

**PROFESSIONALS PERCEPTIONS:  
“WHY IS LEAD POISONING  
PREVALENT IN LANCASTER  
COUNTY?”**

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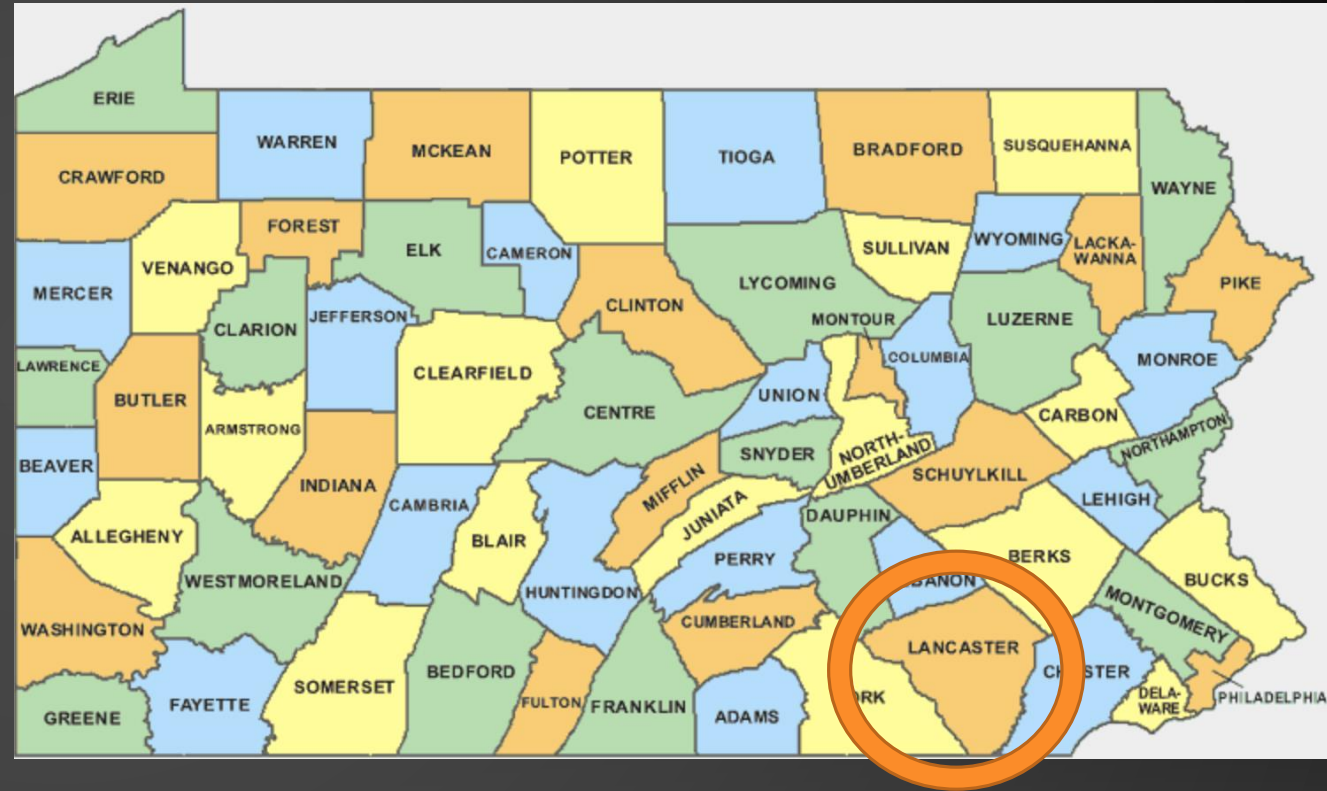
FRANKLIN & MARSHALL  
COLLEGE

# INTRODUCTION



# LANCASTER

- Population
  - 542,903
- Education Level
  - <HS-15.2%
  - HS - 58.3%
  - >HS-26.5%
- Homes built before 1978
  - County - 55-71%
  - City -95%
- Home ownership
  - 69.5%



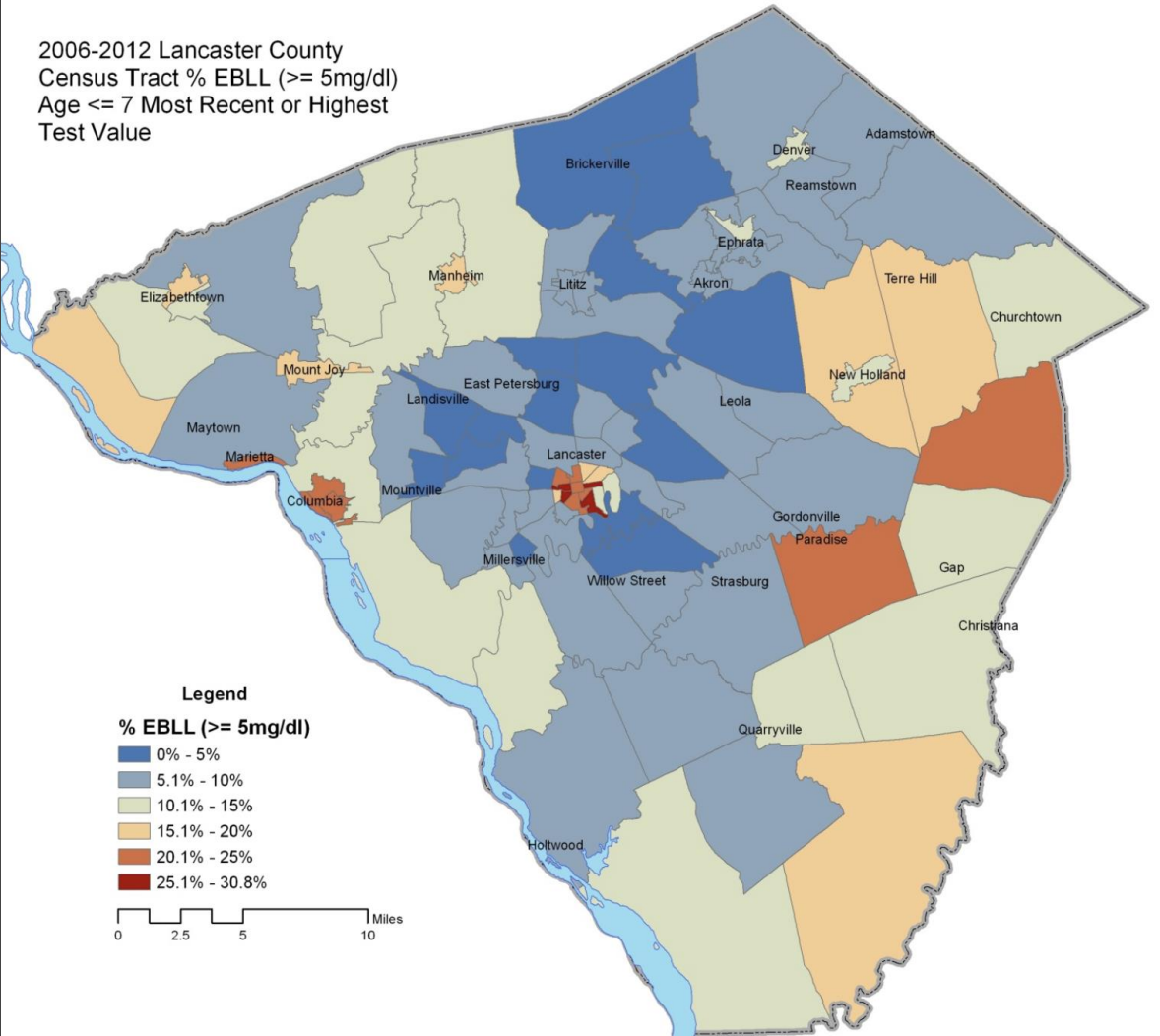
<https://www.census.gov/quickfacts/fact/table/lancastercountypennsylvania/PST040217> (2017)

<https://datausa.io/profile/geo/lancaster-pa/>

<http://ceet.upenn.edu/wp-content/uploads/2013/10/2014-Lead-Surveillance-Annual-Report.pdf>

# LEAD POISONING

- State - 3.29%
- Lancaster County - 13.4%



# LEAD POISONING

## SYMPTOMS

- Abdominal pain
- Vomiting & Constipation
- Fatigue
- Irritability
- Speech delays

## EFFECTS

- Irreversible brain damage<sup>1-3</sup>
  - intellectual deficits (lower IQ score)
  - academic disabilities
  - attention-related behaviors
  - problem behaviors

1. Landrigan et al., 1975. Lancet, 1(7909):708.

2. Needleman et al., 1979. New England Journal of Medicine, 300(13):689.

3. Lanphear et al., 2000. Public Health Reports, 115:521.

# EFFORTS TO ADDRESS LEAD POISONING IN LANCASTER

## City of Lancaster: Child Lead Poisoning FAQ

**Q1: What should I do if I think my child might have lead poisoning? What are the resources and hospitals?**

- **Get your child screened immediately — it's a quick blood test!**
- **Contacts:**
  - If you have a family doctor, ask him/her to test your child
  - If you do not have a family doctor, see **Figure 1** for information regarding a variety of hospitals in Lancaster with various free and availability options
  - You may also contact **1-800-986-KIDS** for assistance in locating a clinic in your local area that will provide testing for free or possibly charge a sliding fee

**Q2: My child does not have insurance, what do I do? How do I know if he/she qualifies?**

- **Contact:** Children's Health Insurance Program (CHIP) is Pennsylvania's program to provide health insurance to uninsured children and teens who are not eligible for or enrolled in Medical Assistance
- **Qualifications:**
  - Under 19 years of age
  - A U.S. Citizen, U.S. National or Qualified Alien
  - A resident of Pennsylvania
  - Uninsured and not eligible for Medical Assistance
- **Income guidelines/health insurance providers:**
  - For health insurance providers in Lancaster, PA that offer CHIP, see **Figure 2**
  - For most families, it's free. Families with higher incomes will pay low monthly premiums and co-pays for some services. For income ranges, see **Figure 3**



**First Friday Noontime Forum Series**  
“Continuing the Growth and Prosperity of Downtown Lancaster”

## October 2016 FFNF Highlights **LANCASTER LEAD COALITION**

**Jeffrey R. Martin, MD—Director of Lancaster Lead Coalition and  
Emily Eddowes, Project Manager—Lancaster Partnership for Public Health**

- Lead poisoning remains the most common and societal devastating environmental disease of young children.
- Lead is a soft blue-gray metal that is found in the natural environment. It was added to paint and gasoline until 1978. Today it is still used in some consumer products—Mexican candy, foot powder, jewelry, stained-glass, pottery, etc.
- Lead exists in buildings that were built before 1978. Exposure to lead occurs through dust, paint and/or soil; contaminated food, water or alcohol; some imported home remedies and cosmetics; and endogenous exposure problem with increased bone turnover.
- How much is too much? One packet of sugar substitute is 1 gram. One grain of salt is enough to poison a child. One packet of sugar substitute represents 20,000 “doses” of potential lead poisoning.

Educational  
material

HUD grant-  
1.33 M

Lancaster Lead  
Coalition

# AIM

To learn from professionals/stakeholders, who offer health, social and/or welfare services to Lancastrians, factors contributing to the high lead poisoning rates in Lancaster.

# METHODS





- Purposive & Snowball sampling
- Grant administrators, nurses, social workers, contractors (N=16)
- 45 - 60 minutes



- Developed code book
  - 7 coders, 2 transcripts
- 2 coders - remaining transcripts
  - 8 codes
  - Kappa-0.88 (0.84-0.99)



# RESULTS

**Education**

**Housing  
status**

**Competing  
interests**

# EDUCATION

## LOW KNOWLEDGE LEVELS

- *I think in general, the population really lacks awareness of lead and its toxicity, and I think it has to do with a few things like environmental health literacy in general, science literacy in general, and the awareness that there are things that are parts of our everyday life that can really impact us.*

# EDUCATION KNOWLEDGE ON A SPECTRUM

- *I think there are some folks who are extremely well-versed in it and knowledgeable. I think there are some people that know about it but don't think it affects them, and I think there's some people that are oblivious so I think it really runs a gamut.*

# EDUCATION

## PERSONAL EVENTS CAN INCREASE KNOWLEDGE

- *I think that there are isolated individuals who may have become aware of lead and its toxicity. Because their child has had an elevated lead blood level, they know someone who's had a problem.*

# EDUCATION

## SOCIAL EVENTS CAN INCREASE KNOWLEDGE

- *I think the level of information has increased because situations like Flint but I don't know that most people have learned that much from the situation in Flint.*

# HOUSING STATUS

## HOUSING SHORTAGE

- *I think also Lancaster County has a lack of affordable housing and if somebody is able to find an affordable unit, they feel so grateful, they don't want to rock the boat, they don't want to ask their landlord to do anymore.*



# HOUSING STATUS

## RENTING: FEARFUL AND POWERLESS

- *I think that the families that are living in the affected homes are renters in most cases ...they're afraid to bring up any problems to their landlord, so they don't have the power, they feel like they don't have the power to correct it and they're afraid to make trouble.*

# COMPETING INTERESTS

## CONTROLLABLE VS UNCONTROLLABLE FACTORS

- If you tell them if there's a possibility that their kids might be lead poisoned and there is nothing that they can do about it they'll say well what can you do to make sure my kid doesn't get shot or can you take me to the supermarket to help me buy groceries or what do I do want my kids are sick from other things.

# COMPETING INTERESTS MORE PRESSING NEEDS

- Probably another one (barrier), is just the, um the difficult lives that some of our families are leading, and the priority of lead. They just may not always see it as the high priority that it probably should be. You know they have transportation problems; you know they have job problems; their, you know, family might be hungry; they have more pressing problems in their minds I think.

# COMPETING INTERESTS

## PASSIVITY

- *If you've got a parent that said "I've grown up with lead-based paint, my kids are fine," um, being lead poisoned there isn't any obvious signs, you know their face isn't purple, their arm isn't falling off, you know, okay they might be a little hyper, and yeah maybe they're not as smart as their cousin but, you know, they're fine. Um, so when you are in survival mode, and especially if you're low income, um, getting through the day and getting your kids to work and keeping your job is number one. Um, so unless something is in your face forcing you to deal with it it's very easy to put off, not that they don't care, in no way want to imply that.*

# DISCUSSION

# EDUCATION

- Other studies also report low knowledge levels
  - Caregivers of children under 6<sup>1</sup>
    - Mean knowledge score-50.8%
  - Adolescents (50%)<sup>2</sup>
    - Mean score 12/24
- How to increase knowledge levels
  - Make lead a priority
  - Distribute material in appropriate literacy levels and languages

# HOUSING

- Low-income families more likely to occupy substandard homes<sup>1,2</sup>
- HUD grant
  - Renting vs home ownership
- Lead laws
  - Disclosure<sup>3</sup>
  - Lead poisoning prevention and lead hazard control law<sup>4</sup>

1. US Census Bureau. American Housing Survey 1999.

2. Krieger J & Higgins DL. 2002. Am J Pub Health

3. [https://www.hud.gov/program\\_offices/healthy\\_homes/enforcement/disclosure](https://www.hud.gov/program_offices/healthy_homes/enforcement/disclosure)

4. City of Lancaster. Nov 2017. A Landlord's Guide to the Lead Poisoning Prevention and Lead Hazard Control Law

# COMPETING INTERESTS

- Other researchers have observed that life demands/priorities can compete with lead poisoning prevention<sup>1</sup>
  - Ease of behavior facilitates action
- Recommendations
  - Collaborations across organizations (WIC, Headstart, doctor visits, grocery stores)
  - Incorporating testing into wellness visits



## STRENGTHS

- First type of study conducted in Lancaster

## LIMITATIONS

- Most of the interviewees focused on the city

# CONCLUSIONS

- Identified as major barriers
  - Lower than favorable knowledge levels
  - Housing status
  - Life demands and competing interests

# ACKNOWLEDGEMENTS

- Undergraduate students
  - Maggie Cherney
  - Jiayi “Yvonne” Chen
  - Emily Ritchey
  - Brittany Mokshefsky
  - Sarah Scheuring
  - Madeline Kuon
- Partnership for public health
  - Emily Eddowes
- Funding
  - Committee on Grants at Franklin and Marshall College

# QUESTIONS

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