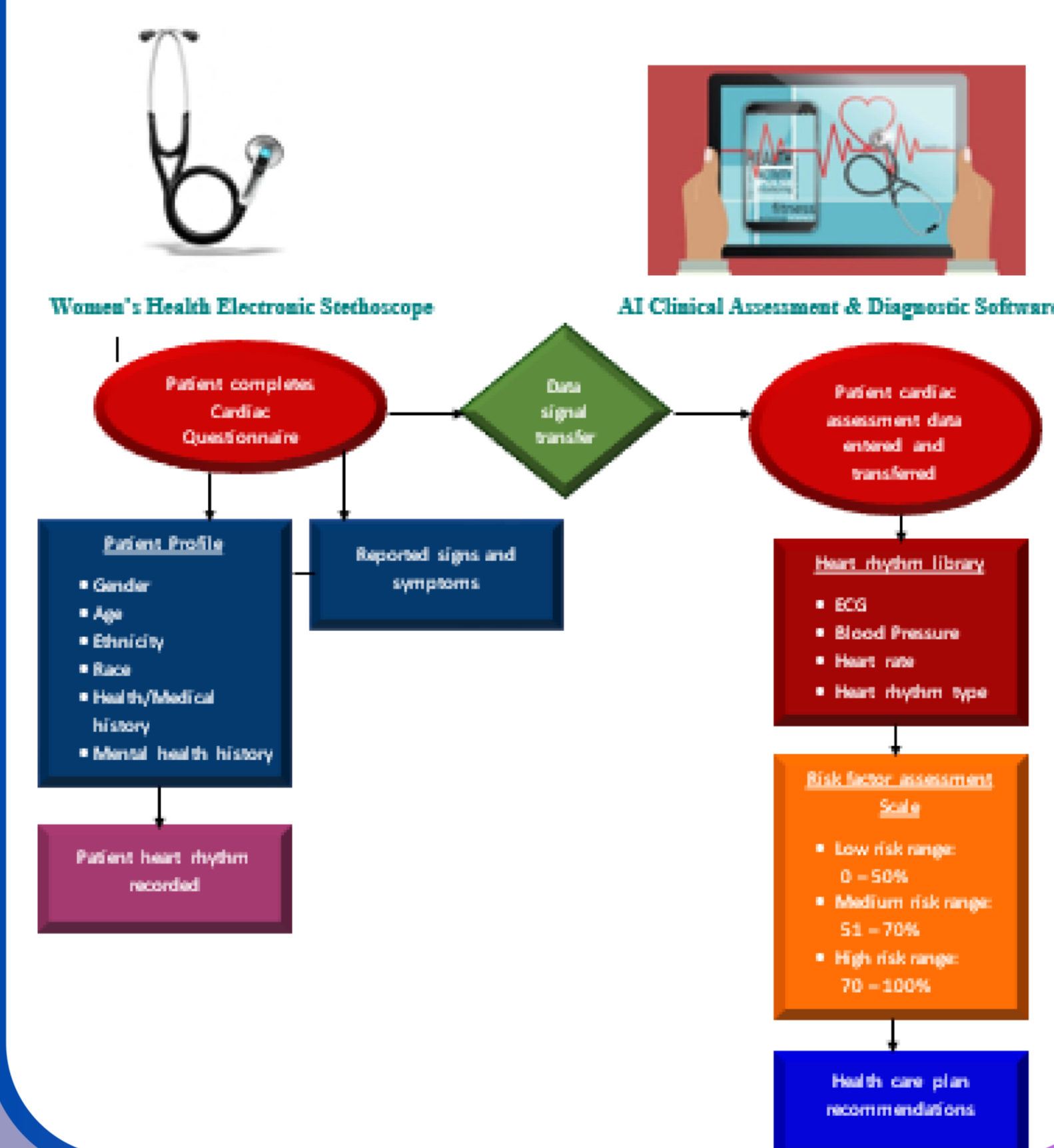
Research Question:

- For ethnic/racial women does the use of AI culturally-sensitive based cardiac risk assessment decision making tools reduce the future risk and mortality rates of cardiac events occurring in ethnic/racial women compared to Caucasian women?

Intersecting Patient, Health Care Provider, and System Factors leading to Poor Cardiovascular Disease Health Outcomes



Women's Health Cardiac Care Stethoscope Clinical Assessment Module



Methodology

Study Design: Retrospective cohort study was conducted utilizing academically certified health science and engineering research articles in scientific journals published over the past 5 years between 2019 – 2024.

Methodologies used in the studies included:

- Systematic research review of other past research data and statistics compiled on the subject matter
- Applying machine learning and artificial intelligence software for data collection

Results/Findings

Key barriers impacting positive heart health outcomes for BIPOC Women

- **Misclassification:** Incomplete CVD risk assessment, provider CVD care mindfulness, and lack of access to preventative care can contribute to health care disparities in disease surveillance, preventative care, and a timely diagnosis of CVD. 2
- **Misdiagnosis:** Heart attacks are more commonly misdiagnosed in women compared to men resulting in a poorer recovery results after a heart attack has occurred. The rise in the occurrence of CVD risk factors in younger women is contributing this this factor. 2
- **AI-based systems** are being used in new applications in cardiovascular imaging, cardiovascular risk prediction, and newer drug targets leading to more innovative treatment strategies in addressing different types of cardiovascular diseases.
- **AI** will drive current healthcare practice towards a more individualized and precision-based approach over the next several years.

Conclusion

I believe that this research will provide evidence to support the use of incorporating a culturally sensitive care framework with AI based clinical decision making tools that would improve cardiovascular diagnostic accuracy and health outcomes for all women.

References

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