PUBLIC HEALTH

HABSOS 2019 Review

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WHAT WE DON'T KNOW

- **Longer term impacts of cyanotoxins**
- **How does the particular toxin get to a person? What is the exposure, what is the duration, what is the frequency?**
- **How does the toxin get through that exposure pathway to cause a harmful health effect?**
- **Floridians' actual exposure to cyanotoxins due to our limited ability to detect and quantify many cyanotoxins**

RESEARCH PRIORITIES - CYANOHABS

1. Identify all toxins, risk, and levels of toxicity, including microcystin, BMAA, stress
   - Determine longevity of diverse cyanotoxins in biota relevant for human health consumption
   - Understand the persistence of microcystins in sediments and the water column, their ability to be remobilized, and how that effects drinking water
   - Determine human exposure pathways through the food chain (e.g., beef, seafood, crops, and milk)
   - Assess synergistic effects of toxins with other toxic chemicals
2. Develop more clear diagnostic criteria for health care providers
3. Need clinically approved matrix-specific assays for cyanotoxins in biological samples
4. Establish more effective guidelines for drinking water treatment for all contaminants (i.e., saxitoxin)
5. Determine the best way to measure toxins in the food web

RESEARCH PRIORITIES –HABS IN GENERAL

1. Improve knowledge of and evaluate human and ecosystem health impacts, both short and long-term
2. Conduct long-term, longitudinal health studies on the chronic, low-level exposure to HAB toxins in humans including cumulative

3a. Evaluate physical, mental, and social health risks for the public and those implementing control strategies
3b. Determine psycho-social impact on individuals living near blooms

4. Identify human exposure to toxins through air and seafood vectors
5. Evaluate mixed exposures
6. Identify risk for all populations and occupations
7. Develop interdisciplinary teams
8. Understand dose-response