Review and Analysis of the Current Status of Blood Lead Data Submission

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Introduction

This review and analysis was conducted pursuant to Section 53 of Public Act 07-2.
Per Section 53:
"Not later than January 1, 2008, the commissioner of Public Health shall review the data collected by the Department of Public Health regarding lead poisoning to determine if the data is recorded in a format that is compatible with the information reported by institutions and laboratories pursuant to section 19a-110 of the general statutes, as amended by this act. It the commissioner finds that such data should be reported in a different manner, the commissioner shall adopt regulations, in accordance with chapter 54 of the general statutes, to establish the manner for reporting such data."

Laboratories are mandated to submit blood lead level reports to the Connecticut Department of Public Health (CT DPH) and local health departments per Connecticut General Statutes (CGS) Sec. 19a-110 -- *Report of lead poisoning.* Laboratories that perform blood lead tests are required to submit elevated blood lead test reports (i.e., findings equal to or greater than ten micrograms per deciliter of lead in blood) to the CT DPH and the local health department serving the town where the person (child) resides within forty-eight hours of receipt of the test result. At least monthly, laboratories are required to submit to CT DPH a comprehensive report of all blood lead test results for Connecticut residents.

Data elements that are mandated by the CGS to be provided in the report include (1) the name, residential address, date of birth, gender, race, and ethnicity of the person tested; (2) the name, address and telephone number of the health care provider who ordered the test; (3) the sample collection date, analysis date, type of test, and blood lead analysis result; and (4) laboratory identifiers.

Each year approximately 80,000 blood lead test results are submitted to the CT DPH Lead Poisoning Prevention and Control Program (LPPCP). The Data Management Unit of the LPPCP manages the blood lead data and oversees laboratory reporting.

Overview of Current Status of Submissions

Currently laboratories submit blood lead reports by either hard copy or electronic reporting. The method of transmission of blood lead data is not specified in the CGS: *" The commissioner, after consultation with the Chief Information Officer, shall determine the method and format of transmission of data contained in said report."* [CGS 19a-110(b)]. Current submitters are listed below by method of report submission.

Paper copy report only Submitters	**Electronic report only submitters**	**Combined method submitters (Monthly electronic reports; paper reports for Elevated Blood Lead Levels (EBLL))**
Danbury Hospital	Arup	Clinical Lab Partners
Greenwich Hospital	LabCorp	Quest of Wallingford
Griffin Hospital	Medtox	St Francis Hospital
Eastern Connecticut Health Network	State Lab	Next Generation Pediatrics LLC (Uses LeadCare II)
Hospital of St. Raphael	Yale New-Haven Hospital	Hemant K. Panchal MD (Uses LeadCare II)
Johnson Memorial Hospital		Litchfield County Pediatrics (Uses LeadCare II)
Lawrence and Memorial Hospital		
Massachusetts State Lead Program		
Mayo Medical Lab		
Middlesex Hospital		
Milford Hospital		
New Britain General Hospital		
New Milford Hospital		
Quest, Teterboro NJ		
St. Mary's Hospital		
St. Vincent Hospital		
LeadCare II Clinics (Central Pediatrics & Adolescent, Children's Medical Group of Greenwich, Mansfield Pediatrics, and West Hartford Pediatrics)		
Meriden, Waterbury, Hartford Health Departments		

Paper copy reporting

A total of 6,412 tests were submitted by paper copy to the LPPCP in 2006. These paper copy reports accounted for 7.8% of the total number of test results that were received by the LPPCP in 2006. Paper forms that are currently used by laboratories for blood lead reporting include the OL-15C form (attachment 1), the LPPCP lead report form (attachment 2), and various proprietary forms that are specific to the reporting laboratory and are printed using the reporting laboratory's data management system.

The LPPCP lead report form and the proprietary forms that are currently in use are compliant with the CGS mandate. However, minor issues have been identified with the OL-15C form.

The OL-15C is a form for the reporting of a significant spectrum of diseases that have important public health implications. The OL-15C form contains all data elements that are required by CGS Section 19a-110 except for the analysis date. Instead of providing the analysis date, the OL-15C form contains the date that the laboratory finding was reported to the physician. However, laboratory findings are not always reported to physicians on the same day as the analysis was performed. Because the analysis date is a required field in the DPH Childhood Lead Poisoning Prevention Program (CLPPP) surveillance system, LPPCP data entry staff is forced to enter the "date laboratory finding reported to physician" as the analysis date. There are laboratories that submit EBLL reports on the OL-15C form and a monthly comprehensive report electronically. When these laboratories submit the monthly report, the EBLL test is reported again with the actual analysis date. Due to the discrepancy between the dates on the two reports that are reported and entered separately into the CLPPP system, the CLPPP system would list the two reports as two distinct tests. To avoid duplicate listing of the same test, the LPPCP Case Manager who imports the electronic reports must remove the data from the initial OL-15C report that have already been entered into the CLPPP system before importing the monthly file to the CLPPP system. Although this method will resolve individual data discrepancies, important LPPCP staff resources are expended to maintain the data quality in the CLPPP system.

Additionally, OL-15C forms are submitted to a central location at DPH, the DPH Infectious Disease Program that is remote from the LPPCP. This delays receipt of the OL-15C reports by the LPPCP and results in a slower turnaround when compared to other methods of reporting where reports are sent directly to the LPPCP program. It also makes the monitoring of timeliness of data submission difficult because the LPPCP cannot track the date that OL-15C reports are actually received at DPH (Laboratories submit all OL-15C reportable diseases in the same envelope. The LPPCP doesn't get the original envelope with the DPH date-received stamp.).

Quest of Wallingford and Clinical Laboratory Partners have expressed interest in submitting the OL-15C form in an electronic format. Currently DPH is developing a statewide electronic disease reporting system, the Connecticut Electronic Disease Surveillance System (CEDSS) that will allow electronic submission of the OL-15C reports through a secured website. The LPPCP has been participating in the development of a lead form that will be used with the CEDSS system. This lead form will include the actual date that the sample was analyzed and will be real-time retrievable by LPPCP staff.

Electronics reporting

Each year about 92% of reports are submitted to the LPPCP electronically, although CGS 19a-110 does not specifically require laboratories to submit laboratory findings by electronic reports. The high rate of electronic submission is due in part to the LPPCP's efforts in soliciting electronic reporting over the past few years. The LPPCP always encourages electronic reporting when there is a new blood lead reporter.

The electronic reports are reported in various formats through various delivery methods. Formats that are been used include ASCII, Excel, and comma delimited formats. The electronic reports from private laboratories are submitted by password protected e-mails,

the laboratory's secured website, or U.S. mail (floppy disks). The CT DPH Laboratory submits lead reports via a DPH shared drive.

In general, the electronic reports are compliant with the reporting requirements mandated by CGS. The LPPCP Data Manager conducts quality checks before importing each electronic report to the CLPPP surveillance system. Each laboratory is monitored for reporting volume, accuracy, and completeness of the required reported information.

Through this quality assurance process, the Data Manager identifies problematic issues with reporting and works with the laboratories to resolve any issues. General speaking, laboratories are cooperative. When an issue arises, the issue is usually resolved by the laboratory in a timely manner. One specific issue that currently remains unresolved involves the Quest of Wallingford Laboratory monthly submission which contains invalid addresses in the address field. This problem involves about 15-20 records in each submission. All of these records are from the Hill Health Center drawing laboratory. The address field contains either the child's or the guardian's names instead of the street addresses. The Data Management Unit will continue to work with Hill Health Center and Quest of Wallingford to correct this problem.

Conclusions

- The current blood lead reporting system satisfies the LPPCP program case management needs. Additional data elements are not required at this time.

- In general, laboratories are in compliance with the reporting mandate of the CGS although occasionally there are issues with specific laboratories.

- OL-15C forms are submitted to a central DPH location (located remote from the LPPCP). Additional time is required to transfer the laboratory reports from the DPH Infectious Disease Program to the LPPCP which results in longer

turnaround as compared to other methods of reporting. This situation also makes the monitoring of timeliness of data submission difficult.

- No regulatory changes are required at this time.

Recommendations (Action Steps)

- To streamline the reporting process, electronic submission of the OL-15C form should be implemented as soon as possible.

- The LPPCP should continue to participate in the DPH CEDSS initiative.