

B. Collections of Information Employing Statistical Methods

The primary purpose of the HHLPPS is to improve program management and oversight. State, local, and territorial programs collect extensive information as part of home visits conducted by their staff. These visits can occur in response to: 1) complaints from residents; 2) case-management for asthma, injury, childhood blood lead, etc.; and 3) healthy housing community outreach efforts. The HHLPPS extracts data from these files for submission to CDC. Data extracted are a smaller portion of the original information housed at the programs.

The proposed surveillance system is not generalizable to residents at the national, state, or local level. However, descriptive statistics can be used to compare changes overtime in a given area when the method by which housing units are chosen for inclusion remains the same. In the past, the NBLSS allowed the Branch to quantify the impact of elevated water lead levels in the District of Columbia, identify the special lead poisoning risk for recently resettled refugee children and identify specific addresses across the country that have resulted in more than 1 child being lead poisoned. With a thoughtful understanding of the approach used to include housing units in a given location, HHLPPS can also provide useful information using descriptive statistics such as the number of individuals in a given area with both a specific housing hazard and health condition and the association between this number and the population geographic descriptors such as poverty, age of housing, tenancy, and health conditions. We note that in most cases it will not be possible to calculate rates because the inclusion criteria means that appropriate denominators are not available. In most funded programs, program managers rely on the Branch to assist with or conduct these calculations.

Limitations

Housing, injury, and asthma surveillance data are currently being collected through the use of several systems (e.g., The National Health and Nutrition Examination Survey (NHANES), National Health Interview Survey (NHIS), Behavioral Risk Factor Surveillance System (BRFSS), and the American Housing Survey (AHS). (See Section A.8) These surveys are episodic evaluations and representative of the entire non-institutionalized US population. Because the HHLPPS is not a representative sample, data in HHLPPS cannot be compared to the data in any of the above surveys. State to state comparisons also cannot be made because of varying state policies and practices for blood lead testing and housing health hazards that are local priorities. The 40 cooperative agreements states do require electronic reporting of all blood lead testing done on state residents; however targeting strategies vary as state and local jurisdictions use local demonstration of need to determine subpopulations at high risk.

However, HHLPPS can be used to determine whether targeting screening strategies are indeed identifying high risk and whether interventions are successful within homes visited. It is also useful to determine the number of children tested and the number of visits conducted in order to ascertain the programs' fidelity to their protocols. Finally, population-based data such as census and tax assessor data have been demonstrated to be adequate predictors of elevated blood lead levels, substandard housing and poor health. HHLPPS data can be linked to these data to help programs better understand their coverage of areas most in need.

CDC uses HHLPPS data not only as a program management tool but, in the aggregate we produce summaries for states and counties in order to report to Congress and stakeholders the status of healthy homes services. These reports are in keeping with the Congress's intent that CDC provide such reports.

1. Respondent Universe and Sampling Methods

The respondents are the recipients of CDC funds as described in A.1. All respondents come from the following pool of eligible applicants: the official state, local, or territorial health departments, and/or departments of the environment. Currently, 40 state and local programs are funded by CDC's HHLPPB after an objective review process by CDC. We anticipate a 100% response for the respondents to submit their data (these data are part of their quarterly progress report). All funded respondents will submit their surveillance data as described in section A2. Procedures for the Collection of Information.

Data is collected during home visits for families referred by their primary health care provider, other social service provider or self referred or, as in the case of blood lead levels, reported by laboratories. In most funded program blood lead testing and laboratory reporting of all blood lead levels is required by law. (See for Example: MGL 11 Section 190-199; RI Title 23 Section 23-24.7; NYS Public health law Article 12 Title 10 Section 1370; CA health and safety codes, Section 105275; Chicago Municipal Code, Section 7-4; HCFA policies for blood lead testing of children enrolled in Medicaid). Data regarding race/ethnicity are collected by parent or self report in the clinical office or during the home visit. All programs use the 5 category race variable found in Appendix C. During meetings with the cooperative agreement partners they agreed to and through our authority under the cooperative agreement CDC requires, programs to use the standardized healthy homes questions also found in Appendix C. These include the questions related to asthma diagnosis and symptoms cognitively tested by the National Center for Health Statistics (NCHS). However, unlike NCHS, HHLPPS will use the clinically relevant age threshold of 6 years old as recommended by the National Heart Lung and Blood Institute.

2. Procedures for the Collection of Information

Recipients of cooperative agreement awards are required to submit a summary data file within 90 days of the end of each quarter of the Federal fiscal year. Data will be entered by the state, local, and territorial programs into a database (e.g. Microsoft SQL) which will also be password-protected. State, local, and territorial programs will extract the HHLPPS data and send the encrypted files electronically to HHLPPB staff at CDC.

The HHLPPS is primarily a program management tool and essential to the branch evaluation and monitoring responsibilities related to the cooperative agreements with state and local healthy homes lead poisoning prevention programs. As such, there is no group assignment and no comparison of participants and non-participants. Thus, calculation of statistical power is immaterial in this context.

All data from the funded programs will be entered into the surveillance system (i.e., HLPSS). As for the degree of accuracy needed for the surveillance system to meet its objectives, this is

difficult to determine a priori. Usually, more respondents can lead to better precision; however, this is currently an unknown for our 40 funded programs. For the main objective of HLPSS, the prevalence of housing hazards and adverse health effects (e.g., injuries and asthma) must be collected within a single surveillance system. Only then can we begin to assess timeliness of program responses to unsafe housing and the degree to which programs are meeting their goals and objectives.

Descriptive statistics such as means and ranges will be used to characterize the collected data. For example, mean blood lead level (ug/dL) for the children under 6 living in the state of Texas tested for lead poisoning or the range of homes with reported mold-damage in various New York counties are a possible descriptive statistics. The descriptive statistics can be used to evaluate program progress in meeting stated goals, identify subpopulations or small geographic areas where risk for specific housing conditions is high and to target resources to these areas. These statistics can also be used to evaluate program management in terms of timely response to individual cases.

3. Methods to Maximize Response Rates and Deal with Nonresponse

Since data for the HHLPSS are required to be submitted as part of the awarded cooperative agreement, we anticipate a 100% response rate (as stated in A1). In the event that a grantee does not submit its quarterly progress report (and consequently, HHLPSS data), the assigned project officer will contact the program to help them overcome any barriers to submitting the progress report. In addition, CDC will develop reports to provide feedback to each state, local, and territorial program (funded by CDC HHLPPB) about the quality of their data. CDC project officers will use these reports to highlight weaknesses in data and recommend ways to improve program activities and ensure consistency with stated objectives.

4. Tests of Procedures or Methods to be Undertaken

In fall of 2009, we conducted a beta test of HHLPSS in two of the HHLPPB-funded state programs (Mississippi and Ohio). Based upon the beta tests, we found that some components of installation need to be revised (e.g., updating data migration scripts). These changes have been made accordingly to augment HHLPSS.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

Individual(s) Consulted on Statistical Aspects of the Design and Analyzing Information for the Agency

Chinano Kennedy, DrPH, MPH, Team Leader
Epidemiology and Surveillance Section
Healthy Homes and Lead Poisoning Prevention Branch
Division of Emergency and Environmental Health Services
National Center for Environmental Health
Centers for Disease Control and Prevention
Mail Stop F-40

Atlanta, GA 30333
gjn5@cdc.gov
770/488-3639

Contractor Responsible for Collecting Information for the Agency

Qaiyim Harris
Project Manager/Business Analyst
Emergint Technologies Inc.
National Center for Environmental Health
Centers for Disease Control and Prevention
Ph: 770 488 7115