Evaluation of the Childhood Blood Lead Screening Component of the Southern Nevada Childhood Lead Poisoning Prevention Program

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OBJECTIVE

The objective of this paper is to highlight the progress of the lead poisoning prevention program in Southern Nevada. Specifically, we present blood lead screening results for Clark County, Nevada from 2004 through 2011, and review the progress towards recommendations made by Rothweiler et al. for Nevada in 2007.2

METHODS

The evaluation is based on mandatory reporting of all childhood positive blood lead level (BLL) data and followed the CDC reference level of 10 µg/dL. BLL are reported to the SNHD based on the 2006 Nevada State Board of Health regulation allowing SNHD to investigate each report of a person being exposed to lead (Chapter 4, Section 4.2).3 Screening and surveillance data was obtained for all five-project years, 2006 – 2011, of CLPPP from SNHD annual reports.4

RESULTS (continued)

Number of Children Screened

Prior to CLPPP, from 2004 through 2005, only 2,791 children under six years old were screened for blood lead level in Clark County, NV. All five-0 years of CLPPP, along with the CDC and the SNHD, have continued to monitor screenings in Clark County with a total of 48,468 children screened, with an overall annual average of 9,097 children under six years old screened per year during the project period (Figure 1).

DISCUSSION

The CLPPP has provided the foundation for Nevada to systematically address childhood lead poisoning for the first time in the state’s history. As CLPPP developed over five-year tenure, screening rates and surveillance numbers dramatically increased an average of three fold over the project. However, Project Year I is only screened as 6.2%, 6.9%, 7.6%, 7.9%, and 6.2% of the all children under six years old according to the 2010 Census data or the city of Las Vegas, NV. This means Nevada needs to continue promoting BLL screenings in order to reach more of the target population, despite improvements in percentage screened over the CLPPP.

The drastic screening increases during project year I were aided by the Southern Nevada District Board of Health, which passed local regulations mandating laboratories and medical personnel to report cases of BLL to the health authority. Then in project year II, a legislative effort was made on the state level to introduce Assembly Bill 219, which mandated reporting of all blood lead level testing results conducted on children to the appropriate health authority in accordance with regulations adopted by the State Board of Health.

Through the continuation of screening programs, prevention, case management of EBLL children, and support of legislation, Nevada can continue to make considerable advances in the elimination of childhood lead poisoning. The transition from CLPPP into the healthy homes program provides the opportunity to expand the percentage of children under six screened, address the home as a critical determinant of health, and do more accurately report data to better achieve the goal of eliminating childhood lead poisoning.

REFERENCES


RESULTS (continued)

Blood Lead Level

Blood lead level testing was done through capillary specimens and verified by venous blood sample for results >10 µg/dL. BLL is reported respectively by level per year (Figure 3). For project year I, the total children under six years old screened, approximately 27% had detectable BLL and 13 had >10 µg/dL. For project year II, the total children under six years old screened, approximately 25% had detectable BLL, and <10 µg/dL, and 18 had >10 µg/dL. For project year III, the total children under six years old screened approximately 22% had detectable BLL and 19 had >10 µg/dL. For project year IV, the total children under six years old screened approximately 17% had detectable BLL, and 18 had >10 µg/dL.

Blood lead levels were also classified by sex: see (Figure 4) for breakdown of sex per Project year of CLPPP by detectable BLL categories >0 µg/dL, >5 µg/dL, >10 µg/dL, and >15 µg/dL.

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