NJ Tracking and NJDEP Collaborate to Create NJ's Potential Lead Exposure Mapping (PLEM) Tool

What was the problem/situation?

New Jersey continues to annually find more than 1,600 children ages 6 to 26 months with elevated blood lead levels (≥5 micrograms per deciliter of blood). Causation is frequently exposure to lead paint, chips or dust in older dilapidated housing, and less frequently cultural lead usage, lead in water lines, lead soil contamination, or other sources. More info: https://www.state.nj.us/health/childhoodlead/.

NJ Tracking collaborated to develop a map-based tool to identify those residential parcels (individual homes) most likely to have lead-based paint based on the year the home was built. Updates to the Potential Lead Exposure Mapping (PLEM) tool will focus on adding additional potential lead sources.

Prior to the 1950s, lead was used in paint to make certain pigments, and improve drying times, durability, and moisture-resistance. In older homes, exposure happens when lead-based paint starts to deteriorate, crack or peel. When paint is intact (not flaking or breaking apart), exposure risk is low for inhabitants, even children. Deterioration of lead-based paint results in lead-contaminated dust and paint chips. Inhaling contaminated dust, or ingesting paint chips or soil outside a house is especially a concern for very young children, who often put their hands and other objects in their mouths. Living in a house with deteriorating lead-based paint can result in a chronic accumulation of the heavy metal in the body.

How was NJ Tracking involved?

NJ Tracking partners within NJDEP created a web-based ArcGIS tool to identify individual homes which may have lead-based paint. NJ Tracking coordinated with NJDEP to develop an outreach campaign including a press release, social media, and e-mailed announcements via multiple listservs.

The PLEM tool displays individual residential parcels categorized by the year a residence was constructed, based on New Jersey's statewide parcel dataset. Users can search for a specific address, a municipality, or ZIP code. Users can zoom into a selected area, and see the percentages of homes built before 1950, 1950-1978, and those built after 1978. Homes built prior to 1950 -- before Congressional legislation or private industry standards -- have a higher risk of potential lead exposure, and if lead paint is present, may contain higher levels of the heavy metal. A slow phaseout of lead additives occurred between 1950 and 1978. In 1978, Congress banned the use of lead-based paint in homes built or rehabilitated with federal funding, and residences built after 1978 are less likely to contain lead-based paints.

What action was taken to identify the problem?

The PLEM tool provides detailed data on the major source of lead exposure to NJ children, lead paint. In the future, the PLEM tool will be updated with data on additional lead sources. The tool can be used by local health officials, maternal and child health coalitions, community groups and members of the public to help identify potential sources of residential lead exposure.