

# Changing a Rural State's Climate to Increase Blood Lead Testing



Gail Gettens, MS, ECMP, Child Development Specialist and Health Promotion Advisor | Healthy Homes and Lead Poisoning Prevention Program | NH Division of Public Health Services

## Introduction



Childhood lead poisoning continues to be a persistent, environmental pediatric health problem in New Hampshire. More than two-thirds of the state's housing was built before lead paint was banned in 1978. In 2015, 660 children under 6 years old had blood lead levels (BPb)  $\geq 5 \mu\text{g}/\text{dL}$ , CDC's recommended level

for public health action. An estimated 40% of school-aged children had a history of elevated BPb  $\geq 5 \mu\text{g}/\text{dL}$ . Yet, only 16.8% of NH children under age 6 were tested.

## Barriers to Testing

The NH HHLPPP identified 2 barriers to blood lead testing and opportunities to resolve them:

1. Venous testing had lower compliance and resulted in costly follow-up time for providers.
2. The state's pediatric medical association did not sponsor annual educational conferences.

Strategies to engage providers were needed to recognize the realities of this rural state.

## New Legislation Sets the Stage

In 2015, legislation changing the state's lead laws, and news of lead poisoning across the country, set the stage to build on strengths: the hospital-affiliate systems and the vibrant networks of early childhood educators, school nurses and certified medical assistants.

## 4 Point Strategy for Change

### 1 Medical Education Program

In 2016, a face-to-face 'Grand Rounds' medical education presentation with CEUs was developed to deliver education on the state's lead problem. Content included: lead's negative impact on the developing brain and long term consequences for individual children, prevalence of BPb  $\geq 5 \mu\text{g}/\text{dL}$  and current testing rates, the economic burden incurred by NH communities, an update on NH testing guidelines and legislation, a discussion of blood lead testing methods including point-of-care (POC) testing in the pediatric office as an effective means of improving testing rates, medical 'quick guides' and parent education, and an introduction to in-office lead testing with a capillary sample.



State-wide face-to-face 'lunch and learn' sessions held in pediatric offices. Physician and nurse continuing education credit provided.

### 2 Medical 'Quick Guides'

Set of three ringed laminated medical 'quick guides' distributed to pediatric healthcare providers: Clinical Medical Management of Childhood Lead Poisoning and POC testing instructions.



Medical 'Quick Guides' given to healthcare providers.

### 3 Parent Education

Reminders for parents to get a blood lead test at age 1 and again at age 2: available in the clinic and for distribution to parents by healthcare providers.



Educational posters and board books were distributed to pediatric healthcare sites to post in waiting areas and exam rooms, and to give to parents of infants.

### 4 Increase Awareness and Use of POC Blood Lead Testing Equipment

- Pursue grant funding opportunities to provide POC blood lead analyzers to highest risk areas.
- Educate pediatric healthcare providers and hospital operated affiliate practices on POC testing methods as a cost-effective option to increase testing rates and ensure compliance with state testing requirements.



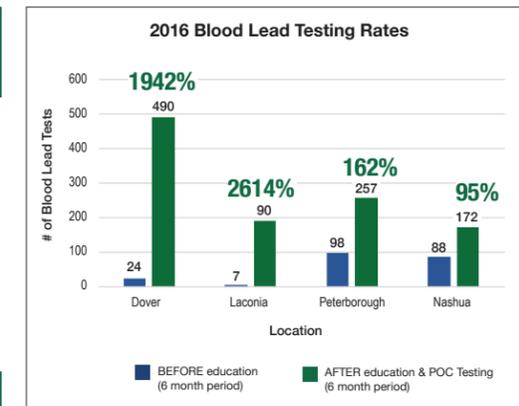
Capillary blood lead screening at the point of care with the LeadCare II System.

## Results

**25** medical training sessions  
**332** pediatric healthcare participants

### Increased Testing Rates

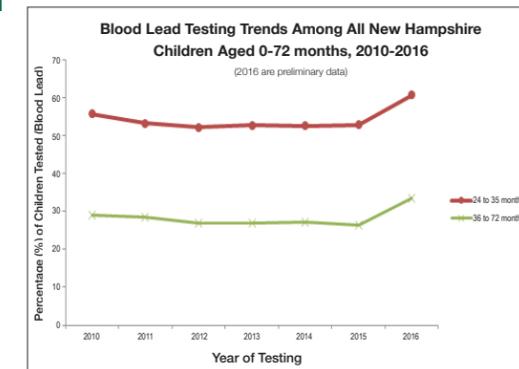
Blood lead testing rates improved dramatically, especially where both face-to-face education and point-of-care testing were implemented.



**16** new LeadCare IIs implemented  
**2040** 'reminder books' distributed

### Improved Testing Trend

From 2010 to 2015 the blood lead testing trend was flat or declining. In 2016, state-wide blood lead testing rates increased 20% for both 1- and 2-year olds.



## Summary

The greatest improvements were seen at those locations that implemented both the education program and POC testing. New Hampshire's success serves as a model for other rural areas seeking to improve their lead screening rates, thereby reducing the number of children impacted by lead exposure.

“ Our lead screening rates were not optimal. The real ‘tipping point’ for us was the education program delivered at each of our practices. As a result, new workflows were operationalized to get these screenings done for 1 and 2 yr olds.

Maura Carriel, MS, RN, Lead Nurse Clinical Educator, CORE Physicians, Exeter, NH

The education program motivated our practice to improve its lead testing rates. We were able to dramatically increase testing rates within a 6 month period.

Jennifer E. Jones, MD, Pediatrician, CORE Physicians, Exeter, NH



**CONTACT**  
Gail Gettens, MS, ECMP  
Child Development Specialist and Health Promotion Advisor  
Healthy Homes and Lead Poisoning Prevention Program  
NH Division of Public Health Services  
gail.gettens@dhhs.nh.gov | 603.271.1393