Effectiveness of Universal Testing Legislation on Indiana's Childhood Blood Lead Level Testing Rates: Facilitators and Barriers to Implementation

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Background: Disparities in lead exposure and social determinants of health – including housing, environmental conditions, and nutrition security – influence developmental and health outcomes, plus academic achievement and socioeconomic status through generations. Blood lead testing and follow-up care are essential safety nets for children who may already be lead exposed. Although Indiana Department of Health reports that Indiana's universal testing statute, House Enrolled Act 1313, has facilitated a statewide testing increase in its first year 2023, lack of implementation direction plus data inconsistencies may hinder decision making at local levels. We study the interpretation and implementation of universal testing by health care practices in Michiana, serving legacy cities, including South Bend, with widespread lead-based paint hazards and proximity to lead crises in East Chicago, Indiana and Flint, Michigan.

Methods: Semi-structured interviews were conducted with Michiana key informants selected for their knowledge of the subject through purposive sampling. Frameworks of street-level bureaucracy and WHO's building blocks of well-functioning health systems guide analysis.

Results: Twelve interviewees spoke of varying testing processes and awareness of the new law. Implementation barriers include ambiguous state guidelines, CHIRP reporting issues, and persistent health inequities in primary care access. Although in-office point-of-care analyzers reduce access barriers, the detection limit of 3.3 mcg/dL bars distinction of lead levels below this threshold. Facilitators include adequately-staffed workforces, communication with local social services (e.g., WIC, Head Start) and schools, and increased funding for families.

Conclusion: Clear implementation directions are needed to improve service delivery of lead testing by practices, while barriers in information systems, leadership and governance, and medical technologies must be addressed to support medical and environmental management of lead-exposed families.

Impact: Gaps in well-child care and health system fragmentation are major barriers to lead testing, necessitating expansion of public health services and collaboration with primary care practices to reach underserved communities.