


Results from a Pilot Surveillance System of Harmful Algal Bloom-associated Illnesses in New York State, 2015


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Background

- Harmful algal blooms (HABs) – an excessive aquatic growth of cyanobacteria or marine algae that may produce toxins
- Can cause variety of symptoms – dermal, gastrointestinal, neurological, or respiratory
- Causes concerns about recreational activities and drinking water supplies
- Incidence of HAB-associated illnesses = ?
 - New York State (NYS) has historically received <10 illness reports per year, with many years experiencing no reports




Source: New York State Department of Environmental Conservation (top), New York State Office of Parks, Recreation & Historical Preservation (bottom)



Methods

New York State Department of Health (DOH) pilot surveillance included:

- Voluntary participation of local health departments (LHDs) across the state
 - 15 total participating counties, others participating throughout summer
- Enhanced One Health surveillance
 - Human and animal illnesses reported by LHDs, other agencies, physicians, veterinarians
 - DOH actively collected illness reports through hospital data & poison control center data
- Each report was investigated and classified per CDC's case definition
- Frequencies of key variables were calculated (i.e. demographics, symptoms, environmental information, etc.) using SAS 9.3



Results


Characteristics of HAB-associated human and animal illnesses reported in 2015.

From 6/1-9/15/2015, there were:

- 45 illness reports
- 29 cases

	Human N=27 n(%)	Animal N=2 n(%)
Female	16 (59)	1 (50)
Mean age	26	6
Exposure type*		
Recreational	27 (100)	2 (100)
Treated drinking water	0 (0)	0 (0)
Untreated drinking water	0 (0)	2 (100)
Primary health complaint*		
Respiratory irritation (i.e. sore throat, cough)	14 (52)	0 (0)
Dermal reaction (i.e. rash, eye irritation)	13 (48)	0 (0)
Diarrhea	12 (44)	2 (100)
Fatigue	10 (37)	2 (100)
Nausea	7 (26)	n/a
Headache	6 (22)	n/a
Vomiting	4 (15)	2 (100)
Other**	10 (37)	1 (50)


*Categories not mutually exclusive
 **Other complaints include:
 Human – chills (3), dark urine (3), fever (2), neurological (2)
 Animal – seizures (1)




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Discussion

- Surveillance in 2015 resulted in more human illnesses than previously reported
- All reported illnesses associated with recreational water exposure
- Limitations
 - Surveillance conducted in only subset of NYS
 - Underreporting
- Strengths
 - Enhanced surveillance
 - Physician & veterinarian outreach
- Additional surveillance will help to describe the incidence of HAB-associated illnesses



Source: Centers for Disease Control and Prevention



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Acknowledgements

- NYS DOH
 - Lloyd Wilson
 - David Dziewulski
 - Grant Zelin
 - Eric Wiegert
 - James Hyde
 - HAB Working Group
 - Center for Environmental Health
 - Regional Environmental Health Directors & Coordinators
- CDC/CSTE Applied Epidemiology Fellowship
- NYS Department of Environmental Conservation
 - Scott Kishbaugh
 - David Newman
- NYS Office of Parks, Recreation, & Historic Preservation
- CDC Waterborne Disease Prevention Branch
- **Our Local Health Departments and District Offices**



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Questions?

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This study/report was supported in part by an appointment to the Applied Epidemiology Fellowship Program administered by the Council of State and Territorial Epidemiologists (CSTE) and funded by the Centers for Disease Control and Prevention (CDC) Cooperative Agreement Number 1U38OT000143-03.

