

## **Harmful Algal Bloom-related Illness Surveillance System HABISS**

### **System Description**

In response to the need to support public health decision-making, NCEH has developed a Harmful Algal Bloom-related Illness Surveillance System (HABISS). HABISS is a unique surveillance system that includes not only human health data, but also animal health data and environmental data about the harmful algal blooms (HABs) themselves. Data collection is organized in modular format that can be expanded to suite the needs of state and local health and environmental protection agencies. In the future, data collected and stored in HABISS will be used to assist in predicting local HABs, thus allowing state public health and environmental health prevention activities to be in place not only in response to reports of human or animal illnesses, but also in advance of anticipated public health problems.

### **Timeliness of data**

Timeliness depends on the data entry efforts of contributing states. There is interest among the contributing states that HABISS evolve into an outbreak alerting system by doing the following:

- Adding CDC's Early Anomaly Reporting System (EARS) capability within HABISS. With EARS, states can develop individualized alert paradigms for specific illnesses or events.
- Providing automatic email messaging to interested parties when specific illnesses or events are recorded in HABISS.
- Encouraging frequent data entry as soon as events are identified.

HABISS internally houses human and animal health data as well as relevant environmental data. There is interest in allowing selected HABISS data to be accessible through BioPhusion so that events can be mapped.

### **What data are collected?**

HABISS is an active surveillance system that can be accessed online through the Web. In 2008, access will also be available offline through Windows® or handheld devices. It operates on top of a secure platform, the Rapid Data Collector (RDC). The RDC tool was designed in-house, specifically for survey design and data collection purposes. Protected by approved access and password, state users can choose to enter, edit, and save data for subsequent sessions. Users may also choose to export data to Access, Excel, or XML. HABISS requires users to input several key indicators (e.g. dates, agency contact info, state codes, route of exposure, patient's chief complaint, etc). If data is available, HABISS also prompts users to report the following data elements for a suspected human illness report:

- Point of contact with the system
- Identifying information for the case
- Case demographics
- Environmental information
- Exposure information
- Signs and symptoms
- Medical Review (including laboratory analysis)
- Case assessment and follow-up
- Parallel modules for animal events

Human illness reports can be easily linked to data collected on algal blooms. It is intended to synthesize not only regional algal blooms across multiple sites, but also active blooms in residential ponds, reservoirs, natural springs, and other water bodies.

Users are requested to report the following data elements for an algal bloom report:

- Water sample & collection information
- Geographic coordinates via link to Google map
- Toxin Identification

### **Future HABISS activities**

HABISS continues to evolve, and several new initiatives are already underway.

- Mapping vocabulary to EARS, SNOMED, LOINC Codes, etc.
- Creating messages consistent with PHIN
- Linking reported weather conditions and meteorological factors to HAB outbreaks
- Collaborating with investigators at the National Oceanic and Atmospheric Administration (NOAA) and National Centers for Environmental Prediction (NCEP) to add a simplified prediction component to HABISS
- Collaborating with the Olympic Harmful Algal Bloom Program (ORHAB) to help build a web-based bulletin for early warning of Washington coast HAB events
- Collecting data on ocean-related diseases in animals and people to ensure that data is collected in a concurrent way that it can be linked to and overlaid with data from other surveillance systems
- Providing scientific data from HABISS to aid the discussion of HABs and global climate change (e.g., on the effects of increasing ambient air temperature, changing wind patterns, and variable tidal patterns on HABs and human health)
- Expanding the HABISS network to include international partners and participants

### **Provide websites and relevant references**

HABISS is accessible through CDC's Rapid Data Collector and is limited to individuals who have specifically requested and obtained digital certificates for security purposes.