



IOWA PUBLIC HEALTH TRACKING

PUBLIC HEALTH ACTION

Tracking Supports Flood Recovery Efforts

The Iowa Department of Public Health (IDPH) Bureau of Emergency and Trauma Services (BETS) assist in local public health department's needs during disasters, including flood response as part of the State Emergency Operations Command structure. The State of Iowa is prone to flooding, and IDPH coordinates an Environmental Health Response Team (EHRT) to support post-flood recovery efforts related to restoring private well water supplies and conducting rapid assessments of recovery needs related to property clean-up.

What was the Problem/Situation?

In past flooding events that occurred in June 2008 and 2013, Linn and Allamakee Counties requested information on the private water wells that were impacted by flooding so that preparations could be made for services such as water sampling or remediation. The EHRT was also deployed to Linn County in 2008 to assist in post flood recovery efforts. During these flooding events, IDPH was unable to obtain these data in a timely manner to assist. Records from the Private Well Tracking System (PWTS) operated by the Iowa Department of Natural Resources (DNR) could not easily be extracted from the database without additional analytical support.

How was Iowa Public Health Tracking Involved?

Having identified this data need the Iowa EPHT program worked with the DNR to acquire the data from PWTS to display private well water quality data. The data sharing agreement was completed in early 2017 between the two departments. The agreement would facilitate not only the display of private water quality measures on the Iowa Tracking Portal, but also the ability to query and provide essential information for post flood recovery efforts.

Beyond access to the PWTS data, IDPH and Iowa EPHT have recently made multiple technology advancements that have contributed to increasing the capacity to assist post flood recovery efforts:

- The 2018 transition to the Tableau platform has allowed the EPHT to save time by quickly identifying impacted wells in emergency response situations. The maps generated can provide well demographics, or services provided. The maps are interactive and the EHRT coordinator can select a group of wells and download a report of those wells so each strike team can have exact information.
- In December 2016 IDPH began the transition from Microsoft Office to Google Suite and later into migrating all data and applications into Amazon Web Services (AWS). Having applications and data in the cloud provides opportunities that have never been available to IDPH staff.





IOWA PUBLIC HEALTH TRACKING

PUBLIC HEALTH ACTION

The new technology has allowed the EPHT to create an Environmental Health Services Assessment tool within a Google Form. This tool could be used by the EHRT to collect data in the field in real time by simply completing the Google Form and submitting electronically after each well assessment on a mobile device.

The results would automatically feed into a Google Sheet that IDPH would access from the cloud services file that will be joined to the underlying well data that makes up the Tableau visualization so that staff in the command center could see which wells had or had not been tested as well as other environmental health services provided such as information on mold, carbon monoxide, or salvageable items in near real time.

This technology would also serve as the model for any other rapid assessments needed during disaster recovery. Prior to the creation of this tool, data would be collected on a paper form which would be sent back to IDPH to be manually entered in a database. This process was slow to get identified public health needs addressed in a timely manner.

The Environmental Health Services Assessment tool was tested internally at IDPH to ensure that it collected the necessary data and in the format necessary to update the Tableau visualizations. Field testing of the tool will occur during the next full scale exercise conducted by EHRT or sooner if the team is deployed following a flood event.

What Action was Taken to Solve the Problem/Situation?

In March 2019, severe flooding occurred in southwestern Iowa. To get an idea of how many private water wells were impacted, the EPHT program was contacted for the private well data. With the established data sharing agreement with the DNR and with EPHT utilizing the new Tableau Platform, a map was generated that identified approximately 200 private wells in the flood impacted area that the EHRT could be deployed to assist in testing the wells.

Information about impacted water wells was used to help local public health determine the burden of restoring private well water supplies as part of the recovery effort and identify if support in the form of the EHRT was needed. Ultimately the EHRT was not deployed to assist for the 2019 Southwest Iowa flooding.

