Environmental Public Health Tracking

USING EPHT DATA AND RESOURCES TO MAKE A DIFFERENCE

Missouri's Investigation into Haff Disease Case

What was the problem/situation?

Haff Disease is a rare disease that affects about 1 person in the entire United States each year. Unfortunately, the case occurred in Missouri in 2016. It is not known exactly what causes Haff Disease; however, in the United States, it has been linked to the consumption of buffalo fish. Buffalo fish are primarily a bottom-feeding species found in the Mississippi River watershed.

With Haff Disease, symptoms of rhabdomyolysis appear within 24 hours of eating fish. Rhabdomyolysis is a clinical syndrome caused by injury to skeletal muscle that results in the release of cellular contents into the circulation system. Initial symptoms include muscle weakness and tenderness and, in some cases, tea-colored urine. Complaints of muscular pain, chest pain, and stiffness are the major symptoms of the clinical presentation. Other predominant symptoms are nausea or vomiting, shortness of breath, profuse sweating, and pain to light touch.

How was Tracking involved?

Missouri Environmental Public Health Tracking (EPHT) staff partnered with the Missouri Department of Conservation (MDC), the U.S. Drug and Food Administration (FDA), and the impacted local health department to collect more information and facts on the Missouri case linked to this rare disease.

What action was taken to resolve the problem?

Missouri EPHT notified the FDA of the case, obtained a questionnaire and instructions for shipping the meal remnant. EPHT staff assisted MDC field staff in capturing 15 specimens each of 3 buffalo species (bigmouth buffalo, smallmouth buffalo, and black buffalo) for the FDA and specified universities to study and perform deoxyribonucleic acid (DNA) sequencing. Missouri EPHT worked directly with the local health department to get the FDA's questionnaire completed and returned. Missouri EPHT also worked with MDC to develop additional questions for a second questionnaire to capture more information that will be helpful for comparison in

future cases. The case prompted the Missouri Department of Health and Senior Services to issue a statewide notification about the disease to doctors and health professionals.

How would you quantify the impact of the resulting action on the health of the population?

Currently, there is little known about this disease, so there is also little known about how to treat these cases. With supportive care, patients in the United States survive and recover from these cases. Results of this testing will hopefully lead to a better understanding of this rare disease and help healthcare professional better identify and treat these cases in the future.