



Appendix II

Budget Allocation

Personnel Costs: \$235,766
Fringe: \$ 75,159

Non-personnel Costs: \$286,716

Total: \$597,641

**Per UNC CH Policy, personnel fringe will be paid by the Collaboratory from this award prior to funding transfer.*

Budget Summary

EHRA Salary	\$120,065
SHRA Salary	\$19,856
Grad Student	\$95,845
Temps	\$0
Fringe Pool	\$75,159
Non-Personnel Expenses	\$286,716
Total	\$597,641

Appendix III

The Gillings Epidemiology Dashboard for NC Policymakers

ORIG title: The Gillings Center for Coronavirus Testing, Screening, and Surveillance.

The overall goal of this project is to build develop a resource center for SARS-CoV-2 testing, screening, and surveillance that will implement modern epidemiologic tools to enable better science and public health around SARS-CoV-2 and launch a web interface “hub” to rapidly distribute tools to researchers and decision makers. The Center will focus on identifying efficient algorithms for pooled molecular COVID-19 testing, developing effective testing strategies in response to specific scenarios, creating tools to account for error in molecular and serological test results, and improving interpretation of results from studies and surveillance activities by accounting for nonrandom sampling schemes. Team: Kim Powers, Allison Aiello, Mark Holmes, Daniel Westreich, Jess Edwards

Impact to the State (300 word limit)

- Description of the problem or challenge being addressed and how the problem impacts those in the state of North Carolina
- Describe how the proposed research will provide impactful solutions to the described problem to help the state of North Carolina

Reliable data are key to understanding the impact of COVID-19 across the state. Infectious disease epidemiology expertise is important for interpretation of these data, as well as understanding the impacts of this disease and for the evidence needed to guide policy. And we know that widespread testing is critical for healthy recovery. We need robust, modern epidemiologic methods to scale up testing and to understand what is working and what is not working across the state.

The overall goal of this project is to build develop a resource center for SARS-CoV-2 surveillance that will implement modern epidemiologic tools to enable better science and public health around SARS-CoV-2 and launch a web interface “hub” to rapidly distribute tools to researchers and decision makers. Understanding the population-level prevalence and burden of SARS-CoV-2 is essential to relax social distancing measures while not overloading healthcare systems and to better understand the epidemiology of the virus, including causes and predictors of outcomes, case- and infection-fatality rates, and true prevalence of infection. Unfortunately, testing kits and lab throughput are limited and test performance characteristics are largely unknown and/or unaccounted for in analyses. The Center will directly improve the public health response by providing models and strategies to assist laboratories in increasing testing capacity, improving use of test results in outbreak settings and “return to work” scenarios, and accelerating our understanding of the epidemiology of the virus so that coherent, timely decisions may be made to balance infection control with the desire to relax strict intervention measures. We will provide expertise to help analyze and interpret the data necessary to guide the return to work and life across the state while protecting the health and welfare of its citizens. In addition to the above milestones, the team will be involved in application of the developed methods to support ongoing COVID testing work in North Carolina, including wastewater testing, surveillance activities, and testing events, as well as developing new statistical and epidemiologic methodology as necessary.

Milestones (300 word limit):

Description of what will be accomplished and what can be delivered by August 31, 2020, and by Dec. 31, 2020. The start date will be June 1, 2020.

Objectives are to

1. Develop methods and resources, including web-based resources, for SARS-CoV-2 group testing.
2. Develop resources to account for imperfect test accuracy in surveillance and diagnostic testing.
3. Develop evidence-based guidance to inform testing strategies in response to specific scenarios
3. Curate and interpret available COVID-19 study data for use by decision-makers

August 31, 2020 Milestones

1. Technical guidance document outlining strategies for pooled molecular testing for SARS-CoV-2 in North Carolina
2. Curated list of molecular and serological tests currently used in North Carolina with documentation of their accuracy
3. Protocol for re-analyzing results of studies employing molecular and serological testing to inform targeted testing strategies
4. Preliminary curation of results from publicly available studies through August 31st
5. Protocol for data dashboard

December 31, 2020 Milestones

1. Expanded web tool that allows technical and non-technical stakeholders to evaluate potential strategies for pooled molecular and serological testing for SARS-CoV-2
2. Technical guidance document exploring adaptive methods for optimal pooling strategies in specific scenarios
3. Web tool to compute SARS-CoV-2 prevalence estimates and uncertainty intervals using results from a study or surveillance exercise employing a molecular or serological test with imperfect measurement properties
4. Preliminary data dashboard curating publicly available results from studies related to COVID-19 conducted in North Carolina and available county-level contextual data

Budget Justification (200 word limit):

Personnel

- 0.30 months of salary support for two faculty and 0.90 months of salary support for one faculty
- 1.5 and 3.0 months of salary support for two data managers
- 1.5 and 4.2 months of salary support for two programmers
- 1.2 and 1.5 months of salary support for two administrators; one to manage the data managers and programmers and one to track overall budget, logistics, and deliverables
- 0.90, 1.14, and one 1.32 months of salary support for three staff from the North Carolina Institute for Public Health to advise on methods for interpreting results from

studies with different sampling schemes and to gather/interpret local public health data for use on the dashboard

- 3.6 months of salary support for a lab technician and .12 months for an accounting technician
- Support for 10 graduate research assistants (GRAs); combination of summer hourly and fall semester to assist with statistical analyses, literature reviews, and development of simulations and guidance documents

Fringe Benefits

Benefits for faculty, staff and postdoctoral research associates are calculated as follows:

Permanent faculty and staff – A composite benefit rate which includes Social Security and retirement equal to 25.889% of requested salary; plus \$6,512/year (\$542.66/month) prorated to effort for health insurance.

Postdoctoral Research Associate - A composite benefit rate which includes Social Security equal to 9.49% of requested salary; plus \$4,808.76/year (\$400.76/month) prorated to effort for health insurance.

Temporary staff - A composite benefit rate which includes Social Security equal to 9.49% of requested salary.

For Graduate Research Assistants: A composite benefit rate which includes Social Security equal to 9.49% of requested salary; plus \$4,137.60/year (\$344.80/month) prorated to effort for health insurance.

Supplies

- Funds are requested for reagents to perform validation testing
- Funds are requested for software and access to external databases
- Funds are requested for publication fees

Other

- Funds are requested for Web design and data visualization to complete the front-end of the dashboard (Sheps Center)
- In-state tuition is \$5,709/semester/student. Mandatory student fees are \$979.32/semester/student.

