

Pilot Evaluation	Narrative	Indicators of success	Means of verification	Assumptions
Purpose of Pilot	1. To determine if study procedures allow team to answer research questions	1a. Survey data is of good quality (e.g. limited missing or invalid data). 1b. Lab data is of good quality (e.g. limited missing or invalid data). 1c. LPE exposure characteristics are available for each event.	1a. Item response analysis 1b. Lab data (e.g. Positive controls are within acceptable standard deviation, negative controls are negative) 1c. Item response analysis	<ul style="list-style-type: none"> • Utility and CDC team communicate throughout the pilot • Utility follows study procedures • CDC team follows study procedures
	2. To familiarize team members with study implementation and procedures	2a. CDC team conducts 1-2 on-site training sessions. 2b. All team members follow study standard operating procedures.	2a. & 2b. Observed behavior and on-site training activities	
Low Pressure Event Outcomes	1. CDC team and utility select appropriate exposed and unexposed areas.	1a. Exposed and unexposed areas are matched on census block or tract, housing type, pipe size and material, and origin of water. 1b. CDC team receives customer contact information within 1-week of the event.	1a. Census maps and utility water systems information 1b. Contact data management database used to monitor receipt of customer information from utilities and secure FTP site used for transfer of customer information	<ul style="list-style-type: none"> • Team members follow study procedures • No technical issues with data management databases • No external issues that would prevent timely shipment of water samples
	2. LPE form is filled out completely at the time of repair.	2. Water sample information is available for all 6 samples, chain of custody information is complete, low pressure event information is complete.	2. LPE form (with chain of custody information on last page)	
	3. Water sample collection team follows standard operating procedures.	3a. Utility personnel collect water samples from the exposed area within 24 hours of the LPE, using CDC protocols, and CDC receives samples within 30 hours (EPA standard holding time for bacterial analytes). 3b. Utility personnel collect water samples from the unexposed area within 48 hours of the LPE and CDC receives	3a. & 3b. CDC lab chain of custody information received with shipments (on LPE form), lab data management database	

		samples within 30 hours after collection.		
	4. Lab team follows testing, standard operating procedures, and maintains chain of custody logs.	<p>4a. CDC Environmental Microbiology Laboratory processes and begins analysis the same day the samples are received from the water utility (36 drinking water samples from 6 LPEs, with 6 samples collected by utility collaborators for each event).</p> <p>4b. All water sample chain of custody logs (on LPE forms) are up to date.</p> <p>4c. Lab data management database is up to date.</p>	<p>4a. CDC lab chain of custody information on LPE form, lab data records, and lab data management database</p> <p>4b. CDC lab chain of custody information received with shipment (on LPE form)</p> <p>4c. Lab data management database</p>	
	5. CDC team follows survey mailing procedures and tracks household participation.	<p>5a. CDC contacts at least 200 affected and 400 unaffected households following approximately 6 low pressure events.</p> <p>5b. Contact data management database is up to date with mailing schedule.</p> <p>5c. Survey data management database is up to date with household participation information.</p>	<p>5a. & 5b. Contact data management database used to monitor receipt of customer information from utilities</p> <p>5c. Survey data management database used to monitor survey responses and to house the web data</p>	
	6. Survey procedures encourage overall participation and equitable study participation in exposed and unexposed groups.	<p>6a. Overall survey unit response rate is 60%.</p> <p>6b. < 20% difference in unit response rates in exposed and unexposed areas.</p> <p>6c. < 90% non-response for survey items.</p> <p>6d. CDC obtains household respondent data within a 6-week time window.</p>	<p>6a. – 6c. Pilot non-response bias evaluation</p> <p>6d. Survey data management database used to monitor survey responses and to house the web data</p>	