

# Community Collaboration to Address Childhood Asthma

**Sam Rubens**

Akron Regional Air Quality  
Management District

# The Collaboration Team

- Akron Children's Hospital



- Summit County Public Health



- Akron Regional Air Quality Management District



# MATH Objectives

- Develop public health options for trigger reduction to reduce asthma morbidity in children
- Successfully collaborate across institutional and agency boundaries
- Reduce asthma related morbidity amongst an identified high risk population.

# Things That Work

- Multifaceted, in-home, tailored interventions for asthma
- Cockroach control through integrated pest management
- Combined elimination of moisture intrusion and leaks and removal of moldy items

# Things That May Work

- Improved insulation
- Repeated dry-steam cleaning & repeated vacuuming
- Use of air cleaning devices
- Moisture control through dehumidification
- One-time professional cleaning

# No Good Evidence to Date

- Air cleaners generating high levels of ozone
- Bedding encasement, sheet or upholstery cleaning *alone*
- Acaricides (chemicals for dust mite control) as a single intervention

[Krieger J, et.al. Housing interventions and control of asthma-related indoor biologic agents: A review. J Public Health Manag Pract. 2010 Sep-Oct; 16\(5 0\): S11-S20.](#)

# M + A + T + H

## Managing Asthma Triggers at Home



Finding Solutions Together

A Pilot Project

330.926.5600



Children spend a good amount of their day at home. We want to help families make sure their homes are free of the most common asthma triggers found in homes.



### Project Goal:

The #1 goal of this project is to help kids with high risk asthma have fewer days with asthma symptoms.

The Managing Asthma Triggers at Home project is working to figure out what the very best way (or ways) to help families help their child have more healthier, active, asthma-free days!

By being a part of this project you are helping us learn how to best help other families in the future.

This project is scheduled to last a full year, so we look forward to getting to know you and your family as we work together to solve the asthma problem.

### What to Expect:

- A home visit to look for common asthma triggers that may be present
- Comprehensive home cleaning by a professional company
- Pesticide application(s) if needed to remove rodents or other pests
- Clean Home Kit containing some or all of the following:
  - HEPA vacuum
  - Mattress & pillow covers
  - Dehumidifier
  - Furnace Filters
  - A spacer for your child's medicine
  - Air Purifier for child's room
  - Other home cleaning items
- One on one education with a healthy homes specialist
- Monthly text messages with reminders or links to helpful videos
- Quarterly visits from healthy homes specialists for follow up

# MATH

## Managing Asthma Triggers at Home

- Asthma registry used to identify high risk asthma patients at Akron Children's Hospital
- Patients and families recruited from HR Asthma Clinic or the list of HR patients
- Baseline asthma information available in the EMR and registry output
- Home assessment done by SCPH Sanitarian



# MATH (Cont.)


- ACT used for monitoring asthma status
- Environmental Intervention
  - Professional Cleaning
  - Pest Control
  - Bed bags and pillow bags
  - HEPA Vacuum, air purifier, dehumidifier, CO detector
  - Furnace filters changed quarterly
  - Spacer for use with inhaler

# Challenges We Encounter


- Program Recruitment Issues
  - Trust
  - Skepticism
  - Age requirements
  - Parental follow-thru
- Scheduling
  - Everything from the professional cleaning to quarterly visits are challenging to schedule
    - Reluctance to allow unknown persons in the home
    - More likely to have frequent phone issues


# ACH Asthma Registry Patients & Poverty Rate by Cluster


Note: The orange density map overlaid on the poverty rate map shows the concentration of patients in the Akron Children's Hospital asthma program. This was done in order to preserve the confidentiality of program participants.


 Summit 2020 clusters

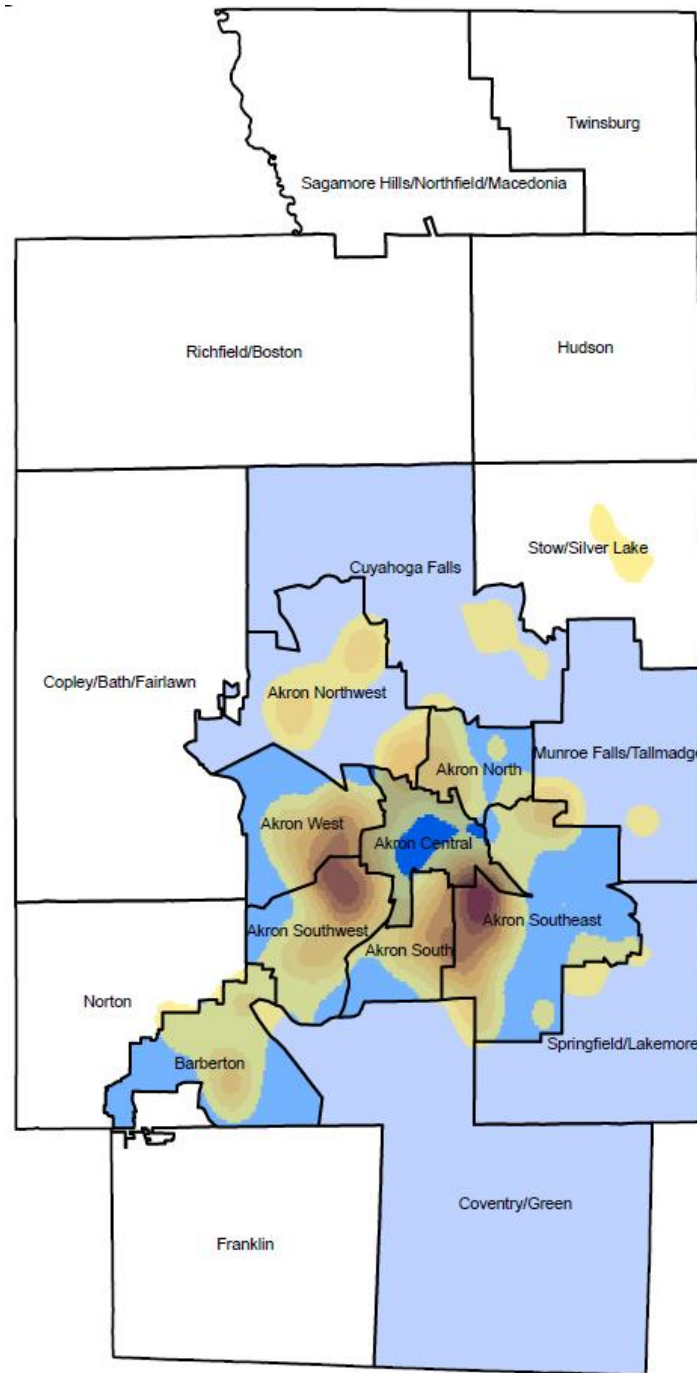
## Poverty Rate by Cluster

 34.2% - 51.1%

 13.8% - 34.1%


 7.0% - 13.7%

 1.9% - 6.9%




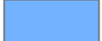
# MATH Program Participants & Poverty Rate by Cluster


Note: The red density map overlaid on the poverty rate map shows the concentration of patients in the asthma program. This was done in order to preserve the confidentiality of program participants.


 Summit 2020 clusters

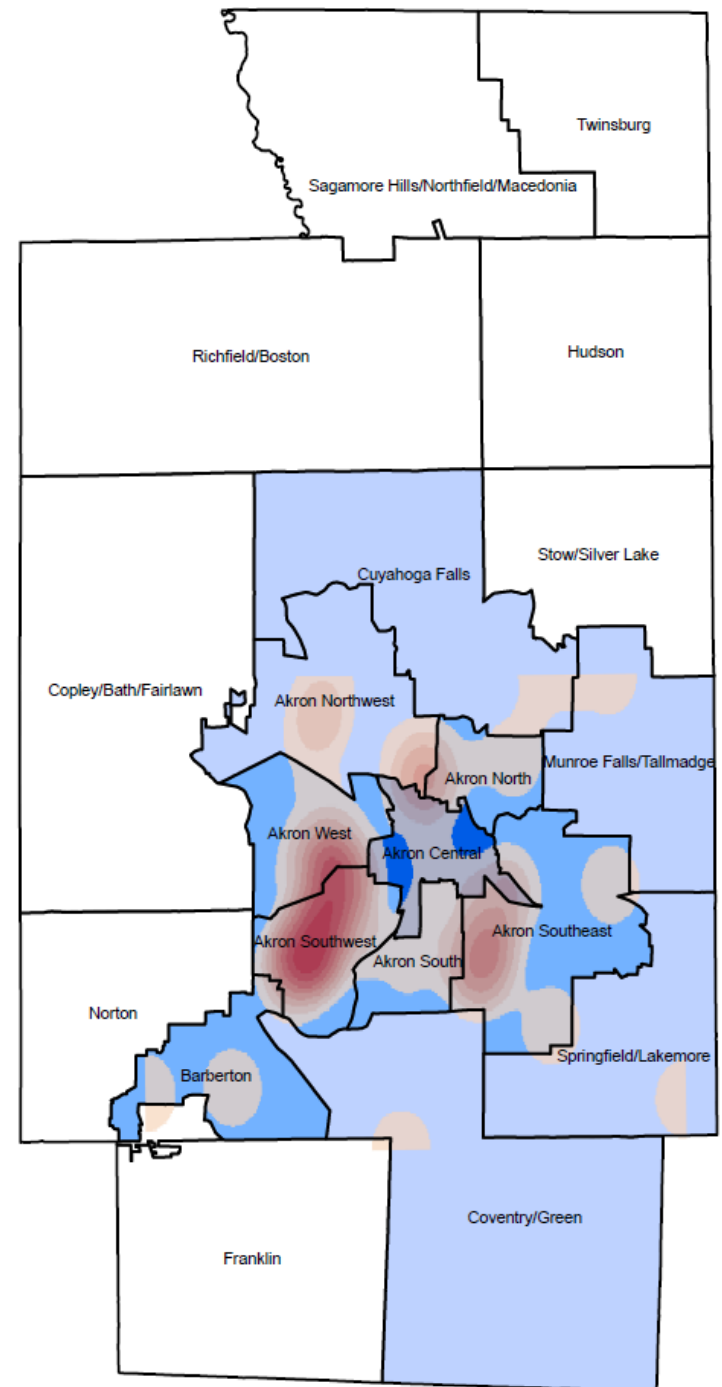
## Poverty Rate by Cluster

 34.2% - 51.1%

 13.8% - 34.1%

 7.0% - 13.7%

 1.9% - 6.9%



# MATH in Action

[https://www.youtube.com/watch?v=s33TFLiy9wM&t=0s&index=5&list=PLmVWg2oiNxJz4ae1tJNc\\_3zZ\\_PGohyGJV](https://www.youtube.com/watch?v=s33TFLiy9wM&t=0s&index=5&list=PLmVWg2oiNxJz4ae1tJNc_3zZ_PGohyGJV)

# Funding

- Clean Air funds (\$90k) for Medina, Portage, and Summit counties for kits and staffing
- Noah Miller Fund (discretionary funds from Akron Children's Hospital) to pay student intern for data analysis and scheduling

# Future

- Finding sustainable funding
- Working with outside groups to aggregate information to insurance companies
- Long term goal
  - Have insurance cover cost of kit
  - Not have costs for hospital/ED, lost school/work, or lost growth for child due to asthma

# Questions?

Sam Rubens, ARAQMD

330-812-3874

[srubens@schd.org](mailto:srubens@schd.org)