The background features a series of concentric circles in light gray, some solid and some dashed, radiating from the center. A large, solid orange rectangle is positioned in the center, containing the main text. The text is white and centered within the orange box.

Improving Asthma Related Outcomes in W. Philadelphia Using Community Health Workers

STUDENT: Claudia Hejazi-Garcia

MENTOR: Dr. Tyra Bryant-Stephens

PROJECT OVERVIEW



- One in four children in West Philadelphia have asthma¹
 - Higher proportion in low-income minority communities
- Est. in 1997, The CHOP Community Asthma Prevention Program (CAPP) offers free education and care coordination to support Philadelphian families with asthma
- CAPP measures effectiveness of interventions to improve self-management behavior and provide home environmental remediation

SIGNIFICANCE

Childhood asthma is characterized by persistent health and socioeconomic disparities

Students with asthma miss 3x more school days than classmates²

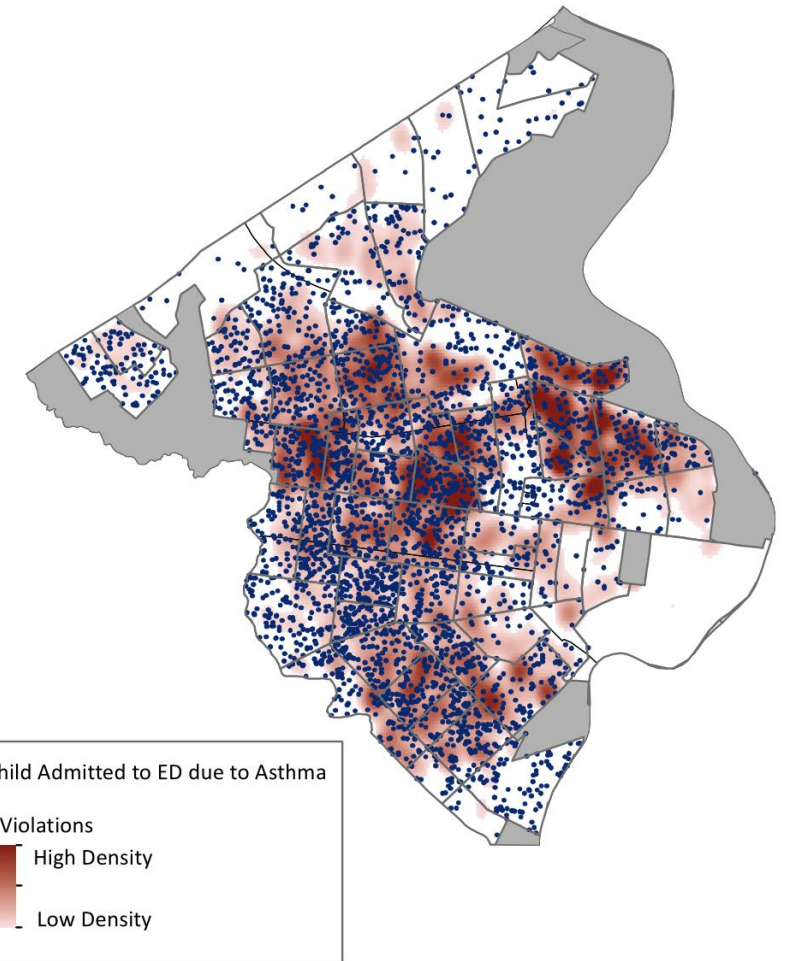
Thus, there must be intervention in all environmental contexts

Community health workers (CHWs) are utilized to teach in-home classes and assist families in schools

Asthma education classes improve asthma quality of life for participants

CAPP offers free asthma classes across Philadelphia

L&I Violation Density & Pediatric ED Visits due to Asthma 2013-2014



CAPP'S MISSION

1. Improve asthma control through CHWs

CHWs uniquely situated in community and public health
Provide a network of education and CHOP care coordination support for families with asthma in West Philadelphia

2. Reduce asthma symptom days and school absences

Use CHWs in schools
Evaluate cost-effectiveness of study interventions



PHASE ONE: 2014-2015

- **Mapping Risks and Resources**
- Goal: better understand asthma morbidity and the resources available in West Philadelphia
- Census areas were classified as high or low-ED use for asthma
- Mapped community resources
 - Pharmacies
 - Grocery stores
 - School District of Philadelphia

PHASE TWO: 2016

- **Needs Assessment**
- Conducted focus groups and interviews to assess opportunities for improved asthma care
- Questions included perspectives about:
 - School asthma care
 - Gaps in management
 - Opportunities to close gaps in care
- Parents were most concerned about asthma management *in schools*
 - Many W. Philadelphia schools lack nurses

PHASE THREE

- **Develop and Conduct a Pilot Intervention**
- Partnered with the School District of Philadelphia to pilot a school asthma intervention
 - Utilizes CHWs to address needs from Phase Two
 - Provide supplies to assist in decreasing asthma triggers
- Assess feasibility of using CHWs to bridge school nursing care with primary care practice

TWO SPECIFIC CAPP PROGRAMS

WEST PHILADELPHIA ASTHMA CARE COLLABORATIVE

- WEPACC
- Aims to provide families with education and resources to manage childhood asthma
- Establishes effective communication pathways between home, school, and primary care to improve asthma care
- Partners with 36 elementary schools and 4 primary care centers

CAPP+ HOME REPAIR

- Expands CAPP's vision to provide healthy homes for children with asthma by making structural repairs that target asthma triggers
- Target Population: West and Southwest Philadelphia homes of CAPP children
- Partner: Rebuilding Together Philadelphia (RTP)

WEPACC METHODS

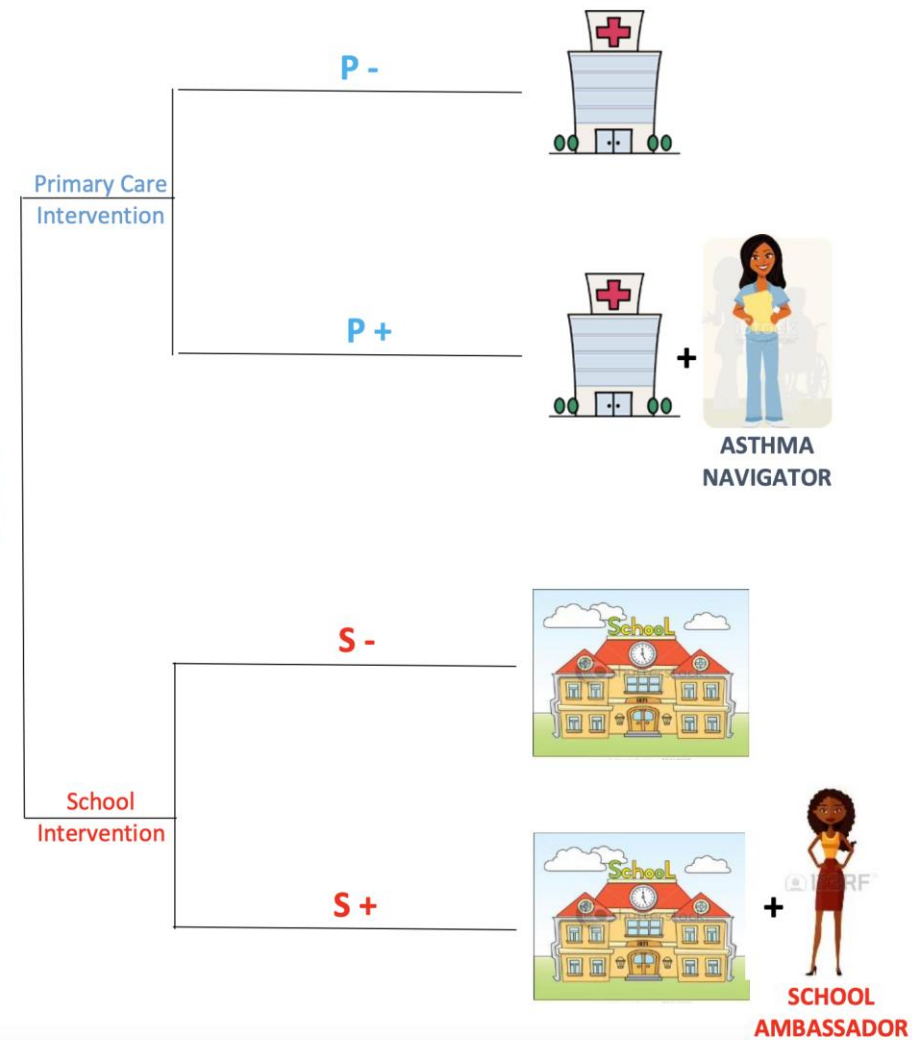
Recruited West Philadelphia children (5-13) with uncontrolled asthma through hospital utilization or primary care clinic

Family randomized to a primary care CHW or usual care

Schools randomized to a CHW-led intervention or usual school asthma care

Primary Outcome:
Asthma Control

Secondary Outcomes:
Symptom Free Days
School Absences
ED Visits



CAPP+ METHODS

1. CHOP Staff and RTP perform home inspection
2. RTP creates work scope
3. All parties agree on repair plan
4. Repair work is done and assessed

Primary Outcomes:

- Replacing roofs
- Fixing plumbing leaks
- Removing carpeting
- Sealing holes and gaps to keep out pests



BEFORE



AFTER

FINDINGS

CHWs reduce the burden on caregivers and facilitate asthma management for children

- CAPP conducted 20,000+ home visits
- 62% reduction in emergency visits and 70% reduction in hospitalizations

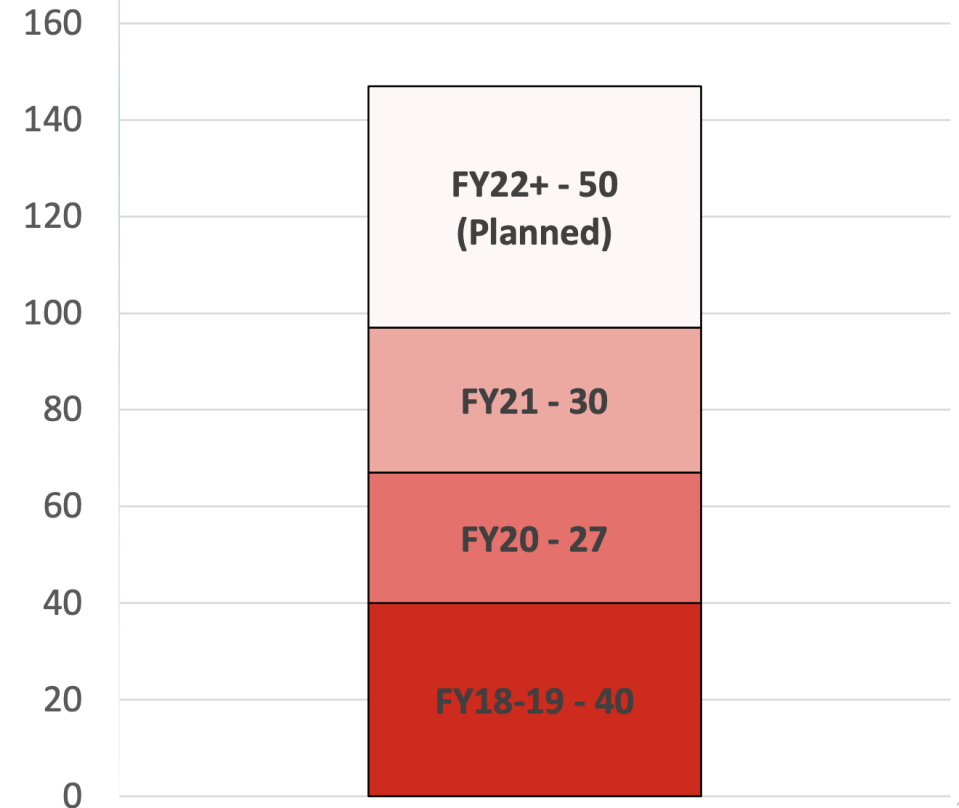
WEPACC is currently undergoing further data collection

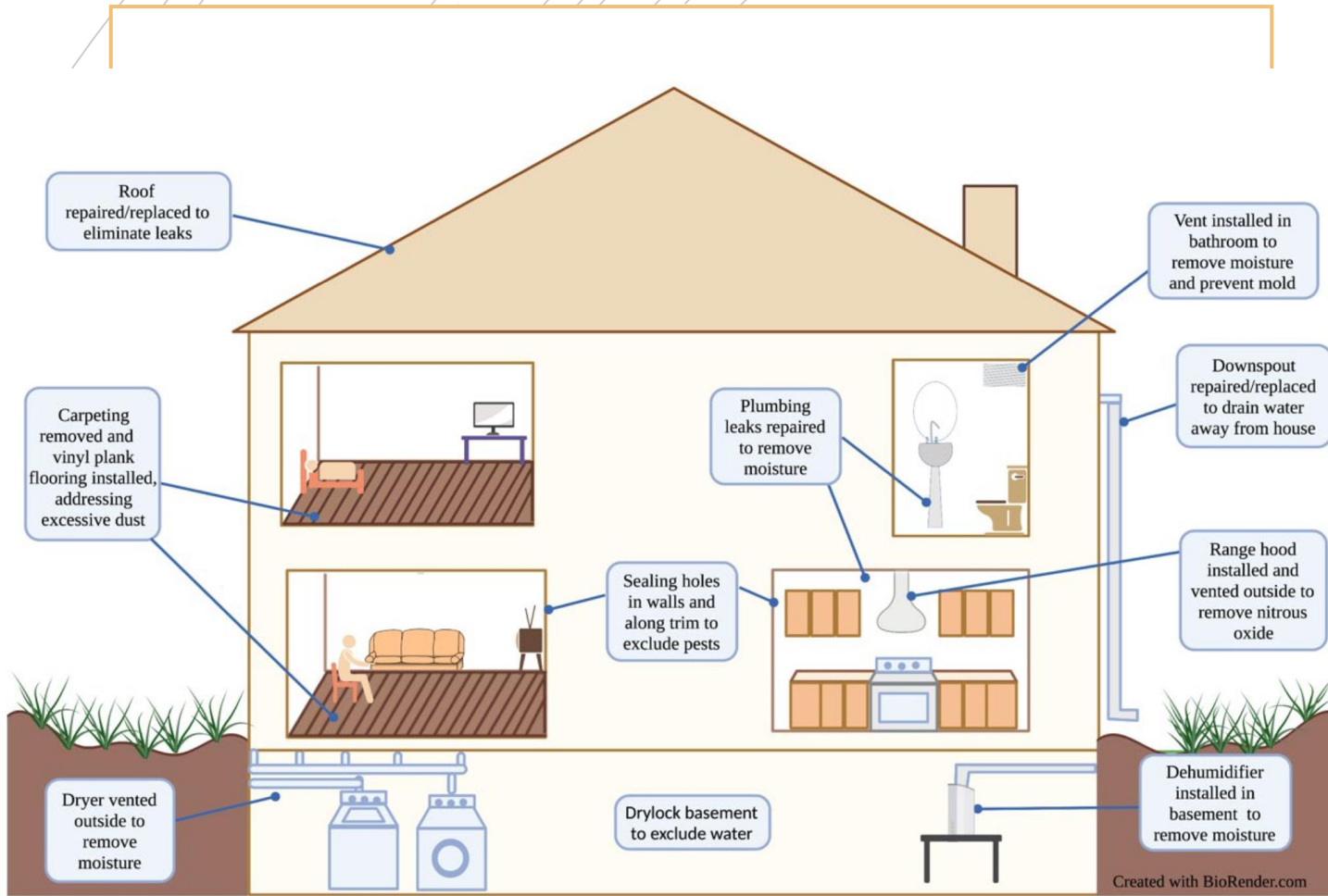
- Enrolled over 600 children
- Will begin to work to sustain and expand existing asthma programs

CAPP+ Home Repairs Program helped improve living conditions for families with asthma

- 2018-21: 97 homes repaired
- 2022: 50 homes planned

CAPP+ Home Repairs Program **FY 18-21 Homes Completed = 97** **FY 22 Homes Planned = 50**





MY ROLE

- Worked with CAPP+ Home Repairs to provide healthy homes for children with asthma
 - Dust Allergen Collection Study
- Outreached to develop teen focus groups to bridge the gap between childhood to adolescence
 - Goal: gain knowledge on how a novel program for teens could provide additional education
- Outreached to CAPP families to gain feedback on how the WEPACC program impacted their child's asthma
- Developed educational asthma content for CHWs on virtual platforms (COVID-19)

LESSONS LEARNED

- **High asthma burden** experienced by **minority children** attributed to multiple ecological factors
- CHWs provide an **effective and cost-efficient solution** as a liaison between medical providers and families
- “Train the trainer”: leave neighborhoods with asthma experts in order to **sustain** asthma management and prevention efforts
- **Measuring** participant knowledge acquisition is best illustrated through **pre- and post-testing**

ACKNOWLEDGEMENTS

- Tyra Bryant-Stephens, MD
- Yolanda Williams, MPH
- Elizabeth Robinson, MHSA
- Janani Kanagasundaram, MPH
- Sanya Bhambhani, MS
- Joanne Levy and the SUMR Team



**Children's Hospital
of Philadelphia®**

Community Asthma
Prevention Program