



# PUBLIC HEALTH



UNIVERSITY OF MIAMI  
ROSENSTIEL SCHOOL of  
MARINE, ATMOSPHERIC  
& EARTH SCIENCE



UNIVERSITY OF MIAMI  
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# Diversity and Innovation in Screening and Prevention of Exposure over the Long-term (DISPEL) to Harmful Algal Blooms (HABs) Cohort Study

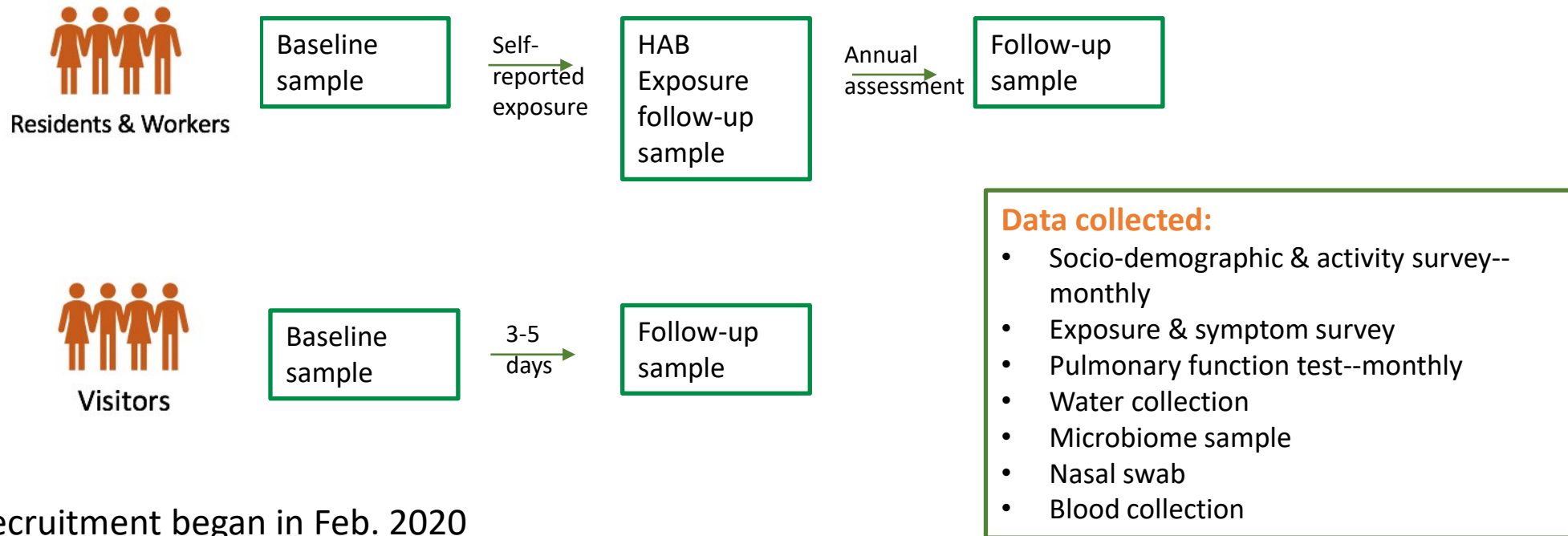
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# Study Design | DISPEL to HABS Cohort Study

**Project GOAL:** The DISPEL Research Study is an epidemiologic cohort study examining the long-term exposures to blue-green algal toxins among Florida workers, residents and visitors.

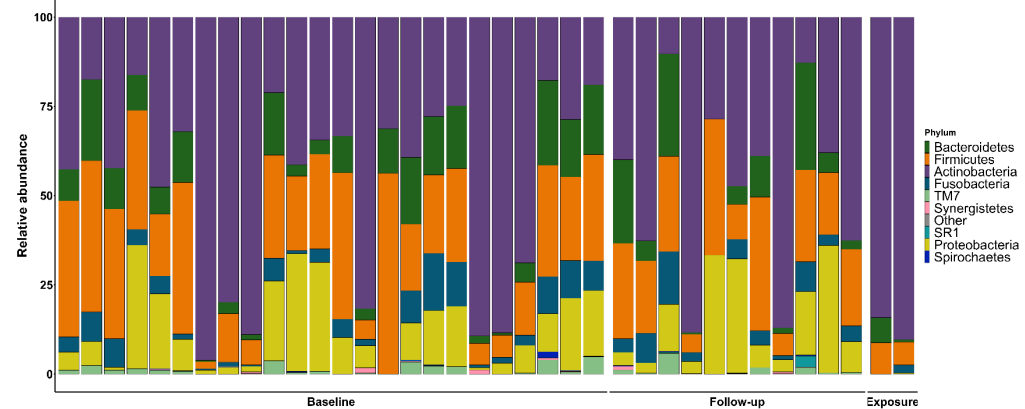
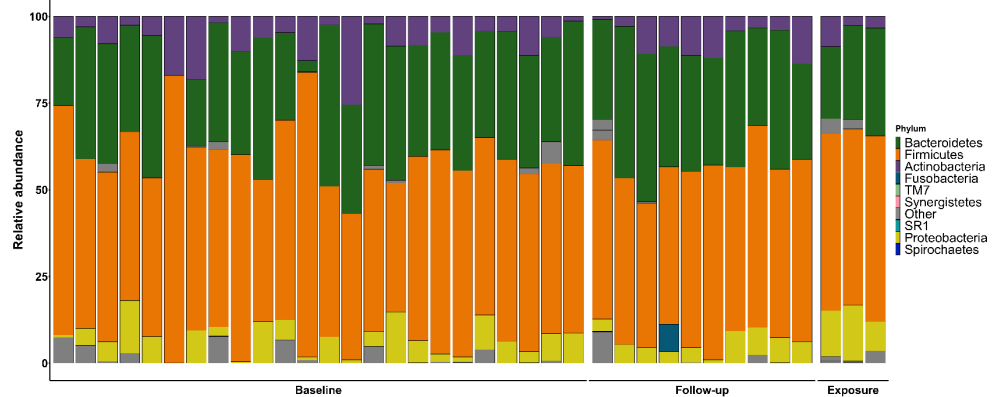
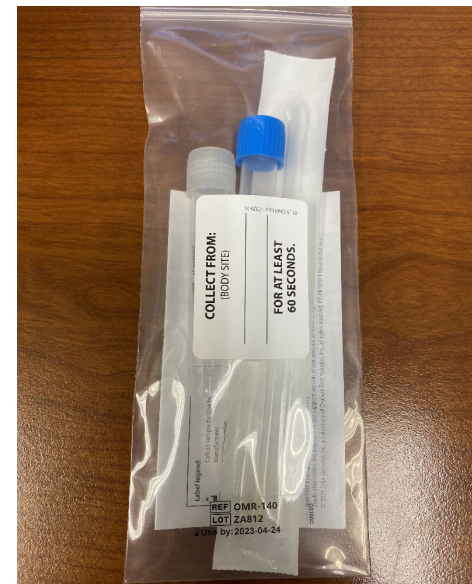
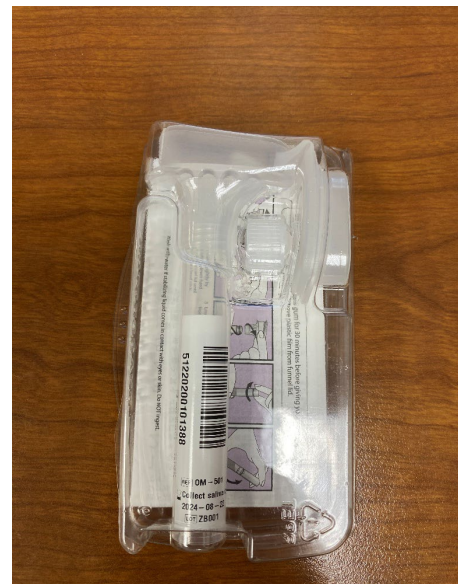
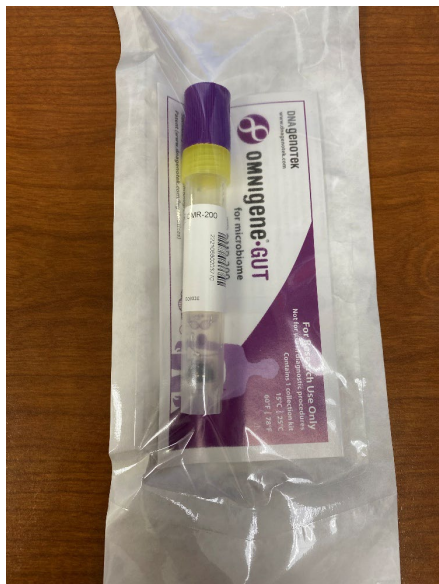


Recruitment began in Feb. 2020

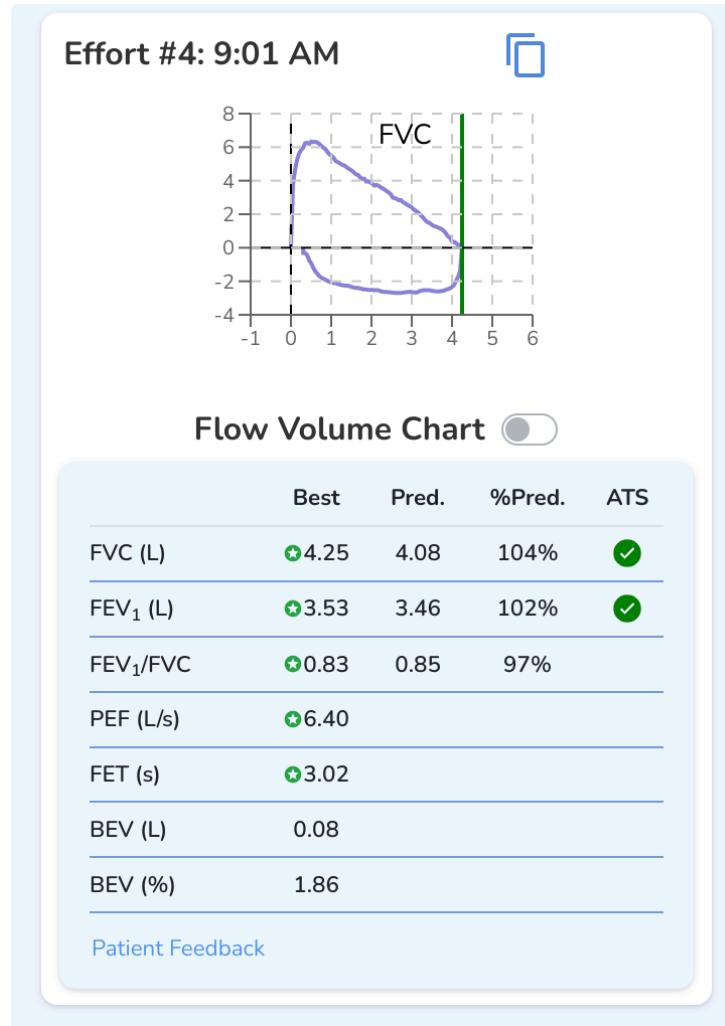
~104 participants recruited in years 1 to 4,

Year 4 (started July 2022) target recruitment: + 30

# "Citizen Science" microbiome data



# Spirometry Testing (PFT)



## Data Collection & Measures:

- American Thoracic Society (ATS) Acceptability
- Forced Expiratory Volume (FEV1)
- Forced Vital Capacity (FVC)
- FEV1/FVC Ratio
- Predicted Values (FEV1, FVC, FEV1/FVC)



# Nasal swabs



## NASAL SWAB SAMPLE INFORMATION FORM

**\*\*Please complete and return with your nasal swab samples\*\***

### Nasal swab samples:

Swab vial # \_\_\_\_\_ nostril (L or R) \_\_\_\_\_

Swab vial # \_\_\_\_\_ nostril (L or R) \_\_\_\_\_

Sample date \_\_\_\_\_

Sample time \_\_\_\_\_

### Activity Information:

1. In the past 24 hours, how much time did you spend outside?
  - a. None
  - b. Less than 1 hour
  - c. Approximately 1 hour
  - d. 1-2 hours
  - e. 2-4 hours
  - f. More than 4 hours
2. When you were outside, were you near a body of water?
  - a. No
  - b. Yes, I was in the water for most of that time
  - c. Yes, I was within 50 feet of the water for most of that time
  - d. Yes, I was within 500 feet of the water for most of that time
  - e. Yes, but only for a portion of the time outside—specify approximate time and distance from water: \_\_\_\_\_
3. When you were inside, was the space you were in air conditioned or otherwise filtered air?
  - a. No air conditioning or air filtration
  - b. Yes central air conditioning
  - c. Yes window unit air conditioning
  - d. Yes other air conditioning
  - e. Yes other air filtration—please describe if possible: \_\_\_\_\_
4. Any other information about activities or health in the past 24 hours relevant to your nasal samples that you'd like to share:

## Nasal Swab Sampling Instructions

### ***Nasal swab sampling supplies:***

- ***Nasal sample collection form*** to note sampling date and time, ***to be returned with the samples***
- Two sterile cotton nasal swabs in plastic tubes

### ***Sampling instructions:***

- ***A short video of nasal swab sampling instructions can be found here:***

### **Nasal swab sampling:**



# Water Sample Collection



## Participant Collection:

- One Outdoor water sample from place of exposure
- One tap water sample with no preservative
- One tap water sample with sodium thiosulfate

### Tap water sample:

Bottles # \_\_\_\_\_

Sample date \_\_\_\_\_

Sample time \_\_\_\_\_

Sample address (your home address)

\_\_\_\_\_

Sample location (kitchen, bathroom, etc.)

\_\_\_\_\_

### Outdoor water sample:

Bottle # \_\_\_\_\_

Sample date \_\_\_\_\_

Sample time \_\_\_\_\_

Sample address or description of location (example: name of park)

\_\_\_\_\_

GPS location if known (this may be available from a compass or maps app on your phone)

\_\_\_\_\_

Notes on sample conditions (Is a bloom visible? Other notes on water color, nearby plants or wildlife, etc.)

\_\_\_\_\_



# RESEARCH PRIORITIES

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- Determine human exposure pathways through the food chain (e.g., beef, seafood, crops, and milk)
- Develop more clear diagnostic criteria for health care providers







# ACKNOWLEDGEMENTS

## Funding Support



## DISPEL to HABs Cohort Study

### Study Team

Diversity and Innovation in Screening and Prevention of Exposure over the Long-term (DISPEL) to Harmful Algal Blooms

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|--|--|
| <b>Kim Pependorf, PhD</b><br>chemical oceanographer                        | <b>Corresponding PI</b><br>study design & coordination |
| <b>Alberto Caban-Martinez, DO, PhD, MPH</b><br>public health               | <b>Co-PI</b><br>cohort design & analysis               |
| <b>Addison Testoff</b><br>program manager                                  | participant enrollment                                 |
| <b>Daniela Maizel, PhD</b><br>environmental scientist                      | environmental analysis                                 |
| Natasha Schaefer Solle, PhD, RN<br>health & behavioral scientist           | participant recruitment                                |
| Helena Solo-Gabriele, PhD,<br>environmental engineer                       | expert advisor   |
| Cassandra Gaston, PhD<br>atmospheric chemist                               | expert advisor   |
| Larry Brand, PhD<br>phytoplankton ecologist                                | expert advisor   |
| Raquel Chenail, public health & envir.<br>science student research assist. | laboratory assistance                                  |
| Nicole Klatt, PhD, U. Minn.<br>immunology                                  | microbiome analysis                                    |
| Courtney Broedlow, U. Minn.<br>research assistant                          |  |