Childhood Lead Poisoning Fact Sheet for the Knox County Health District

Figure 1. Knox County Health District. This choropleth map depicts the predicted probability of blood lead levels ≥ 5 µg/dL by census tract. Darker census tracts indicate greater predicted likelihood of children with blood lead levels ≥ 5 µg/dL.

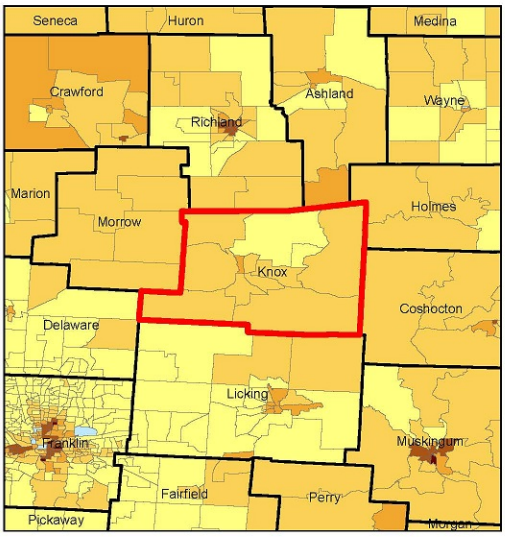


Figure 2. Knox County Health District and Surrounding Area. This figure characterizes the predicted probability of blood lead levels ≥ 5 µg/dL by census tract. The extent of the Knox County Health District is outlined in red.

Legend

Predicted Probability of BLLs ≥ 5

- <6.8%
- 6.8% - 11.4%
- 11.5% - 18.2%
- 18.3% - 27.3%
- >27.3%

All figures depict the predicted proportion of children, less than six years of age, whose blood-lead concentration is equal to or exceeds 5 µg/dL. These estimates were obtained from a lead risk model developed by The Ohio State University Statistical Consulting Service in conjunction with the Ohio Department of Health Healthy Homes and Lead Poisoning Prevention Program. 2010 Census and 2011 American Community Survey housing and demographic data were incorporated as potential predictors, and the model was fit to 2007-2011 blood lead testing data for children less than six years of age. In an effort to avoid issues of collinearity, stepwise selection was used to determine the final set of predictors.

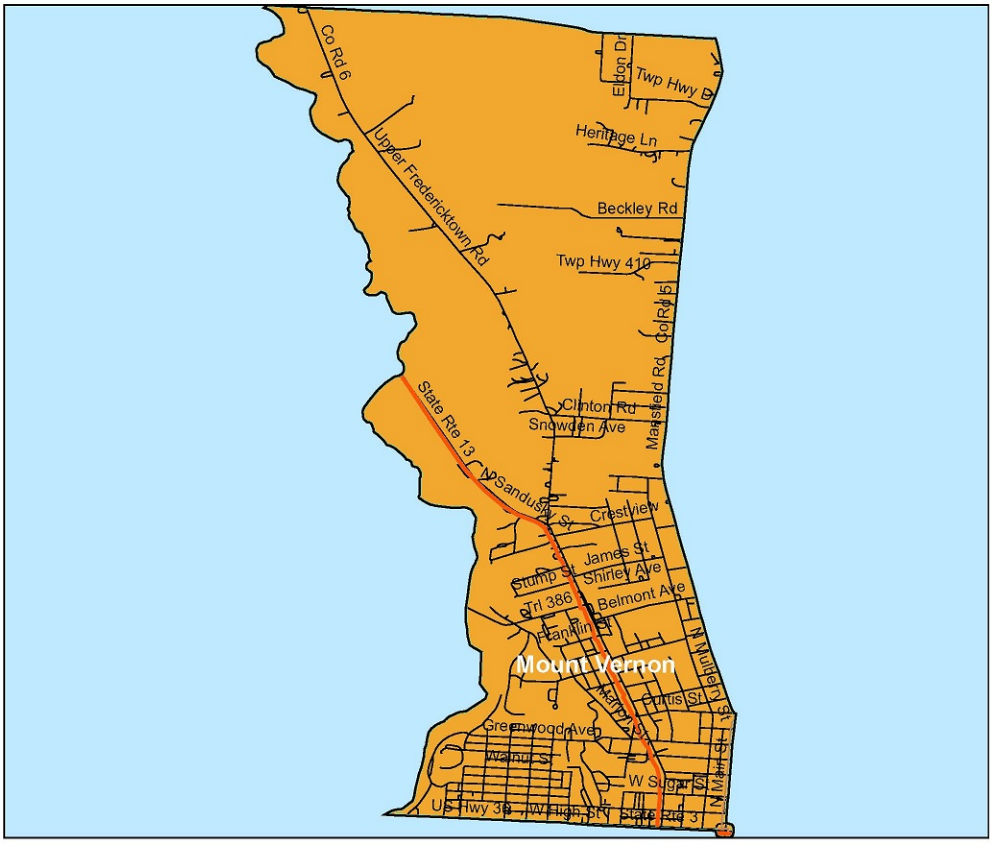


Figure 3. Census Tract 007100: This census tract has the greatest predicted probability of blood lead levels of 5 µg/dL or greater in the Knox County Health District. The predicted probability of blood lead levels of 5 µg/dL or greater in this census tract is12.19%.

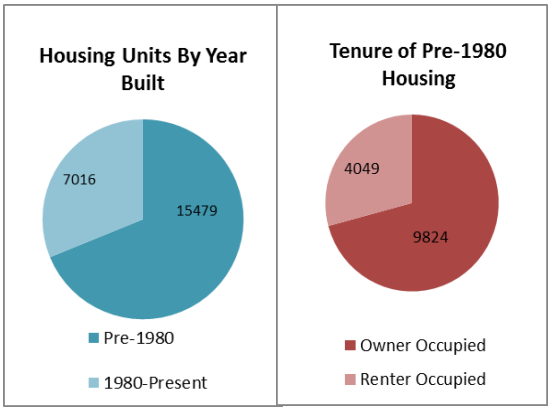
Ohio Healthy Homes

2012– Number of Children Tested and Number of Elevated Blood Lead Levels (EBLs)

Result Category	Total Children Screened	< 5 µg/dL	5 - 9 µg/dL	10 - 14 µg/dL	15 - 19 µg/dL	20 - 24 µg/dL	≥25 µg/dL	Total Confirmed EBLs	% EBLs	Unconfirmed EBLs
Knox County	**932**	902	24	4	1	0	0	5	0.54%	1
State Total	**154,440**	**145,074**	**7,482**	**900**	**327**	**165**	**165**	1,557	**1.01%**	**327**

Data in the table above represent 2012 testing of children, less than 72 months of age, obtained from the Healthy Housing and Lead Poisoning Surveillance System at the Ohio Department of Health. Blood lead levels are the highest confirmed, or highest unconfirmed (if no confirmatory test was obtained) for each child. Blood Lead Levels considered EBLs in 2012 are shown in red.

At-risk housing



Data are 5-year estimates obtained by the 2007-2011 America Community Surveys.

In 1978, the use of lead in residential paint was banned. Even today, lead-based paint is the primary source of exposure for children with elevated blood lead levels. Lead in paint often occurred at higher concentrations prior to 1950 and poses an even greater risk.

At-risk children

Knox County	
Age	#
Under 1	726
1 year	749
2 years	777
3 years	772
4 years	800
5 years	783
Total Under 6	4,607

Children, less than six years of age, have rapidly developing brains and significant turnover in bone tissue placing them at an increased risk to the effects of lead exposure.

Data were obtained from the 2010 Census Summary File 1. Table QT-P2.

Who is at risk/Who should be tested?

Children, less than 6 years of age, are most susceptible to the effects of lead poisoning. Lead is a neurotoxin and children at this age have rapidly developing brains. Children enrolled on Medicaid are required to be tested at ages 1 and 2 and before age six if they have no previous test on record. Additionally, any child living in a zip code deemed to be at high risk for lead exposure and poisoning should be tested (see High Risk Zip Codes on back of the Lead Testing Requirements and Medical Management Guidelines). For all other children, a set of risk assessment questions should be used to determine whether the child should receive a test. Any answers of "yes" or "don't know" warrant blood lead testing for children, less than six years of age. The questions are listed below:

Ask the parent seven key questions to assess risk.

- Does your child live in or regularly visit a house built before 1978 that has peeling, chipping or chalking paint or recent, ongoing, or planned renovation/remodeling? This includes child care centers, preschools, or homes of a baby sitter or relative.
- Does your child live in or regularly visit a home built before 1950?
- Does your child have a sibling or playmate who has or did have lead poisoning?
- Does your child frequently come in contact with an adult who has a hobby or works with lead? Examples are construction, welding, pottery, painting, and casting ammunition.
- Did the child's mother have known lead exposure during her pregnancy of the child?
- Is the child or his/her mother an immigrant, refugee, or is the child adopted from a foreign country?
- Does your child live near a lead smelter, battery recycling plant, or other industry known to release lead (active/former)?

Resources

- For Medical Management Guidelines and a listing of high risk zip codes, see: ODH www.odh.ohio.gov Search : Lead
- EPA Renovation, Repair, and Painting Rule http:///www.epa.gov/lead/pubs/renovation.htm
- CDC http://www.cdc.gov/nceh/lead/
- NIOSH http://www.cdc.gov/niosh/topics/lead/
- CPSC http://www.cpsc.gov

If you have interest in using the data/maps on the flip side of this sheet to further depict areas of risk, please contact Tyler.serafini@odh.ohio.gov