CCI
CENTER FOR CARE INNOVATIONS

blue of california foundation

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ROOTS Program

Webinar: Using Data to Drive SDOH Priorities: Lessons Learned from Cincinnati Children's Hospital

November 16, 2017

Webinar Reminders

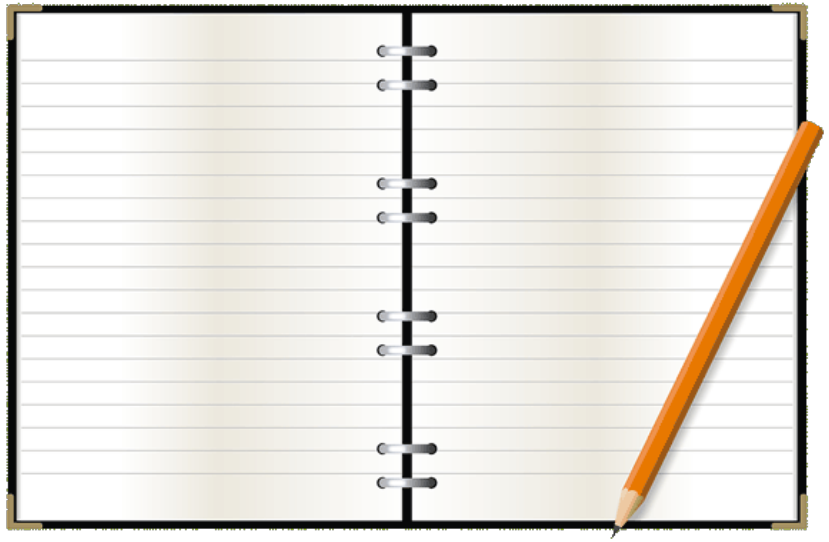
1. Everyone is unmuted.
   - Press *6 to **mute** yourself and *7 to **unmute**.

2. Remember to chat in questions!

3. Webinar is being recorded and will be posted and sent out via email via the Newsletter.

Agenda

1. Welcome and Introductions
2. Program Reminders
3. Presentation
    - Dr. Andrew Beck from Cincinnati Children's Hospital
4. Questions & Answers



What's Coming Up?

Office Hours
Dr. Noha Aboeleta from the ROOTS Clinic

Friday, November 17
1:30-2:30pm

- Register here: https://zoom.us/meeting/register/30caa9027d1831427510d14dfea9e911

Tuesday, December 12
1-2pm

- Register here: https://zoom.us/meeting/register/f124cd5956051bd866858a512be5123a

Topics:

- Screening for unemployment
- Working with & developing interventions with formerly incarcerated patients
- Developing, running, and evaluating social enterprise

What's Coming Up?
Two Webinars

Thursday, December 7

12-1pm

- **Idea Sharing Webinar**
- Register here: https://cc.readytalk.com/r/4vz8rk6g22z7&eom

Thursday, December 14

12-1pm

- **Developing Clinical Data & HIT Strategies for Social Needs Data Webinar**
- Register here: https://cc.readytalk.com/r/1k5hwttu9r2p&eom.

HealthBegins

Using data to prioritize action on the social determinants of health

Andrew F. Beck, MD MPH

Center for Care Innovations Webinar

November 16, 2017

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Outline

- Patient-level social risk data to inform care delivery
- Neighborhood-level social risk data to inform population heath improvement
- Prioritizing and analyzing data to support Cincinnati's neighborhood-based improvement efforts
  - Data sharing and merges
  - Hospital-community partnerships

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Insights from a common medical case

- Child hospitalized with difficulty breathing
  - History of multiple admissions for asthma
  - Ill appearing, working hard to breathe
  - Hospitalized for albuterol and steroids
- What would predict or inform his clinical course?
  - What individual- or household-level **challenges** does he face?
  - What neighborhood-level **challenges** does he face?

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Family perspective on challenges
Social determinants of health

"My window is broken, there are roaches, and my landlord isn't responsive to my concerns."

"It takes about 4 hours [to get to pharmacy] … two hours to get there walking and two hours to get back… I just can't do it."

"I don't have transportation. I had to catch the bus everywhere, and it was really, really hot the next day. By him having a breathing problem, I was kind of scared to catch the bus."

"I was in the hospital with no money with no one, no food, no gas. It was just horrible because I was breastfeeding, and I'm basically eating nothing but cereal or a little scrap that she don't eat that I could sneak in before the doctors come and see."

The Hospital-To-Home Outcomes Study (H2O)

Improving the Fluidity of Patient Transitions

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CCHMC – Primary Care Centers
Family Well-Being Questionnaire

Name: _____
MRN: _____ DOB: _____

Every family faces different stressors.
We ask all families about these issues because we may be able to help you with them.
We will keep this form confidential.

1. Within the past 12 months, did you/your family worry whether your food would run out before you got money or SNAP/food stamps to buy more? ☐ YES ☐ NO
2. Within the past 12 months, did the food you/your family bought not last and you didn't have money to get more? ☐ YES ☐ NO
3. Are you currently having any problems with your WIC, SNAP/food stamps, daycare vouchers, medical card/insurance, SSI, or utilities? ☐ YES ☐ NO
4. Are you currently having any housing problems (overcrowding, roaches, rodents, utilities, mold, lead) that your landlord is not helping you with? ☐ YES ☐ NO
5. Are you currently being threatened with eviction or losing your home? ☐ YES ☐ NO
6. Since your last appointment, have you had trouble paying for medications or have you chosen not to fill a medication due to cost? ☐ YES ☐ NO
7. Do you currently have trouble getting to doctor's appointments or to the pharmacy? ☐ YES ☐ NO
8. Has anything bad, sad, or scary happened to you or your child since your last clinic visit? ☐ YES ☐ NO
9. Would you like to speak with someone who may be able to help you with these issues? ☐ YES ☐ NO
10. Over the past 2 weeks, how often have you been bothered by any of the following problems:
    - Little interest or pleasure in doing things? ☐ Not At all ☐ Several Days ☐ More than Half the Days ☐ Nearly Everyday
    - Feeling down, depressed or hopeless? ☐ Not at all ☐ Several Days ☐ More than Half the Days ☐ Nearly Everyday
11. Is there anything else we can help you with today? _____

Please take a moment to update your contact information below.
Remember, if you need us, we're here!

Preferred phone number: ( ) _____
Alternate phone number: ( ) _____
Email address: _____
What is the best way to reach you? ☐ Phone ☐ Text ☐ Email ☐ Other _____
If you prefer us to call, what is the best to reach you? _____

Patient-level risk assessment (primary care)

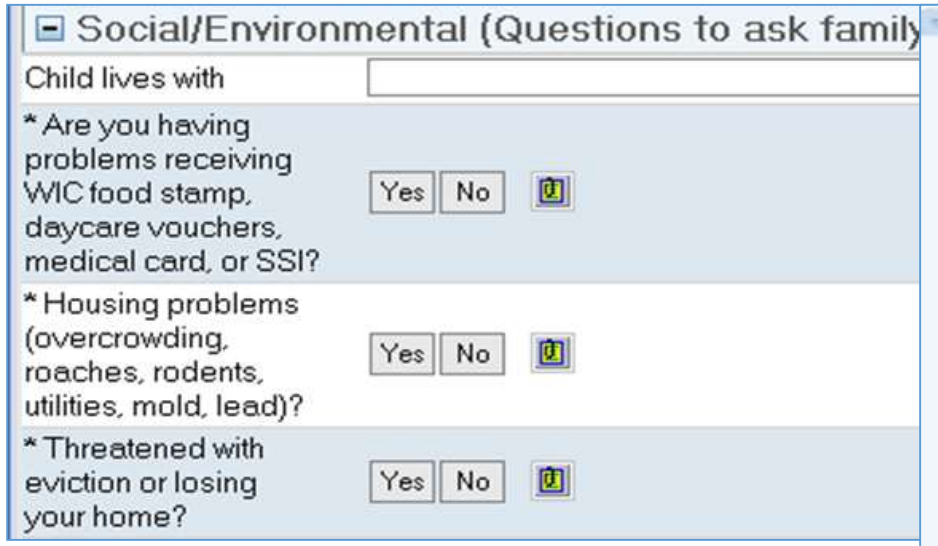
- All visits (at least every 3 months)
  - Parents fill out, MAs enter into Epic
- Spur conversation between provider and family
- Drive action (e.g., referrals, tailored anticipatory guidance)
- Useful in aggregate to support ongoing efforts, find patterns

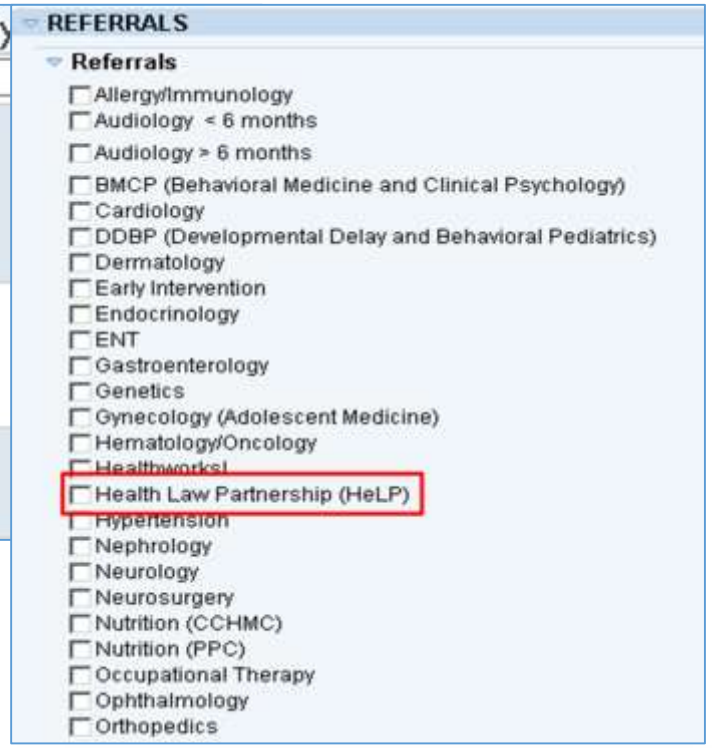
Data → Connections

Screening in EHR

Provider discuss case with legal advocate and connects family

Legal advocate "housing subspecialist" provides appropriate service





Cincinnati Child Health-Law Partnership

- Partnership between Cincinnati Children's three primary care centers and Legal Aid Society of Greater Cincinnati
  - In-clinic office staffed by attorneys and paralegals 5 days/week
- Assists clients with housing concerns, public benefit denials/delays, education services, family/custody issues
- Interdisciplinary child advocacy training for residents to screen, identify and refer
- Basis for development of other partnerships targeting social determinants

www.cincinnatichildrens.org/childhelp

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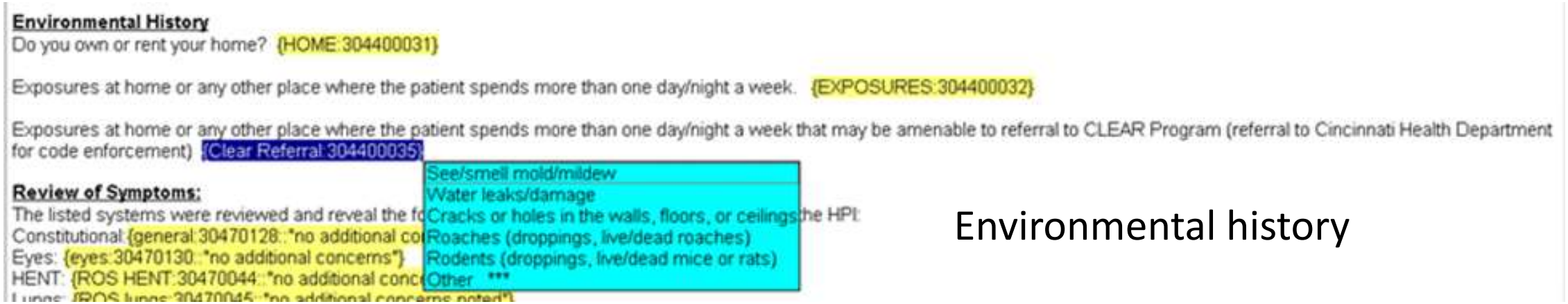
Results to date

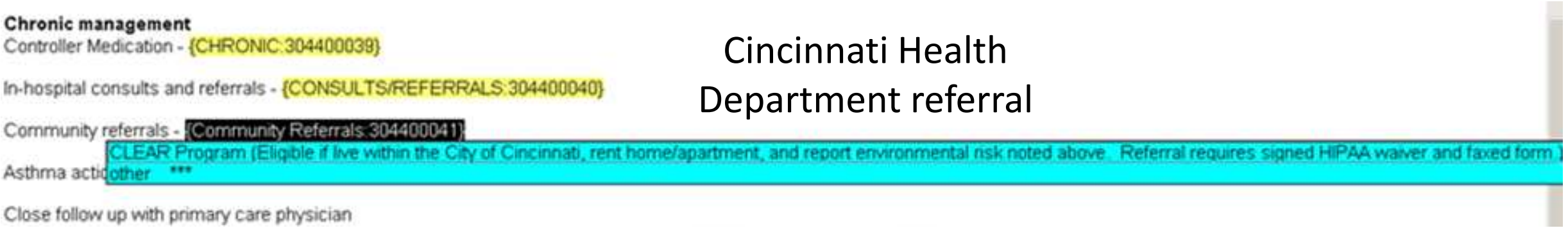
- Since August 2008:
  - Referred >5,000 patient families
  - Helped ~9,000 children and ~4,500 adults
  - Recovered >$300,000 in back public benefits
  - Trained ~500 residents and social workers

LEGAL AID SOCIETY OF GREATER CINCINNATI

Patient-level risk assessment (inpatient)



Environmental history



Cincinnati Health Department referral

Collaborating to Lessen Environmental Asthma Risks

- Partnership with Cincinnati Health Department (CHD) Environmental Complaint Line
- CHD sanitarians as our housing consultants:
  - Inspect homes for housing code violations
  - Write orders for landlords (or tenants)
  - Follow up to make sure conditions improve
  - Provide Healthy Homes education
- **CLEAR aims to make referrals to CHD easier from the <u>inpatient</u> asthma unit**

city of CINCINNATI HEALTH DEPARTMENT

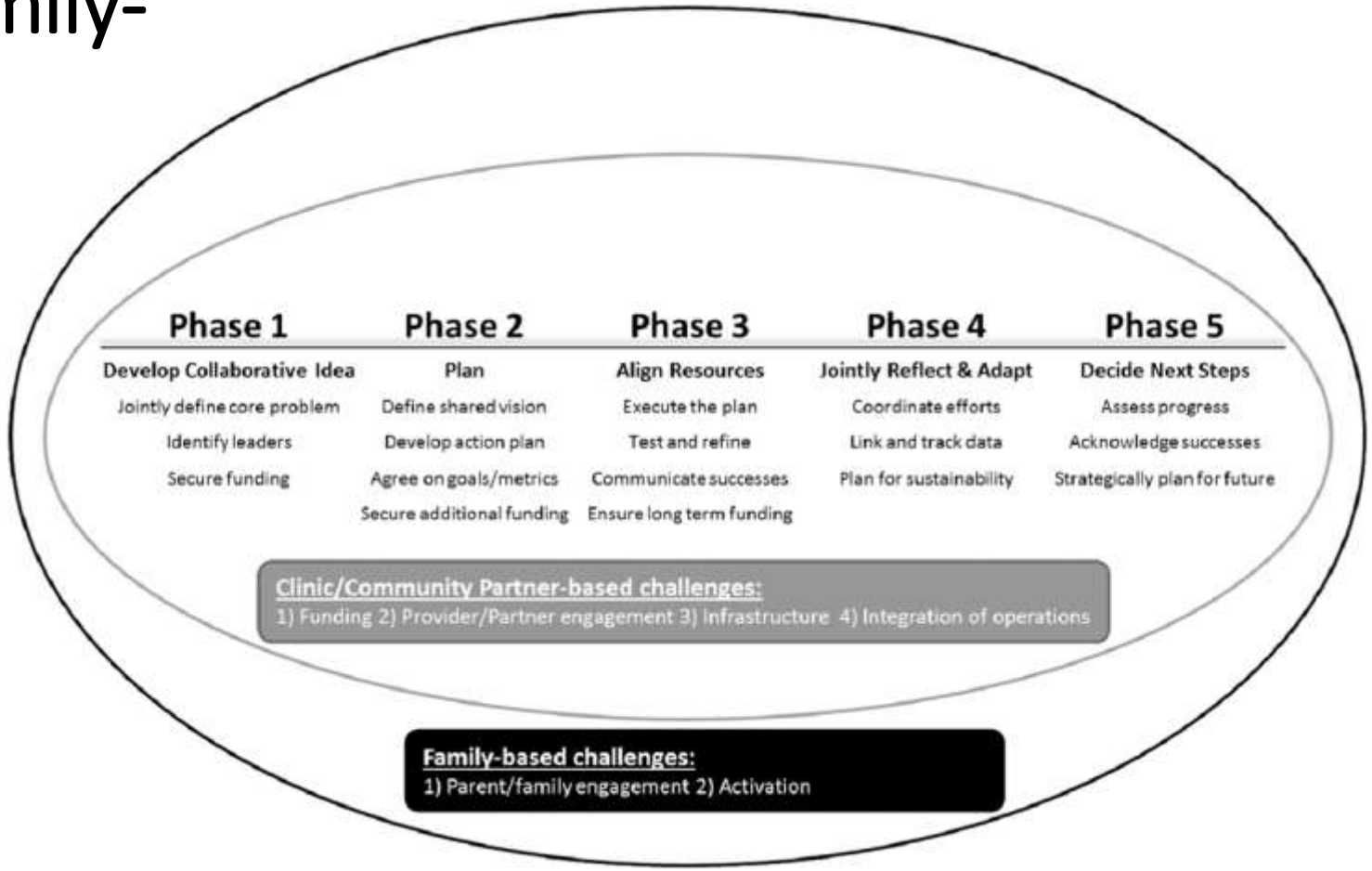
Cincinnati Children's changing the outcome together

CLEAR Outcomes

- CLEAR has led to:
  - Enhanced inpatient risk screening and ~500 referrals to date
  - Increased mitigating actions on the part of families
  - Decreased hazards present in the home
- Qualitative feedback from families:
  - *“This was a big step up. My window is fixed, there are fewer roaches, and my landlord is more responsive because I got help from you all.”*
  - *“I didn’t even know what mold was before you came out.”*
  - *“I’m glad that you are helping people because there’s more people and families like us.”*

Phased approach to family-centered partnerships

- Shared mission/vision
- Return on investment
- **Return on mission**
- Data driving partnership forward at each phase
  - Quantitative
  - Qualitative (‘n of 1’ stories)
- Bridge to neighborhood action



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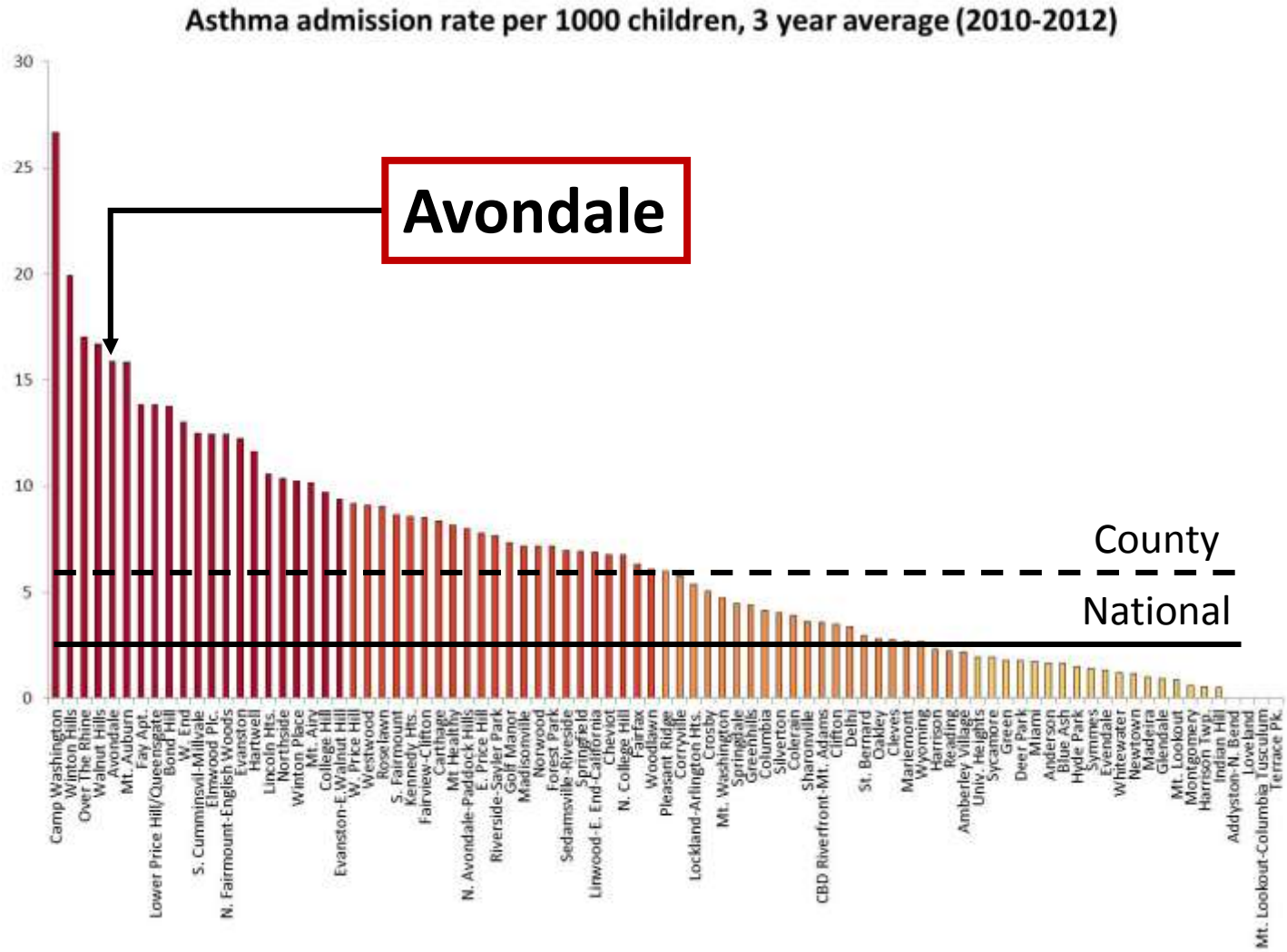
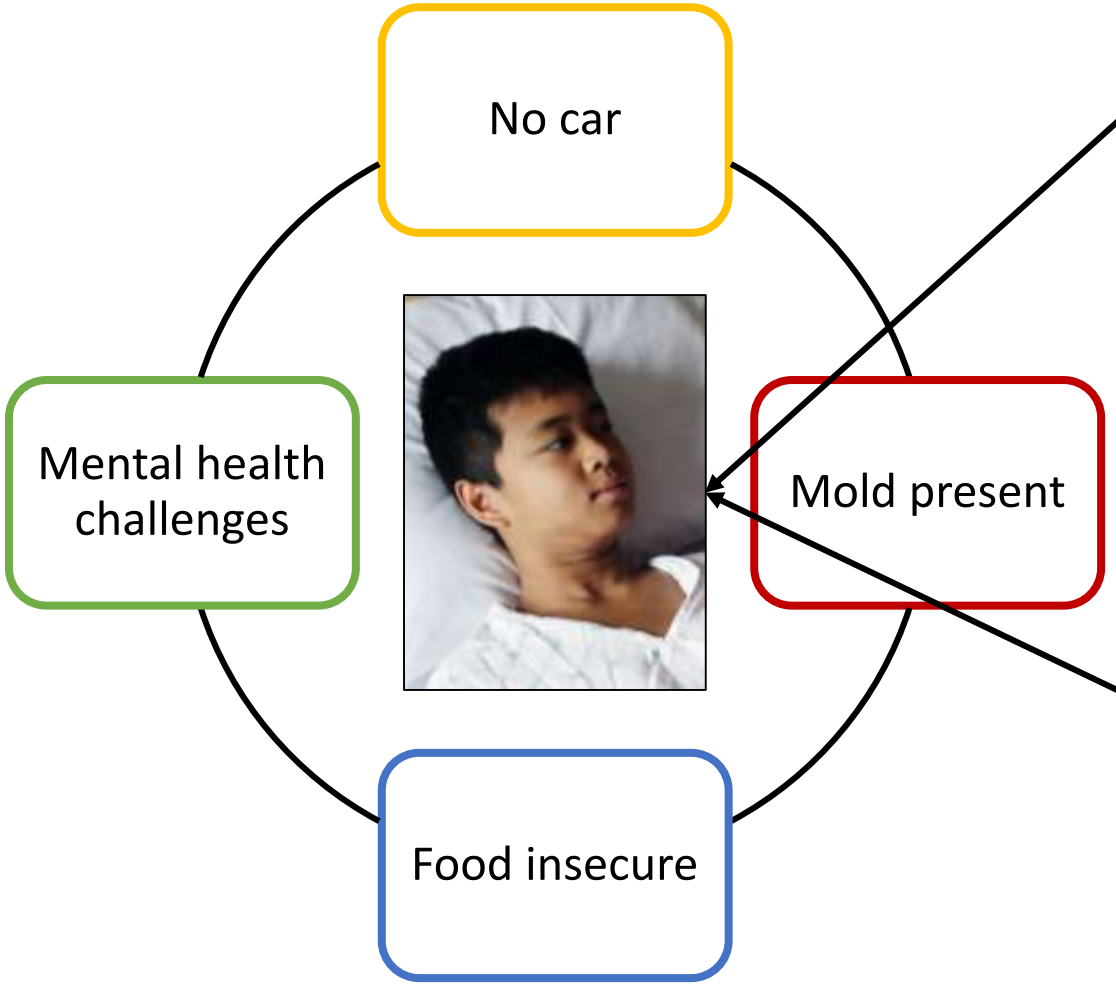
Neighborhood-level challenges & health disparities

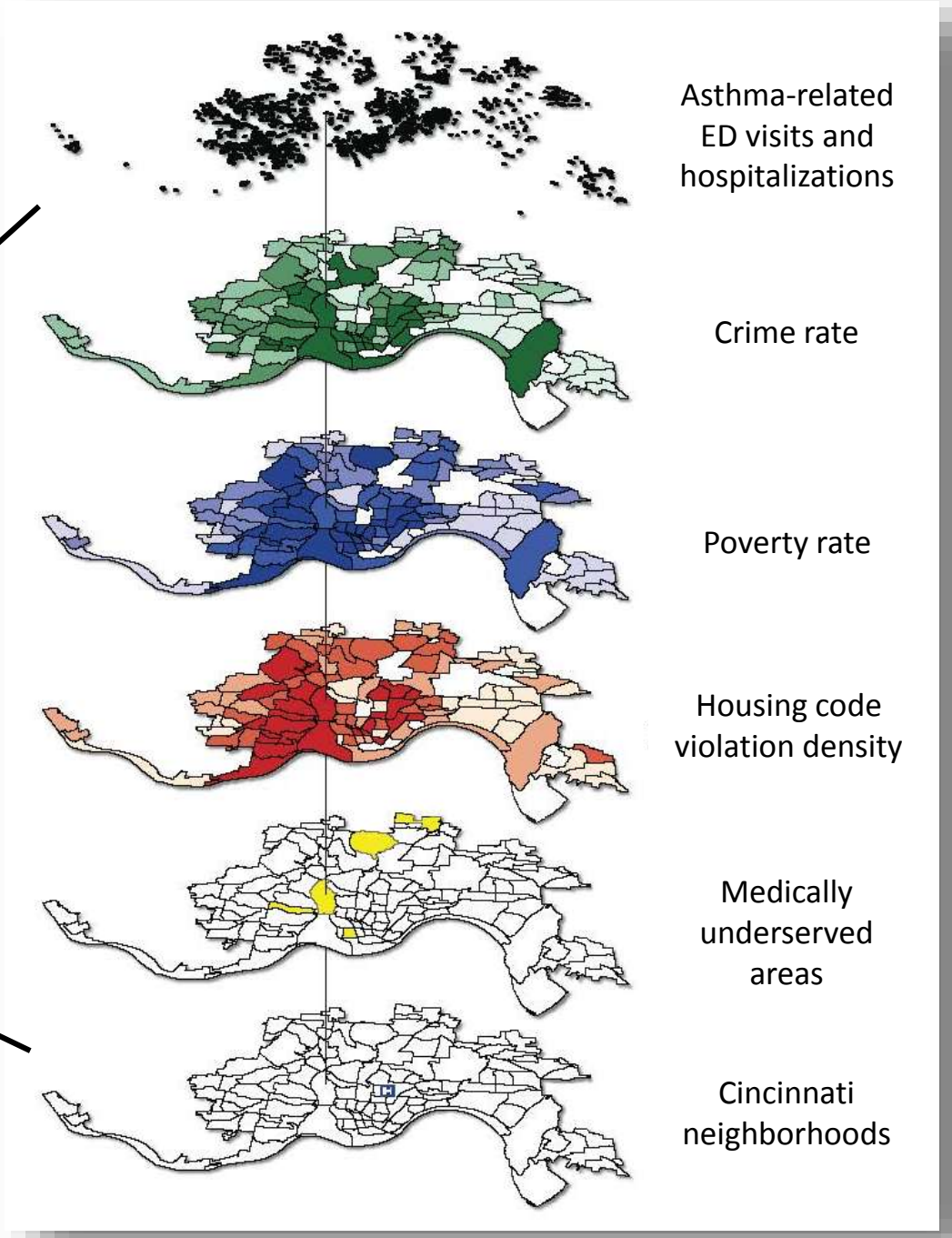
Asthma Example

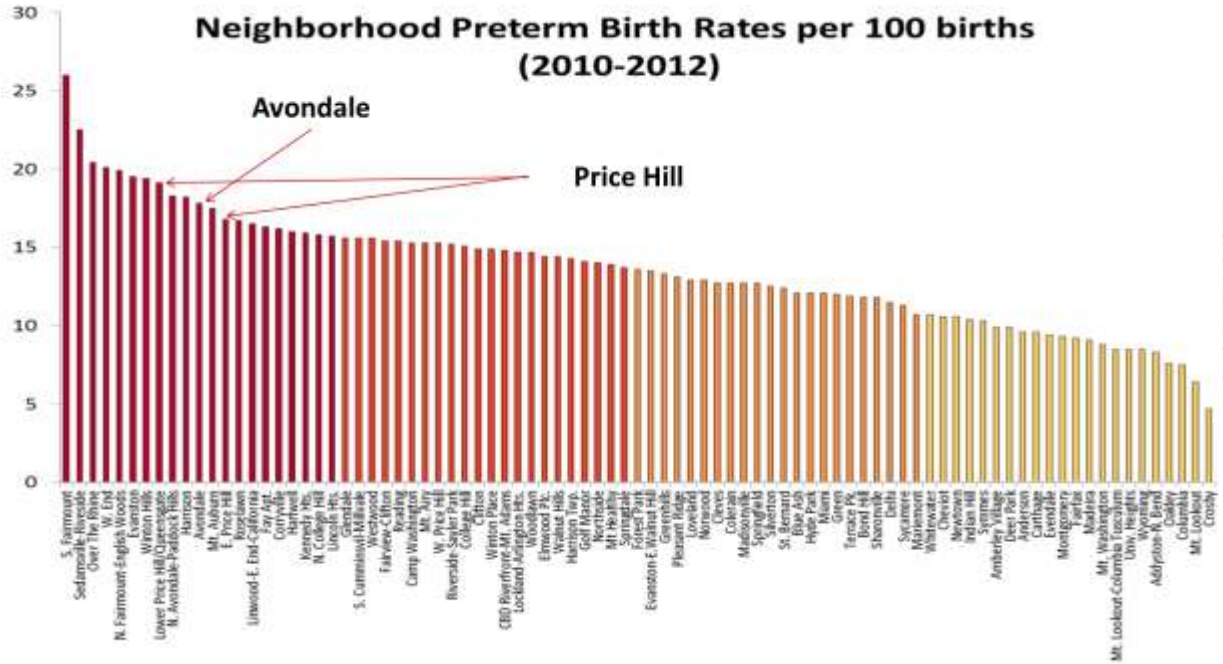
- 1,000 in-county children admitted annually
  - Within 12 months:
    - 20% readmitted
    - 40% revisit ED
- Avondale admission rate:
  - >3 times county average
  - >7 times national average
- **Could knowledge of <u>place</u> influence patient care?**

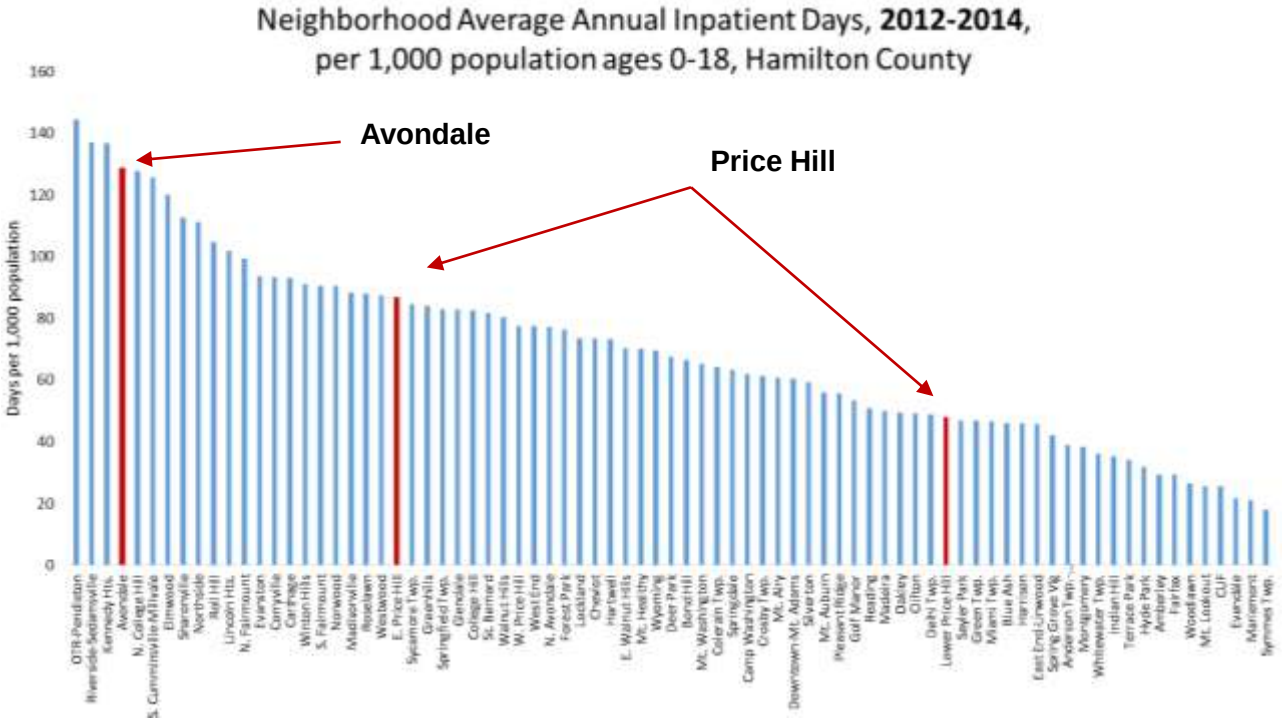


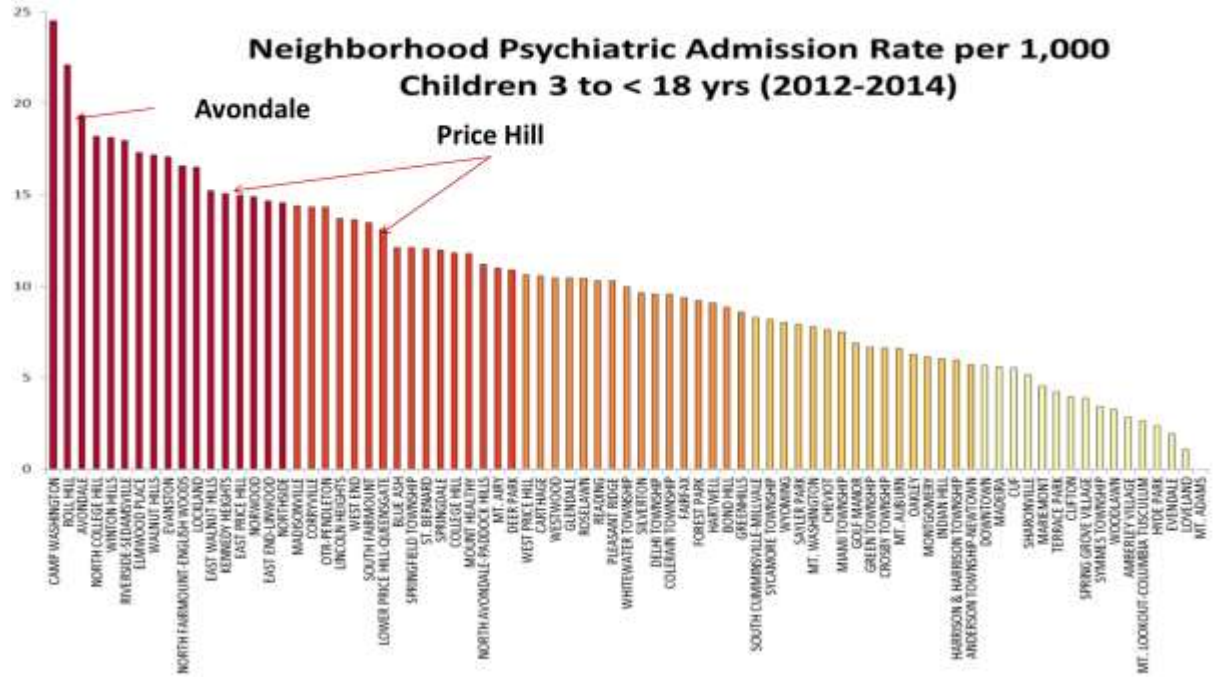
Enhance Place-Based Risk Assessments











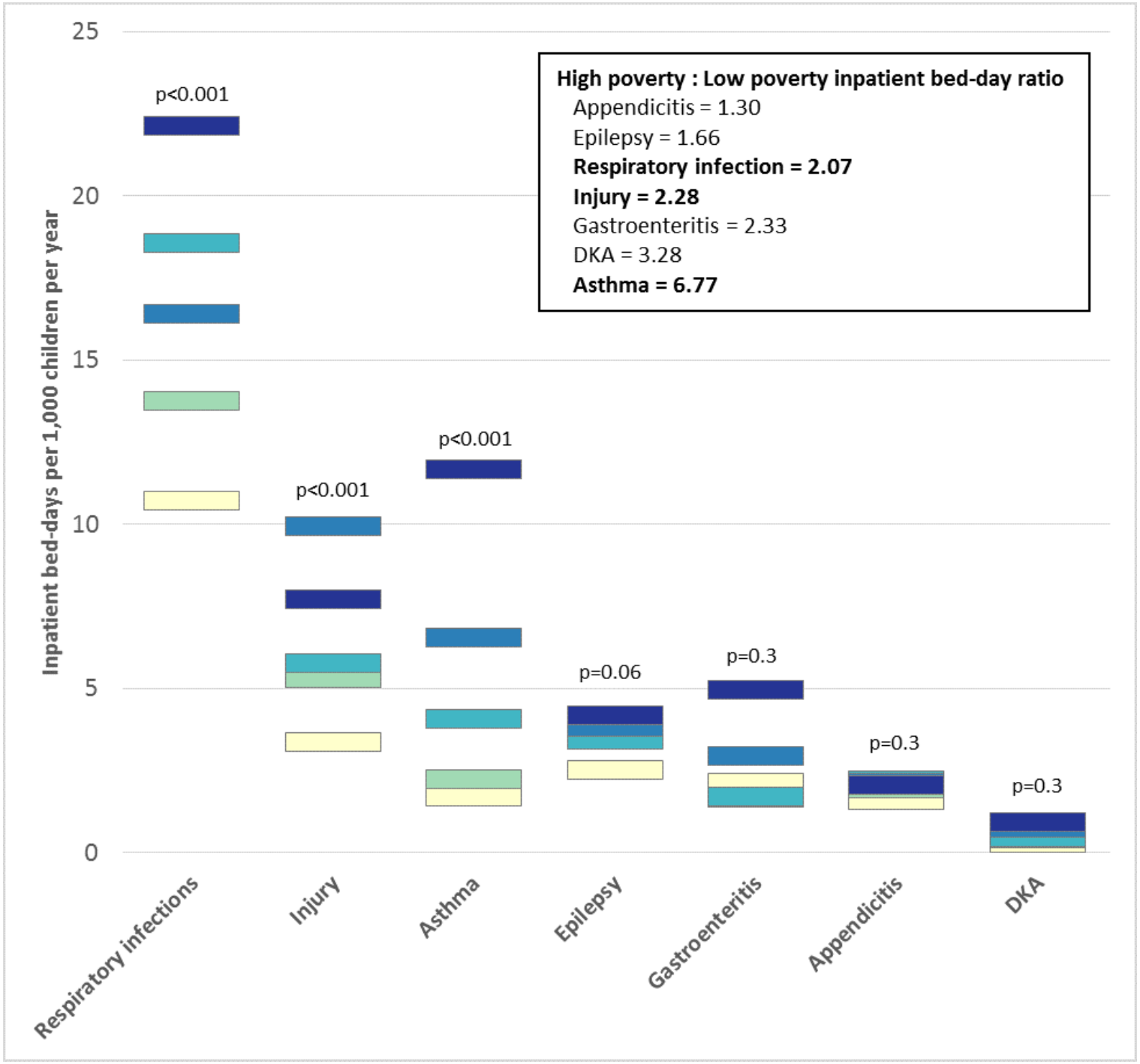
PROBLEM BEYOND ASTHMA:

Inequitable distribution of key child outcomes

- Preterm birth rates (top left)
- All-cause inpatient bed-days (top right)
- Psychiatric admission rate (bottom left)

GOAL:

To improve outcomes and narrow disparities (population health)



Bed-days contributed by common conditions across poverty quintiles

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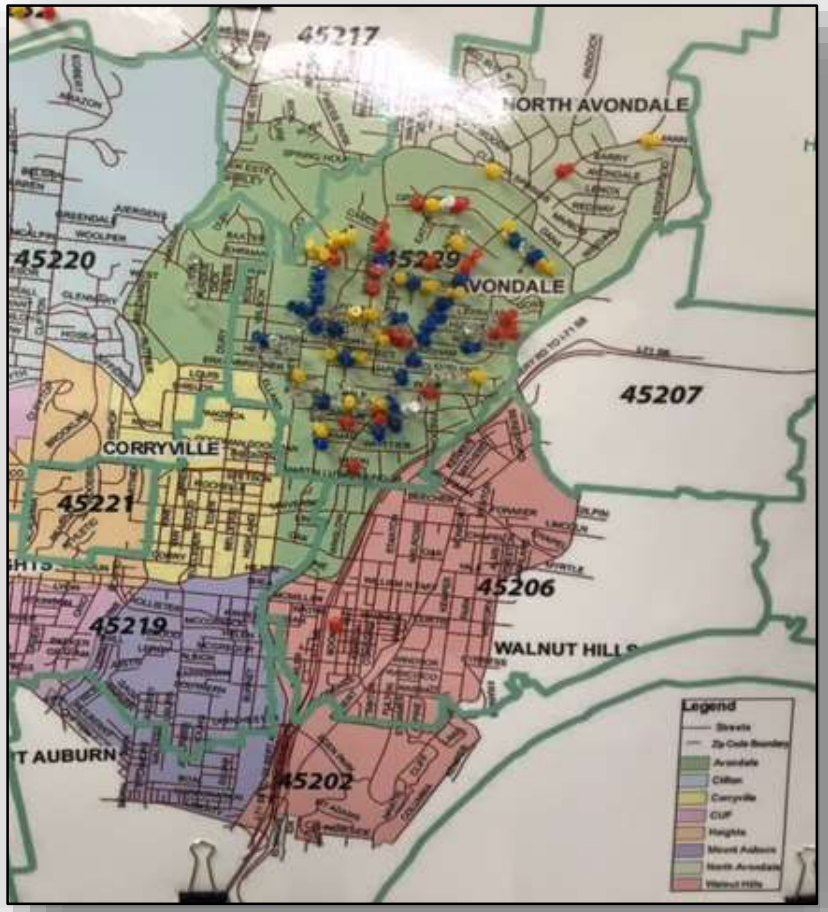
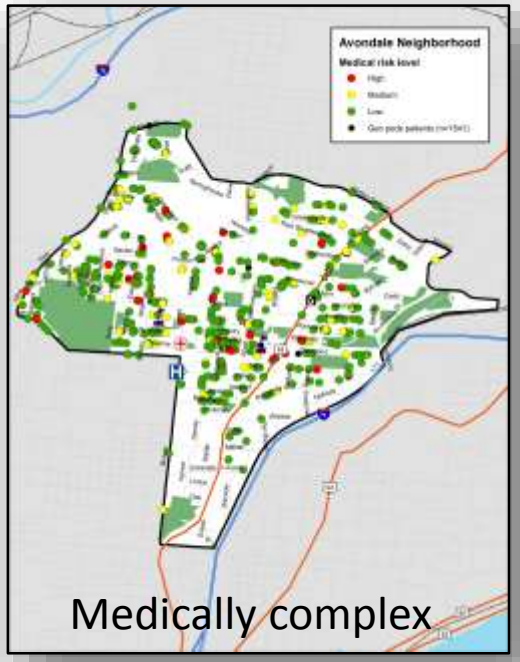
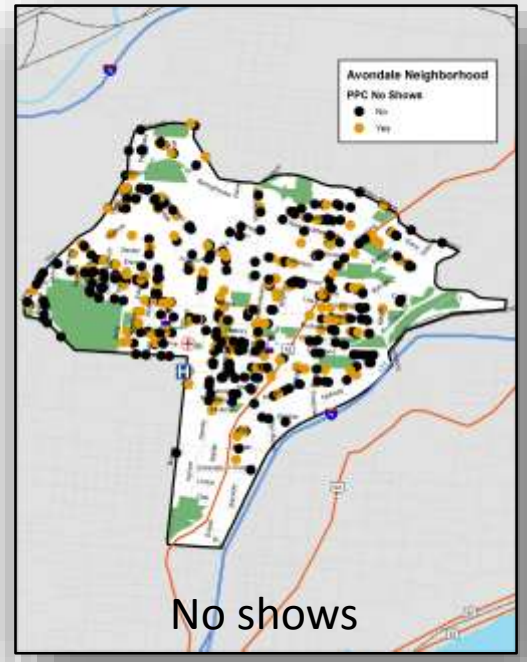
A neighborhood approach



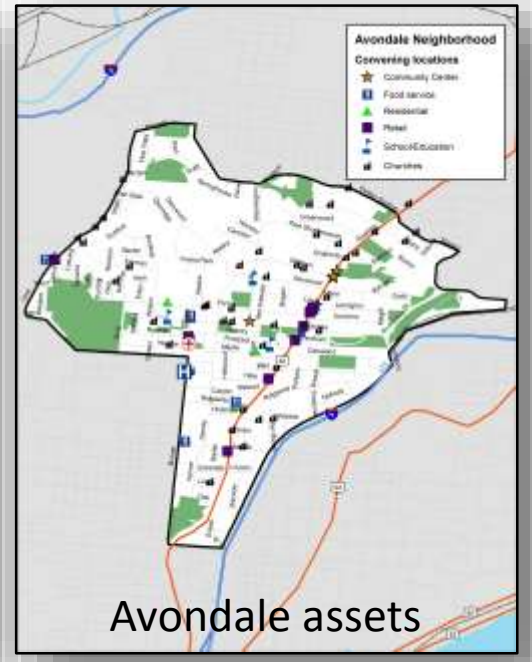
Moving from push-pins …



Medically complex



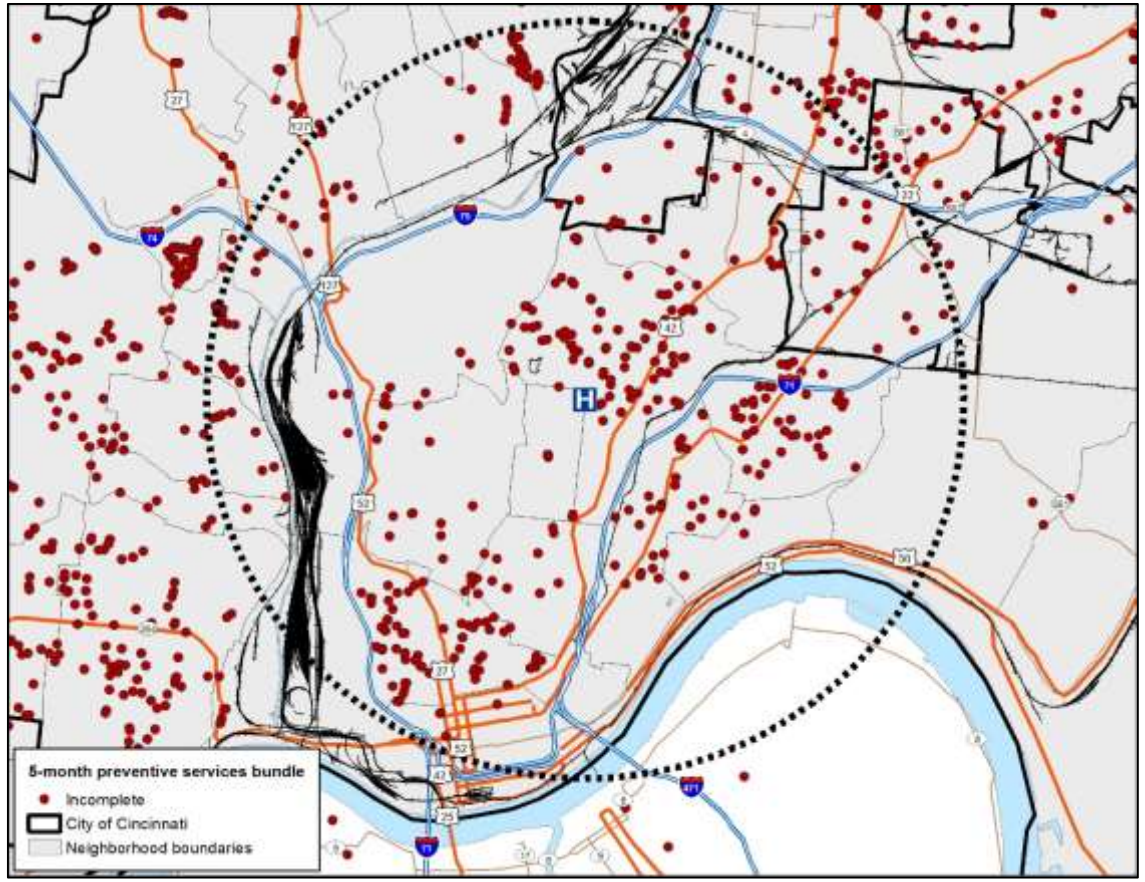
No shows



Avondale assets

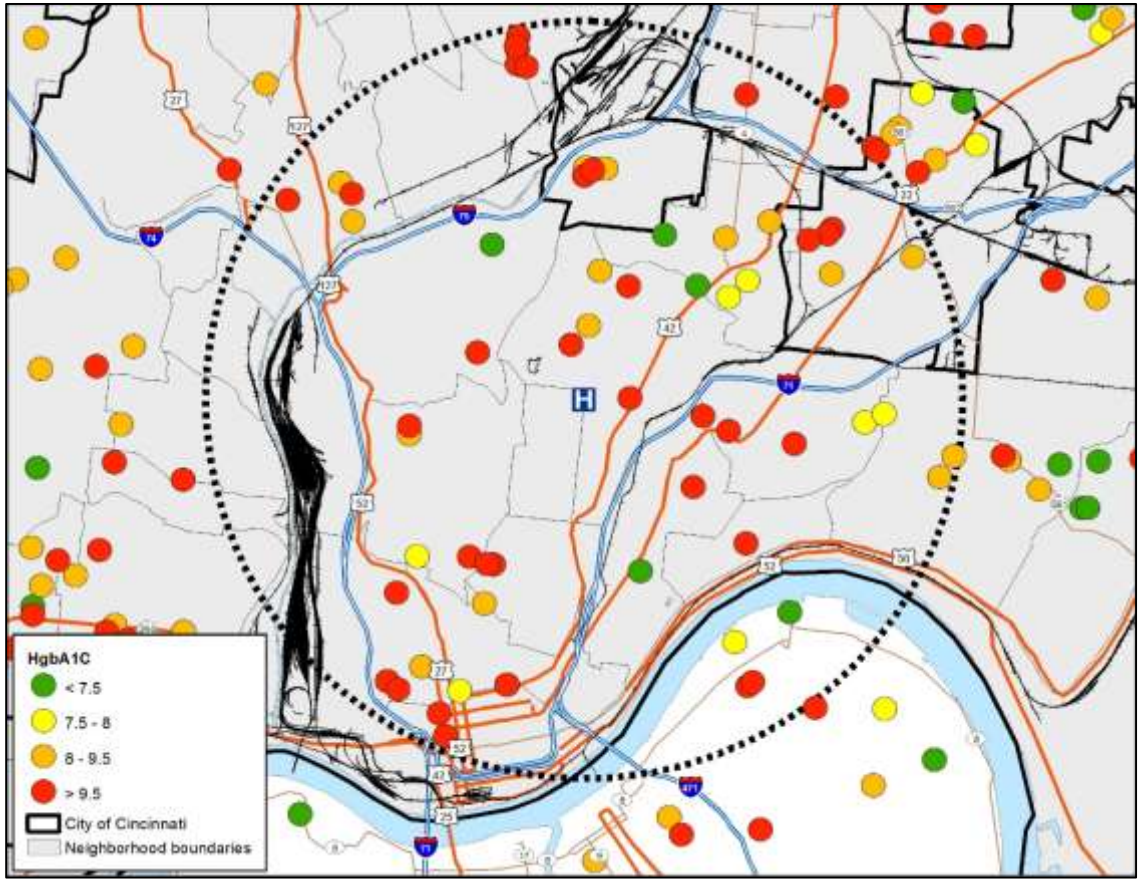
… to population-level awareness of where our patients live, how they experience health and well-being, and how they experience factors that affect their health and well-being

Potential for innovative outreach/partnership



Infants who are “late” on preventive service bundle

✓ How can we turn circles from red to green?



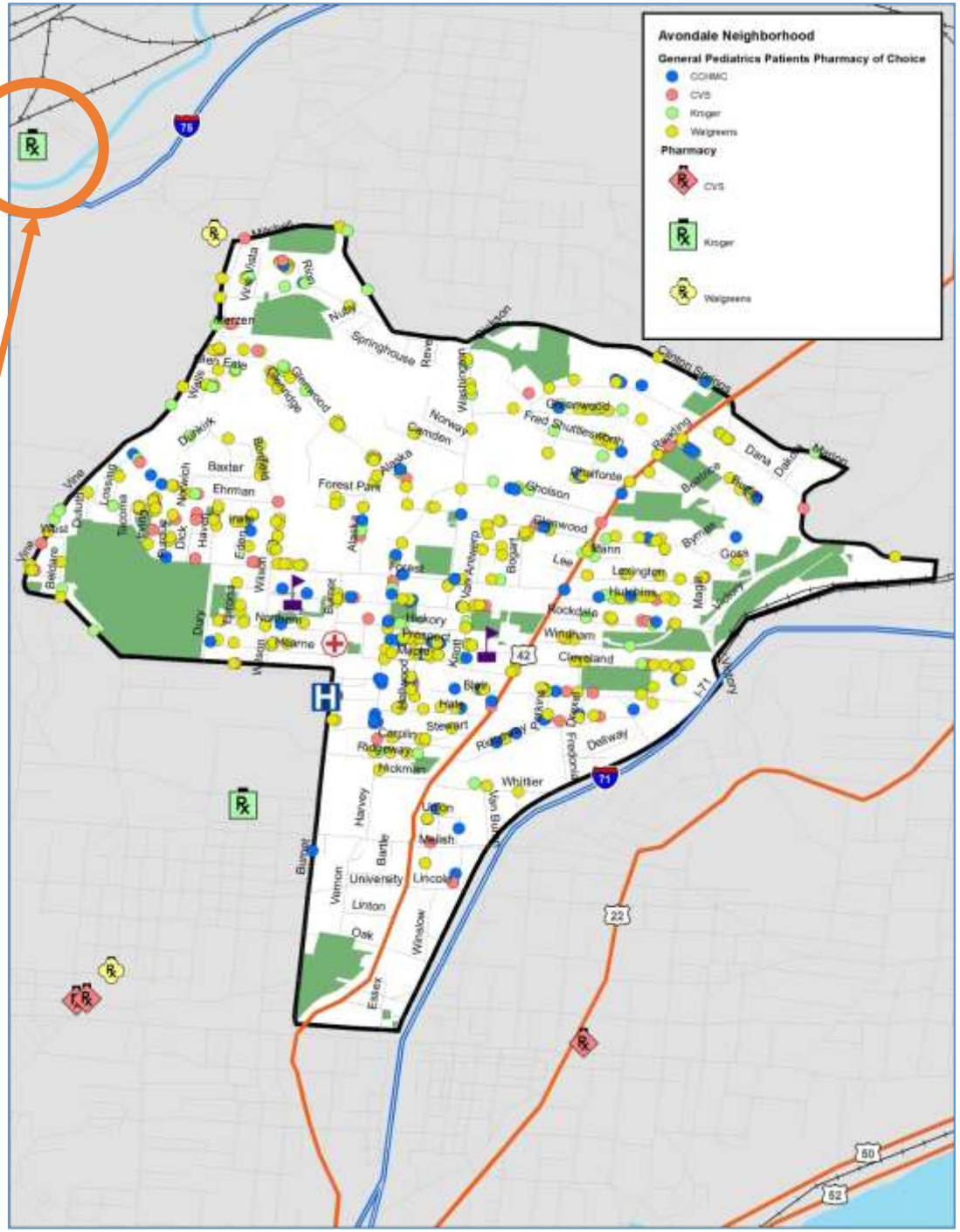
Type 1 diabetics with high risk HgbA1C levels

✓ How can we turn all circles green?

Ex. Pharmacies & health

- 97% prescriptions written for Avondale patients sent to 1 of 4 retail pharmacies
- Current exercise in data exchange
  - Who fills? Refills? Who doesn't?
  - Store-to-store outreach processes
- Preliminary data suggests 35% of medicines unfilled
- Nascent partnerships with Kroger

What do we need to expedite this innovation?



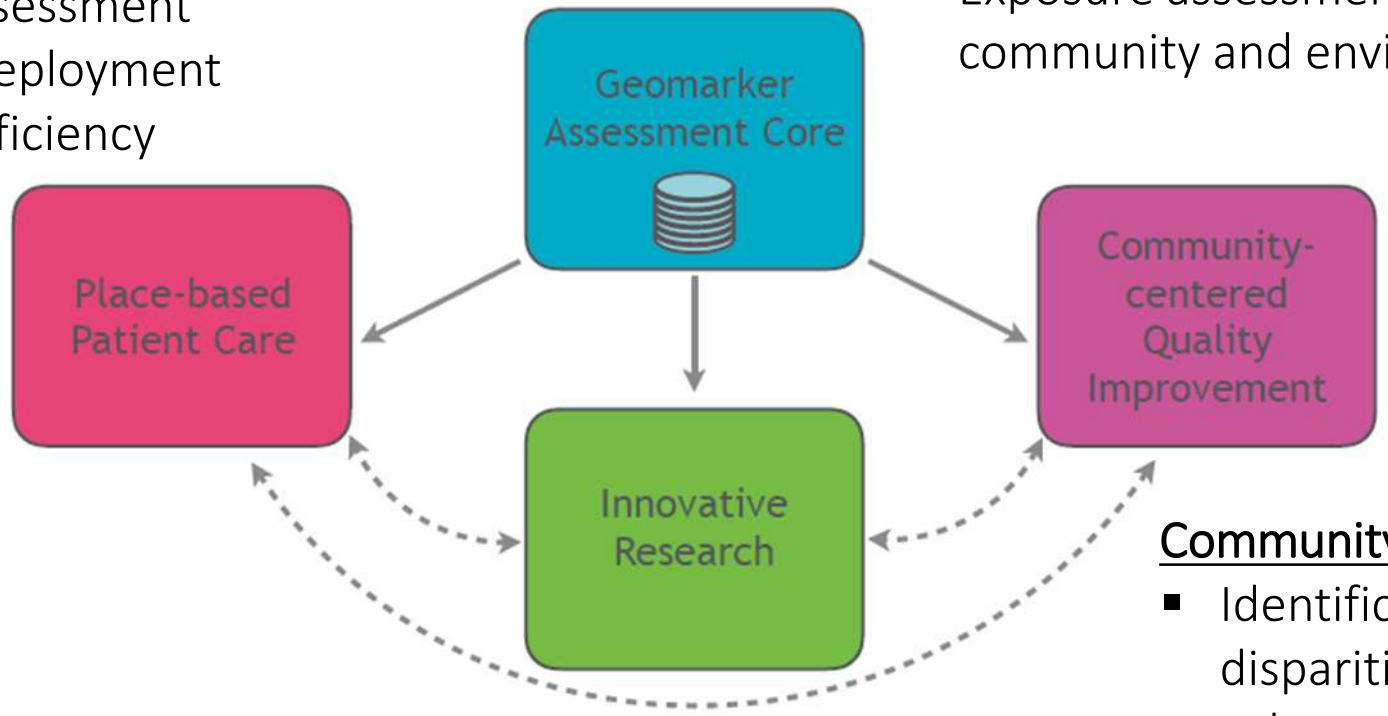
GRAPPH Infrastructure

Place-based Patient Care

- Add information to clinical decision making
- Deeper risk assessment
- Intervention deployment
- Operational efficiency

Geomarker Assessment Core

- Geographic Information Systems (GIS)
- Geocoding & mapping
- Exposure assessment, use of area-based community and environment characteristics

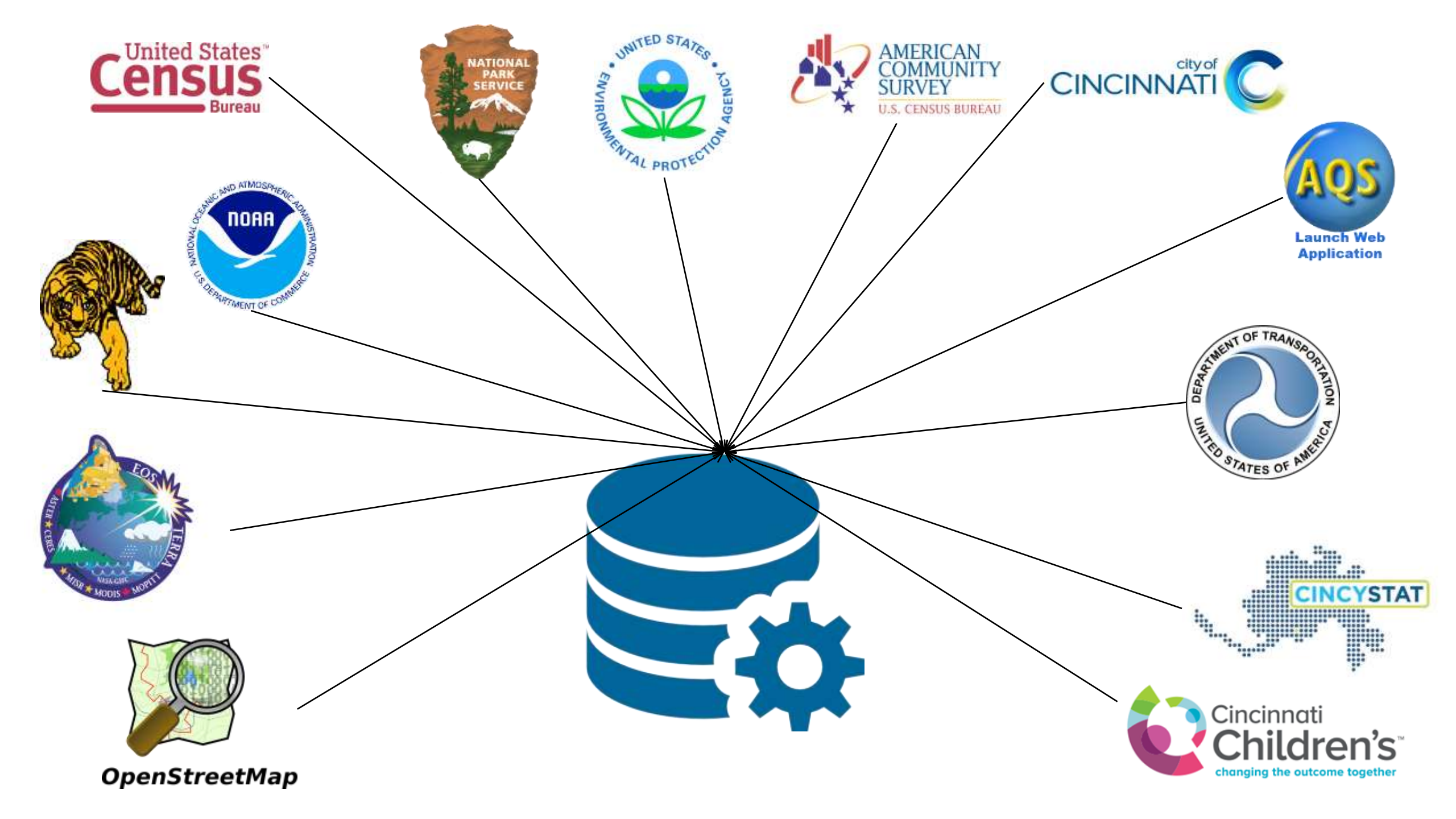


Innovative Research

- Place-based predictors of health outcomes
- Enhance ongoing research

Community-centered QI

- Identification and depiction of disparities across conditions (and subspecialties)
- Delineate targets for SMART aims
- Facilitate visualization and transparency → activation


United States Census Bureau
NATIONAL PARK SERVICE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AMERICAN COMMUNITY SURVEY
U.S. CENSUS BUREAU
city of CINCINNATI
AQS
Launch Web Application
NOAA
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U.S. DEPARTMENT OF COMMERCE
DEPARTMENT OF TRANSPORTATION
UNITED STATES OF AMERICA
EOS
TERRA
ASTER
CERES
MISR
MODIS
MOPITT
NASA-GSFC
CINCYSTAT
OpenStreetMap
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Cincinnati Children's Neighborhoods | Compare | Data | Help | About

Select a neighborhood by clicking on the map to highlight it in the figures and plots.

Avondale

Select metrics to compare:

X metric:

housing code violation density

Y metric:

asthma admission rate (per 1000 per year)

Z metric:

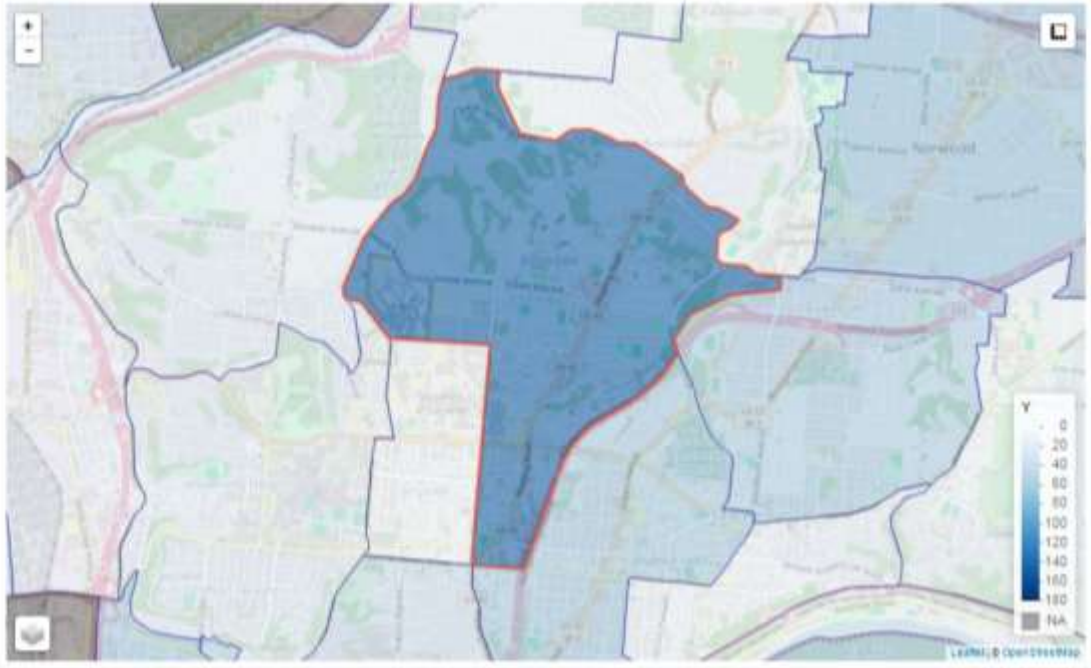
households in poverty (%)

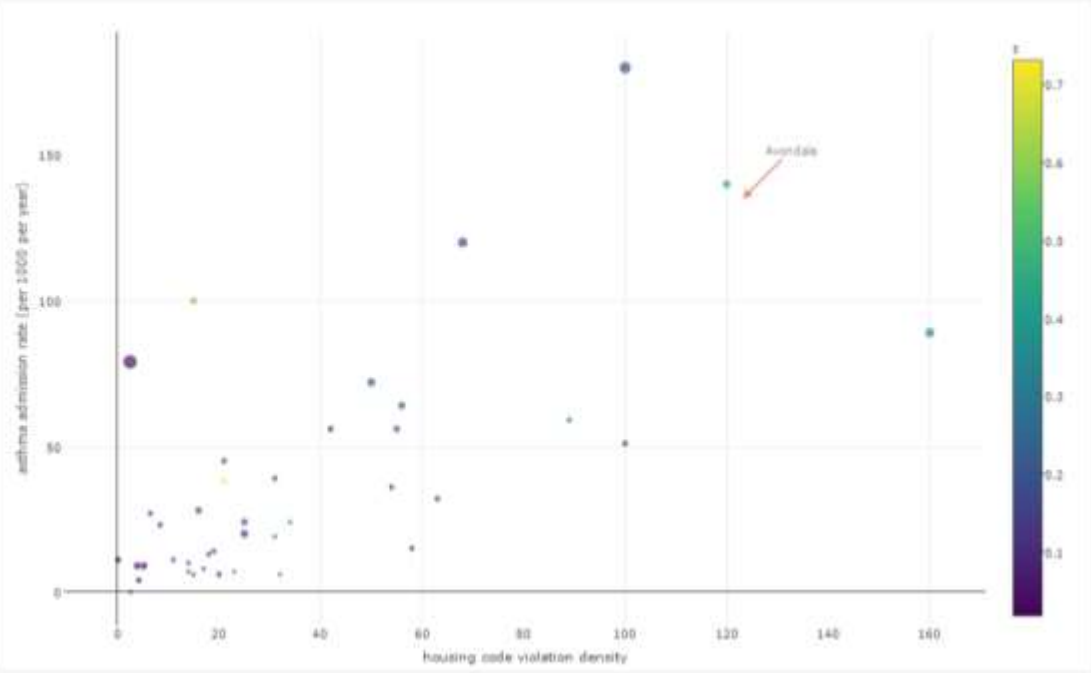
Number of significant digits for numeric values:

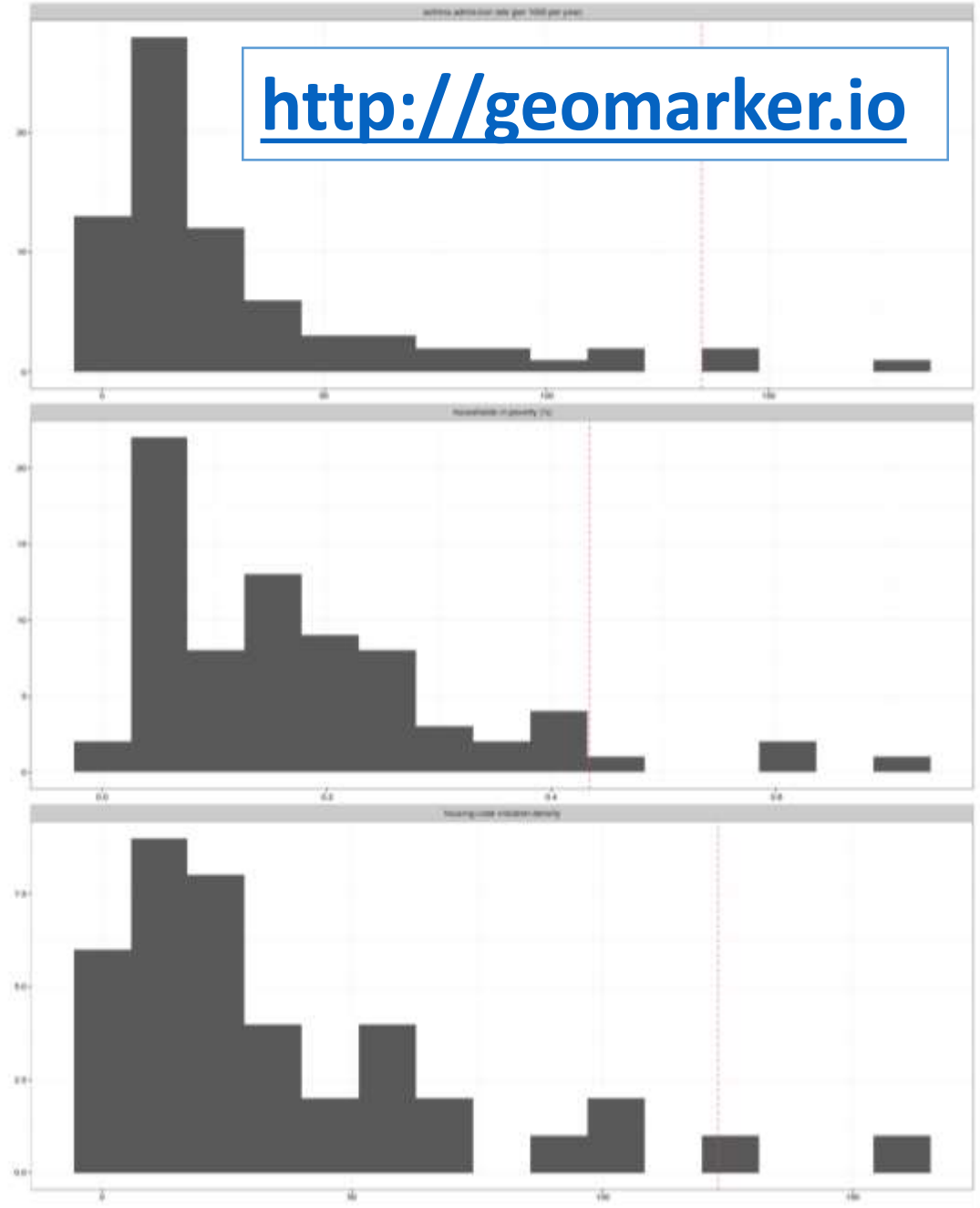
2

Number of bins in histogram:

15

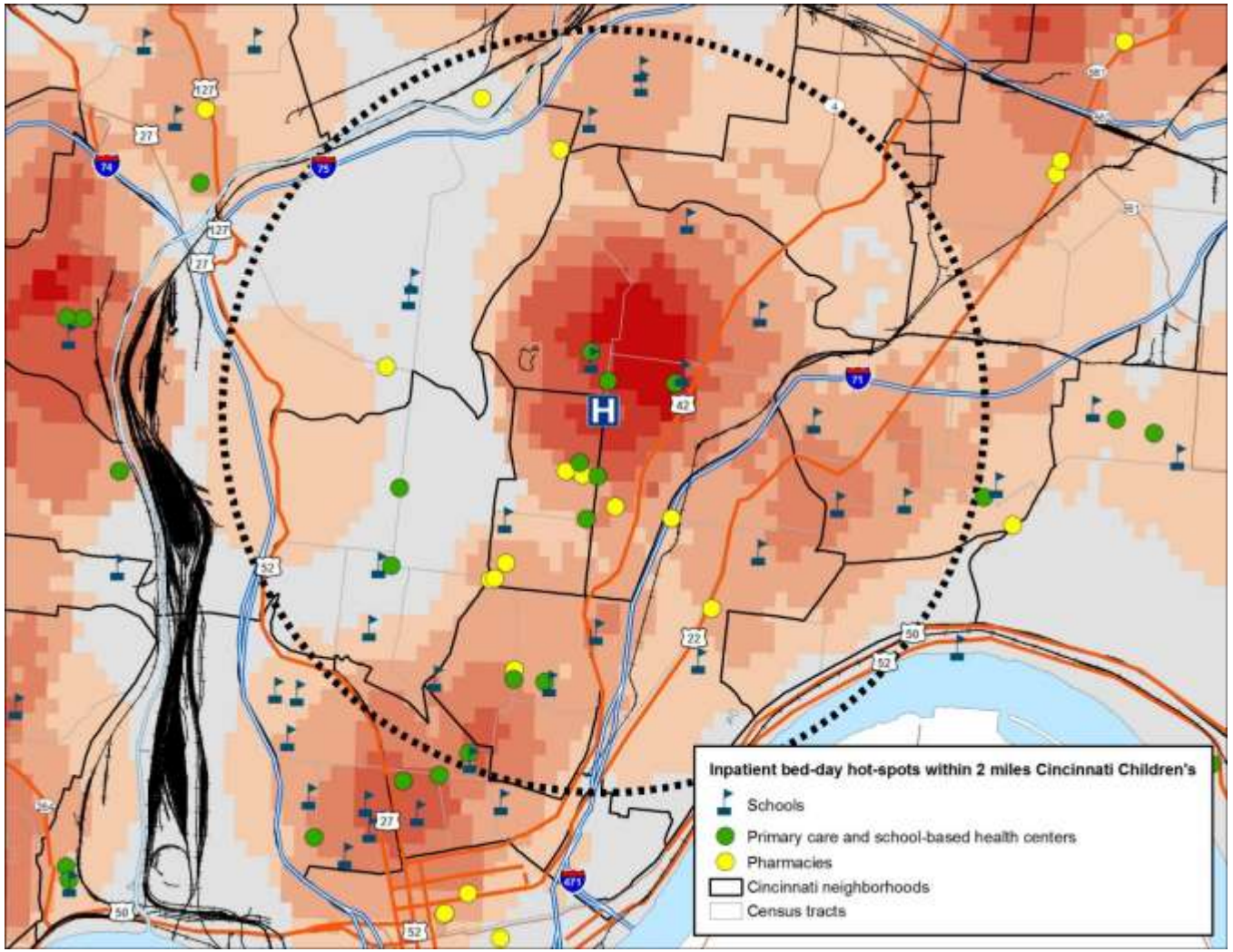






http://geomarker.io

Data/infrastructure to cool “hot spots”



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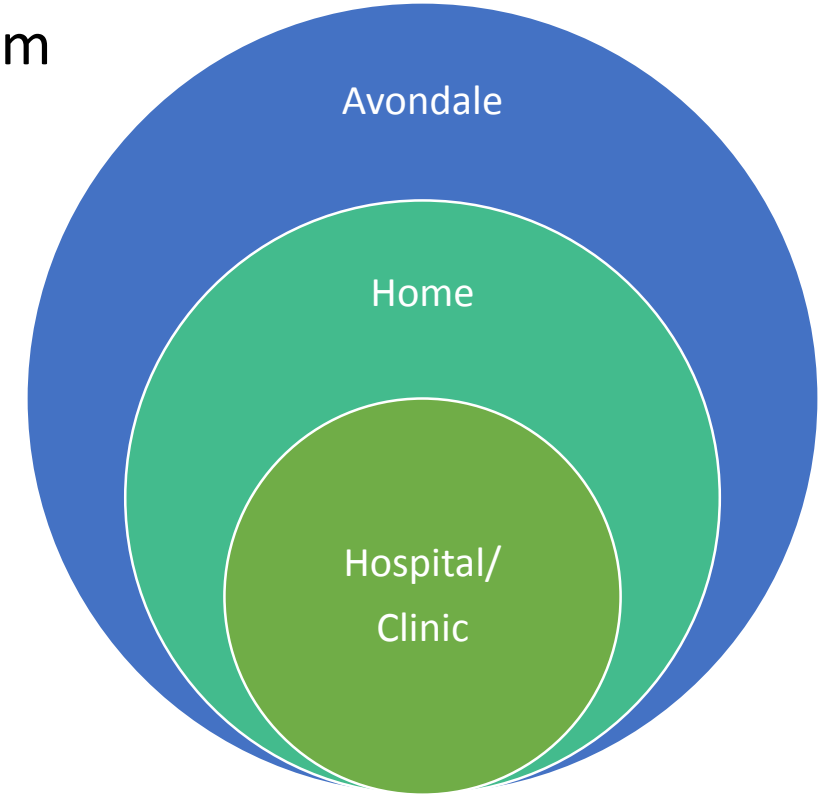
Reducing disparities in hospital bed-days
Avondale areas of active testing

- "Failure" alerts, evaluation with multidisciplinary team
  - Focus on household- and neighborhood-level social determinants
- Condition- and age-specific outreach
  - Asthma, respiratory conditions
  - Newborns/infants
  - Medically/socially complex
- In-home and in-community activities
  - In-home visits
  - Community-based "office hours"
  - Telehealth
  - Community organizing – social determinants, hand hygiene



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Global Aim

Cincinnati's children the healthiest in the nation through strong community partnerships

FY18 SMART Aim

To reduce the inpatient bed day rate by 7%, from 99.9 to 93 per 1,000 children* by 6/30/2018

2020 SMART Aim

To reduce the inpatient bed day by 10%, from 99.9 to 90 per 1,000 children* by 6/30/2020

Population

*Children aged 0-17 years in the Avondale, Lower Price Hill, and East Price Hill neighborhoods

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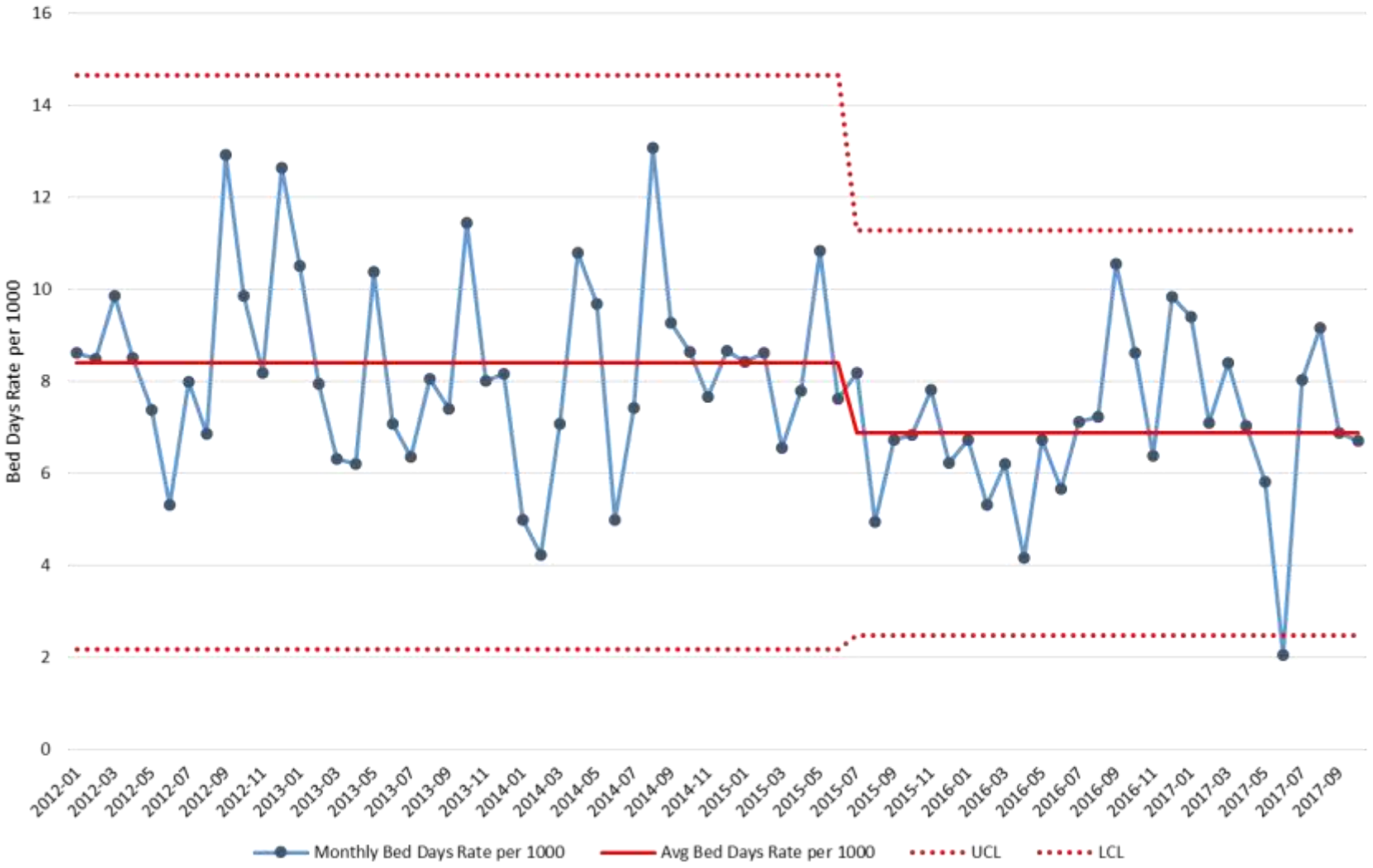
CCHMC Inpatient Days-Excludes Mental Health and LOS > 14 Days
Inpatient Days per 1000 Population
Patients Age 0 up to 18 Residing in Avondale, East & Lower Price Hill
X -Chart



Annotations

- 8/15 – Asthma Outreach
- 8/15 Learning from Failures calls initiated
- 9/15 – Reviewed all M3 / S3 patients (connected to CM when appropriate)
- 1/16 – Pantry Presence began
- 1/16 - Handwashing
- Spring'16 – Asthma Outreach
- Winter '16 – bronchiolitis kits
- Fall 16 – Asthma Outreach
- 1/17 – Prescriptions at Kenard Kroger
- Spring 17 – Asthma Outreach
- Fall 17 – CHWs start
- Fall 17 – Asthma outreach, standardization efforts begin

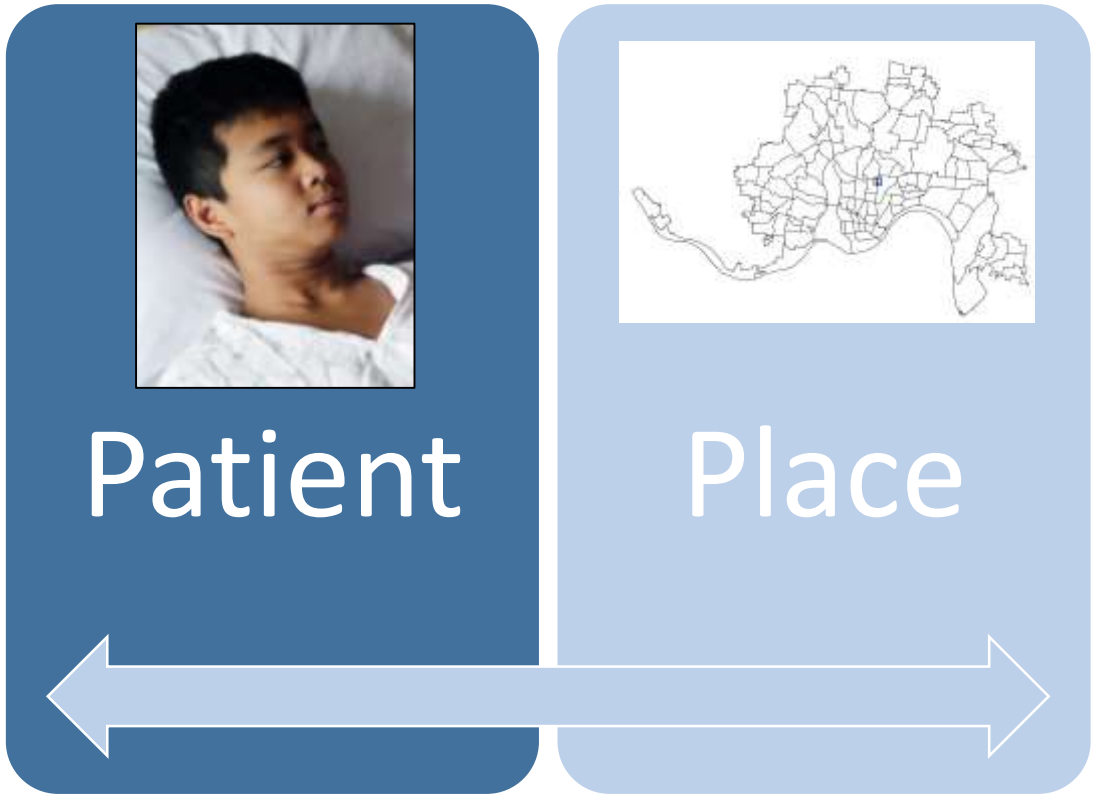
Improved patient outcomes

- Patient- and neighborhood-level data to guide more precise assessments, referrals, and interventions:
  - Medication delivery
  - Housing improvements
  - Economic and social supports
  - Connections with community navigator
  - Coordination with schools
- Prompt reduced symptoms, improved quality of life

Improved population outcomes

Conclusions

- Data key to health improvement for both patients and populations
- “Health in all data”
  - Facilitating risk assessment and targeted actions that meet patients where they are
  - Opportunity for innovation
- Benefit of data sharing and collaboration across sectors for common, complementary missions



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Questions? Comments?

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Thank you!

For questions contact:

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