

Executive Summary

More than one million people in the United States are living with HIV. In North Carolina, new diagnoses disproportionately affect young people of color, including gay, bisexual, and other men who have sex with men (MSM) and transgender individuals. The CDC estimates that 50% of Black MSM and 25% of Latino MSM will receive an HIV diagnosis in their lifetime. The South has emerged as the 21st century epicenter of the HIV epidemic. Mecklenburg County ranks 25th in the nation for new HIV diagnoses and is a nationally prioritized hotspot in the federal initiative to *End the HIV Epidemic*. Increased testing and pre-exposure prophylaxis (PrEP), a daily pill that prevents infection, show promise to end the HIV epidemic. However, uptake of PrEP and testing remain low among underserved populations who disproportionately acquire HIV. Given this need and its relation to health equity concerns, we anticipate continued funding opportunities for cost-effective innovative interventions.

In a few short years, the Academy for Population Health Innovation (APHI) HIV Research Team has established a reputation for quality and impact. We have secured over \$2.1 million in external funding, produced numerous papers and conference presentations, and supported and engaged graduate and undergraduate students in our community outreach and research efforts. These accomplishments are in addition to the productivity of our members outside the APHI framework. We intend to build upon this success and grow our core team by incorporating more colleagues from across campus and more community partners as we coalesce interest and expertise around HIV prevention and related areas.

Our expanded APHI HIV Research Team will identify and develop strategies to advance HIV prevention research in the Carolinas by convening a multidisciplinary team with diverse methodological and content expertise. APHI is a unique partnership between UNC Charlotte and Mecklenburg County Public Health (MCPH). The APHI HIV Research Team will expand and grow sustainable partnerships in service to UNC Charlotte's mission to conduct meaningful research across colleges, departments, and other academic institutions. The complementary expertise of our Team members will enhance APHI's existing HIV research program by developing innovative and impactful proposals that leverage our demonstrated capacity to design and deliver cutting-edge community-based interventions.

The overall goal of the APHI HIV Research Team is to secure external funding to support novel, significant, and innovative research to address the urgent need for effective HIV prevention interventions in the Southern US, as expressed by the US Department of Health and Human Services *Ending the HIV Epidemic (EHE)* national plan. In doing so we will position our junior colleagues to become successful PIs in the near future.

Submission Narrative

Evidence of Strength and Excellence

The APHI HIV Research Team and its collaborators have substantial expertise and experience in conducting community-engaged, population-level and clinical HIV research. Supported through the *EHE* federal initiative, we continue to engage in significant research, scholarship, and practice and remain united in our commitment to end the HIV epidemic

Expertise. Our collective expertise spans the domains of infectious disease epidemiology, biostatistics, and public health more broadly; therapeutics and prevention through pharmaceutical and non-pharmaceutical interventions; medical anthropology, nursing, social work, and community psychology; and geographic sciences. Our complementary disciplinary training and experience strengthens the innovation and significance of our research by combining social science, biobehavioral research methods, community-based participatory research, and implementation science theoretical lenses. We are well versed in primary data collection, the use of secondary sources of data for analysis, and the integration of disparate datasets into more robust analytic ones. Furthermore, team members have developed skills in evaluating public health programs, conducting needs assessments, and writing effective research and community-service oriented grants and reports.

Collaborations and Community Engagement. Team members are actively engaged in collaborations with local and state health departments to address the HIV Epidemic. They are founding members and provide leadership in the Carolinas' regional coalition: Carolinas United to End HIV (CUE-HIV). CUE-HIV involves the major medical academic and State public health organizations in North and South Carolina, such as UNC Chapel Hill, UNC Charlotte, USC, MUSC, North and South Carolina State Health Departments and MCPH. Team members also have established fruitful collaborations with MCPH and the HIV community advisory and planning committee, Getting to Zero Mecklenburg County ([G2Z](#)). G2Z is the local community organization guiding the response to the HIV epidemic in Mecklenburg County, and is comprised of community members, CBO staff, health care providers, MCPH staff, and academics. This collaboration has allowed the Team to make major contributions to the [County EHE plan](#) and assist in program evaluations.

Funding. We have leveraged our expertise and the trust of our community partners to develop a growing portfolio of community-engaged interventions integrated with MCPH and a variety of community stakeholders. At present, APHI has over \$1.7 million in active external funding.

Notable sources of grant support include direct awards from Southminster Inc. and subawards from CDC and HRSA *EHE* grants, Gilead Sciences, Inc., and Mecklenburg County Public Health. Several of APHI's awards from MCPH are sub-contracts from the County's CDC and HRSA funds. These funds do not typically flow to universities, however our team provided grant writing support to MCPH and identified vital roles for APHI team members to assist the County in the award activities. Those efforts have resulted in grants totaling more than \$6.5 million in over five years, with the APHI portion of those grants (about one-sixth of those funds) reflected in our total support noted above. In addition to MCPH, our community collaborators have included Atrium Health, Novant Health, Medical University of South Carolina, and UNC Chapel Hill, and others.

We have four *EHE* proposals under review or development totaling \$1.5 million. Our recent efforts to enroll people who are uninsured in PrEP services have been so successful that we have had to pause enrollment: we have far outpaced the projected reach and exhausted the county's budgeted resources to care for the individuals we identify. We are currently working with the County to identify potential funding sources to sustain the PrEP program and are developing a cost-benefit analysis plan to advocate for policy reform in our state.

Student Support. To date, APhi has provided direct support to students (tuition, stipend, etc.) in excess of \$100,000 and supported a number of student interns and researchers (i.e., for academic credit). These efforts have contributed to the training and professional development of 10 doctoral students, 12 master's students, 32 undergraduates (including 9 Levine Scholars), and 1 postdoctoral fellow.

Scholarship and Professional Development. During the last year APhi produced 3 peer-reviewed publications, with 4 more under development, and multiple agency-focused technical reports. In implementing and disseminating our projects, we have supported and mentored students and junior faculty. APhi members have also delivered over a dozen conference presentations, with several featuring graduate and undergraduate student researchers. These future professionals have been authors/co-authors on 15 publications and 11 conference presentations (podium and poster) and form a pipeline of future collaborators and entre to other networks.

These accomplishments are separate from our team member's research productivity outside the APhi framework which are documented in their CVs.

Future Focus. The APhi HIV Research team resources will foster Team success in building sustainable partnerships and collaborations to address regional and national priorities related to disparities in HIV diagnoses, treatment, and prevention. We will extend our Team on-campus to include other academic units and off-campus to include other academic institutions and other public health practice organizations, thereby growing and diversifying our skills and experience. We will develop innovative HIV prevention research presentations, manuscripts, and grant proposals in alignment with the *EHE* national priorities. The APhi HIV Research Team integrate behavioral science and biomedical strategies through a social determinants of health lens to successfully compete for external funding opportunities that allow us to address the burden of HIV in the US.

The expanded scope of collaboration among team members of such diverse expertise and experience will allow us to branch out into related foci within the larger HIV prevention and treatment domain. New areas to explore include assessing and mitigating the impact of health access disparity on prevention and treatment access, the effect of stressors such as the Covid 19 pandemic on HIV prevention service access and utilization.

Alignment with Regional and National Priorities

The APhi HIV Research Team's goals align with regional and national priorities to *End the HIV Epidemic* and further UNC Charlotte's strategic plans to pursue community-engaged research and scholarship. Our efforts currently help define and focus the local County priorities within the larger national HIV priority setting framework.

The National Ending the HIV Epidemic Plan guides the NIH's Center for AIDS Research and the NIMH AIDS Research Center funding priorities.

By building upon sustainable partnerships established through the Academy for Population Health Innovation, the expansion of our APhi HIV Research Team will be the catalyst for the pursuit of large-scale studies.

- Mecklenburg County Public Health. [FY20-22 Strategic Business Plan](#) (local)
- Mecklenburg County, NC. [Ending the HIV Epidemic](#) (local)

- North Carolina Department of Health and Human Services. [North Carolina's Integrated HIV Prevention and Care Plan including the Statewide Coordinated Statement of Need, CY 2017-2021](#) (state)
- US Centers for Disease Control and Prevention. [Ending the HIV Epidemic](#) (national)
- National Institutes of Health. [Center for AIDS Research](#) (national)
- National Institute of Mental Health. [AIDS Research Centers](#) (national)

Summary Listing of Team Members

The table below identifies our named faculty, starting with our co-leads then proceeding alphabetically.

<u>Name and Credentials</u>	<u>Title</u>	<u>College</u>
Michael E. Thompson, MS, DrPH (Co-lead)	Associate Professor, Public Health Sciences; Acting Director, APhi	CHHS
Patrick Robinson, MD, MPH (Co-lead)	Research Professor	CHHS
Meagan Zarwell, PhD, MA (Co-lead)	Assistant Professor, Public Health Sciences	CHHS
Judith B. Cornelius, PhD, MS, RN	Associate Professor, Nursing	CHHS
Laura Gunn, PhD	Associate Professor, Public Health Sciences; Director, CHHS Biostatistics Core	CHHS
Diana Rowan, PhD, MSW, LCSW	Professor, Social Work	CHHS
Heather Smith, PhD	Professor; Geography	CLAS
Victoria Scott, PhD, MBA	Assistant Professor, Psychological Sciences	CLAS