Nina Steele, PhD, and Howard Crawford, PhD, of the Henry Ford Pancreatic Cancer Center, Awarded Lustgarten Grant Focusing on Racial Disparities in Pancreatic Cancer

UNIONDALE, N.Y., January 9, 2025 — The Lustgarten Foundation announced a new grant today, awarded to Nina Steele, PhD, and Howard Crawford, PhD, of the Henry Ford Pancreatic Cancer Center at Henry Ford Health.

This 2-year grant, totaling $426,975, will support Drs. Steele and Crawford's efforts to develop the world's first fully de-identified, clinically annotated single cell sequencing database and address the current lack of databases with meaningful Black African American representation.

Black African Americans are 20% more likely to develop pancreatic cancer and have worse survival outcomes compared to White patients; these differences persist even after controlling for factors such as environment, socioeconomic status, health behaviors, and other common causes of disparities.

The scope of previous research to understand variations in the underlying biology of patients with pancreatic cancer has been limited and has not sufficiently addressed historically under-represented patients, including Black African Americans.

Based in Detroit, where 77% of the population identifies as Black or African American, Henry Ford Health is nationally recognized for its commitment to inclusive research endeavors that address healthcare disparities, develop new treatments, and identify ways to prevent and understand disease.

Dr. Steele and Dr. Crawford, who respectively serve as Assistant Scientist and Scientific Director at the Henry Ford Pancreatic Cancer Center, will lead an important research project titled *"Mapping Stromal Evolution and Immune Suppression in the First Racially Diverse Human Pancreatic Cancer Spatial Genome Atlas."* The study will address the current deficiency of existing databases where Black African American representation is only 2%.

The research will build on Dr. Steele's recently published single-cell atlas, which compiled data from more than 200 patients with pancreatic cancer. Only 4 of the samples in the atlas were contributed by Black African American patients.

"The striking lack of representation in pancreatic cancer databases is unacceptable," said Dr. Steele, an expert in state-of-the-art single cell and spatial transcriptomic analyses. "This study takes a transformative first step to close this gap and provides a valuable resource for the cancer community. Thank you to the Lustgarten Foundation for supporting this grant and prioritizing diversity within patient data."

The researchers will analyze tissue from pancreatic tumors before treatment and after treatment to understand the biology that drives tumor growth, response, and resistance to treatment and what causes different responses in different patients.

“The tools used to study pancreatic cancer, including cell models and genomic data, are most often taken from studies of White patients, making it impossible to extrapolate this information and apply the findings to non-White patients,” said Dr. Crawford, whose previous Lustgarten-funded work analyzed existing tumor samples to determine if genomic and cellular differences could account for the higher rates and poorer outcomes of pancreatic cancer in Black African Americans.

This new body of research will include sequencing data from 75 Black African American and 75 White patients. Approximately 80% of pancreatic cancer patients are diagnosed when the disease is already metastatic, and thus longitudinal patient-matched tissue samples are extremely rare.

The collaborative Steele and Crawford teams have already identified many genes expressed differently in Black African American patients versus White patients.

Dr. Steele’s team screened over 3000 pancreatic cancer patients in their de-identified database and identified tissue samples within their cohort in Detroit (26 total, 8 from Black African American individuals) representing different stages of disease presentation, including at diagnosis, after surgery, and after the cancer has spread, and will study how the tumor microenvironment changes in the same patient over time. Collectively, the research from this newly generated diverse atlas and unique longitudinal cohort will provide essential molecular data from a racially diverse pancreatic cancer patient population.

“The Lustgarten Foundation is dedicated to advancing the best science to transform pancreatic cancer into a curable disease for every patient population,” said Linda Tantawi, Lustgarten Foundation CEO. “Through ground-breaking research like Drs. Steele and Crawford’s, we hope to increase our understanding of the biological mechanisms contributing to pancreatic cancer in racially diverse groups and provide more hope, and more treatment options, to patients across all backgrounds.”

The Lustgarten Foundation recognizes that solving the complex problem of pancreatic cancer requires a diversity of thought, education, training, background, and experience of the scientists investigating the disease, as well as diversity within patient data and those participating in clinical studies. Learn more about the Lustgarten Foundation’s other research initiatives focused on equity, diversity, and accessibility, the Career Development Awards Honoring Ruth Bader Ginsburg and John Robert Lewis, and the Lustgarten Equity, Accessibility, and Diversity (LEAD) Grant Program.

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