

# Lead Screening and Family Education (Lead S.A.F.E.)

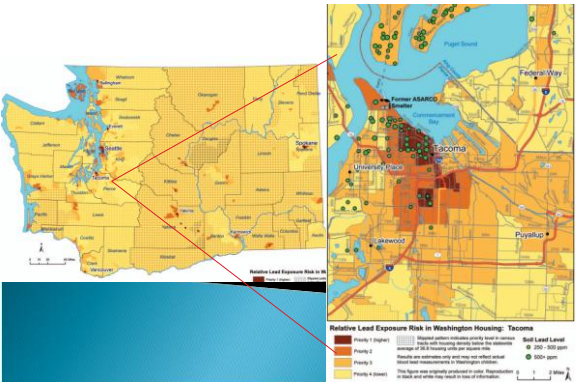
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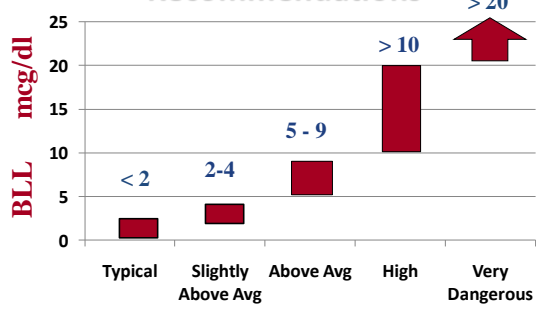
## Project Purpose

- ▶ Determine the percent of children in low-income, minority populations with elevated blood lead levels (EBLL) and associated risk factors
- ▶ Describe lead-related knowledge 6 weeks after blood lead screening

## Lead in Washington State

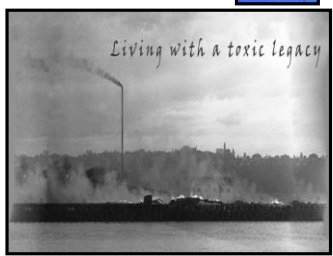


## Washington State Blood Lead Recommendations



## Sources of Environmental Lead in Pierce County

- Asarco Smelter
  - Dirt
- Older housing:
  - Lead-based paint
  - Lead pipes



## Lead Exposure Routes

- ▶ Ingestion of lead via water or dirt
- ▶ Inhalation of lead dust



## Health Effects of Lead Poisoning (no known safe level of blood lead)

- ▶ Damage to the brain and nerves
- ▶ Behavior and learning problems
- ▶ Slower growth
- ▶ Hearing problems
- ▶ Headaches



## Methods

- ▶ Community partnerships were established
- ▶ Funding was used to subcontract with 2 community-based organizations to promote blood lead screening
- ▶ Screening sites were selected to increase the likelihood of reaching African American, Asian-Pacific Islander, and Latino communities and/or low income groups
- ▶ 38 free screening events (fairs, festivals, schools, churches and other events sponsored by community organizations) were conducted

## Steps in the process of testing blood lead levels:

- Completing pre-screening survey and consent form (parent or guardian, or pregnant/nursing mothers)
- Supervising or assisting with hand washing using soap and water as a precaution to prevent “false positive” test results
- Cleaning the finger to be used to collect a blood sample with an alcohol swab followed by drying with a cotton ball
- Puncturing the finger using a disposable lancet and collecting a sample of blood (done by an RN)



## Steps in testing process, continued

- Blood sample was processed using LeadCare II machine
- Result ready in 3 minutes
- Results were shared with the parent/guardian or person being tested, along with applicable recommendations for next steps
- Prevention education (hand washing, removing shoes, diet) was provided at time of testing



## Protocol for Elevated Blood Lead Levels (EBLL)

- ▶ Greater than 5 µg/dL
  - Offered environmental home visit and exposure reduction advice
- ▶ Greater than 10 µg/dL
  - Offered certified home lead assessments
  - Recommended follow-up venous BLL testing with provider

## Follow-up phone calls after 6 weeks were made to:

- 1) provide additional education and collect information about precautions taken to reduce exposure
- 2) determine if family members:
  - a) know how children might get exposed to lead
  - b) practice exposure-reducing behaviors

## Results:

### Characteristics of Children Screened

(N=972)

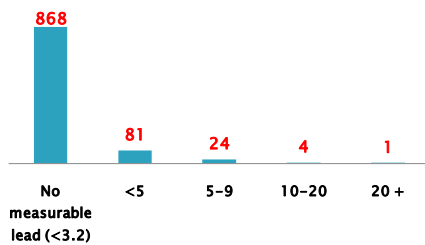
	N	%
Gender		
Female	473	49
Male	499	51
Age		
0-4	385	39
5-8	287	29
9-17	306	31

### Race & Ethnicity\*

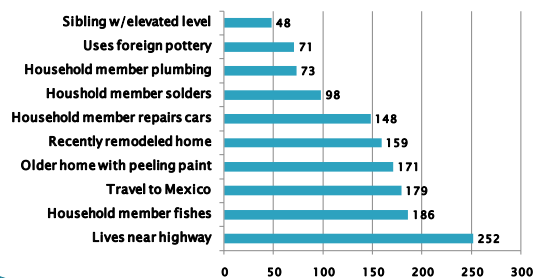
	N	%
▶ Caucasian	320	33
▶ Hispanic	346	35
▶ African American	117	12
▶ Amer.Indian/Alaska Native	62	6
▶ Asian/Pacific Islander	48	5
▶ Other	29	3
▶ More than one	152	15
▶ Unknown	250	26

\*More than one category could be checked

### Blood Lead Levels ( $\mu\text{g}/\text{dL}$ ) n= 972



### Selected Lead Exposures (n=972)



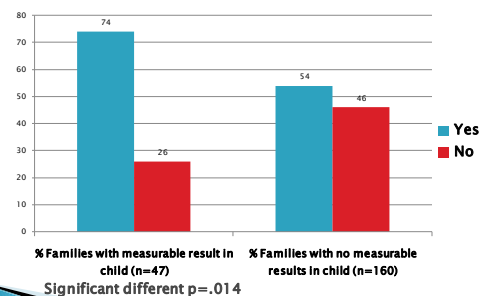
### Lead-related knowledge 6 weeks after screening:

58% could name at least one environmental source of lead\* other than paint (n=220):

- Soil 36%
- Toys 20%
- Plumbing 12%
- Ceramics 12%
- Old homes 7%
- Foreign candy/remedies 5%

\*respondents often named more than one source

### Could name source of lead: families with and without child with measurable level:



## Discussion

• About 11% of 972 children screened had measurable blood lead. Only 5 children had levels greater than 10µg/dl.

• At follow-up, having a household member with measurable blood lead seemed to increase knowledge and awareness about lead sources, but not behavior.

• There was insufficient evidence to link blood lead levels with either demographic characteristics or environmental risk factors.

• Results provide no basis for helping clinicians decide which children to target for blood lead testing.

## Limitations

**Testing equipment:** actual levels below 3.3 µg/dL were not available

**Lack of risk exposure information**

**About 1/3 of families did not know the age of their residences**

**No data on family income**

## Summary

- ▶ **Blood lead levels in our community were low.**
- ▶ **Community blood lead screening events were useful to promote lead prevention education**
- ▶ **Partnerships increased capacity to provide lead awareness education activities in the target population.**

## Thank You



Funding Source:  
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