



Appendix II

Budget Allocation

Personnel Costs: \$232,804
Fringe: \$ 39,615

Non-personnel Costs: \$425,795

Total: \$698,214

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

Budget Summary

| | |
|------------------------|------------------|
| EHRA Salary | \$104,939 |
| SHRA Salary | \$ 2,590 |
| Grad Student | \$ 5,275 |
| Temps | \$120,000 |
| Fringe Pool | \$ 39,615 |
| Non-Personnel Expenses | \$425,795 |
| Total | \$698,214 |

Appendix III

Mountaire Meat Processing Plant Community Study. Studies of workers in essential services and interventions to reduce occupational exposures and keep economy going. Continuity of care, including expanding testing and contact tracing methods. Protection from future infection among those with antibodies. NOTE: this came from the community who asked for the study- they are willing for us to do this in their plant. They approached Aiello and Boyce (who were too busy putting together other projects and there were several people who wanted to PI – Bowman is at SOM) Leadership: Bowman, Aiello, along with David Richardson, Jon Juliano (\$750k)

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

Over five million SARS-CoV-2 infections have occurred worldwide, resulting in almost 330,000 deaths; the toll is certainly already much higher. North Carolina (NC) has reported 20,910 cases and > 700 deaths, and daily case counts continue to climb. Both in NC and throughout the United States, meat processing plants have been foci of local outbreaks. The virus spreads easily in these facilities, sometimes resulting in hundreds of cases and occasionally necessitating plant closures. Workers also infect their household members, promoting spread in surrounding communities. In addition to the adverse effects on human health, these localized outbreaks can overwhelm medical and public health institutions (especially in underserved rural communities) and threaten the food supply because of worker absenteeism due to illness. Meat production, particularly poultry and pork, is a staple of the NC economy; thus, outbreaks in these facilities and their surrounding communities have significant public health and economic repercussions for the state.

We propose a cohort of food processing workers in NC to examine SARS-CoV-2 transmission in these workers and their close contacts. Participants will be followed monthly or when symptomatic. Within this cohort, we will measure baseline seroprevalence of SARS-CoV-2 infection, and incidence of infection in the workplace and household, and incidence reinfection over one year both in food supply workers and their household contacts. Workplaces will be visited to document use of personal protective equipment, crowding, and other potential risk factors; additionally, we will evaluate structural aspects of the workplace environment that affect transmission. We will use cutting edge viral sequencing to identify clusters of infections and infer transmission routes. Results from this cohort would characterize the role of meat processing facilities in SARS-CoV-2 outbreaks and their contribution to community spread. The study would allow us to identify and inform workplace policies and engineering controls to minimize transmission.

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.

August 31, 2020 Milestones

- Finalize study design with the team of coinvestigators
- Obtain approval from applicable Institutional Review Boards
- Purchase necessary materials and equipment
- Develop study materials (informed consent forms, recruitment materials, data collection forms, surveys)
- Hire study staff (study coordinator, two field coordinators, two assistants/phlebotomists, a laboratory technician, and two post-doctoral fellows)
- Enroll at least 100 food supply industry workers and their household members (approximately 400 total participants) with baseline data and sample collection
- Identify at least one, potentially up to three, meat processing facilities who would like to collaborate with the study. We will do this in coordination with the North Carolina Health Department.

December 31, 2020 Milestones

- Enroll up to 500 food supply industry workers and their household members, which should complete the cohort
- Perform follow up monthly visits on all enrolled participants.
- Identify a graduate research assistant for epidemiological analyses
- Perform serological testing for SARS-CoV-2 infection at baseline and up to three months (longer for earlier enrollments) on all participants
- Perform qRT-PCR testing for all baseline nasal swabs and saliva samples as well as all follow up samples collected to date
- Perform library preparation and viral sequencing for SARS-CoV-2 positive samples collected to date
- Perform preliminary epidemiological analyses, including description of the entire cohort at baseline, risk factors for positive serology for SARS-CoV-2 at enrollment, and risk factors for SARS-CoV-2 infection in the workplace and the household
- Perform workplace visits with an engineering consultant or industrial hygienist to identify structural and environmental aspects of the meat-packing facilities that might encourage or prevent transmission in the workplace

Budget Justification (200 word limit): Funds are limited. We encourage all teams to revisit their budget and determine if it can be reduced.

Personnel

Bowman (PI) –study design and conduct, data analysis, and publication

Richardson (coinvestigator) – expert in occupational epidemiology, advise on study design and analysis

Juliano (coinvestigator) –oversee laboratory and sequencing activities

Aiello (coinvestigator) – expert in transmission of respiratory infections

Sciaudone (post-doc) –study coordination

Graduate research assistant –epidemiological analysis, tuition included

Postdoctoral fellow – sequencing analysis

Study staff – a study coordinator is needed to oversee study administration, two field coordinators and two clinical research assistants are needed to travel to poultry plants and households for study visits, and a laboratory technician is needed for specimen processing

Kharabora (lab manager) and Hudock (accounting technician) – administration

Travel

Funds requested for two rental cars from the UNC fleet and gas for travel to study sites

Materials

\$90,000 Laboratory supplies for sample processing, serology, qRT-PCR, sequencing

\$15,000 Personal protective equipment for study staff

\$60,000 Sample collection supplies

\$10,551 Miscellaneous (office supplies, field equipment, etc.)

Equipment

\$35,750 RNA/DNA extraction robot (small) and supplies

\$3,000 Tablets for data collection

\$2,250 Cell phones and service for staff to communicate with participants

Consultants

\$10,000 Factory engineering consultant

Contracted services

\$10,000 is requested to enlist help from the Chatham county-based non-profit Vinculo Hispano (Hispanic Liaison) to advise on community engagement, recruitment, etc.

\$1000 is requested for Piedmont Health Services to reimburse for recruitment activities (providing lists of potential participants, outreach, etc.)

Other

\$125,000 Participant compensation for time and expertise

\$10,000 Sequencing fees

\$8,900 Rent for office in Siler City

\$5,500 Communication for recruitment, dissemination of results

\$4,500 Publication fees (2-3 articles)

\$1,000 Internet, etc, for office

