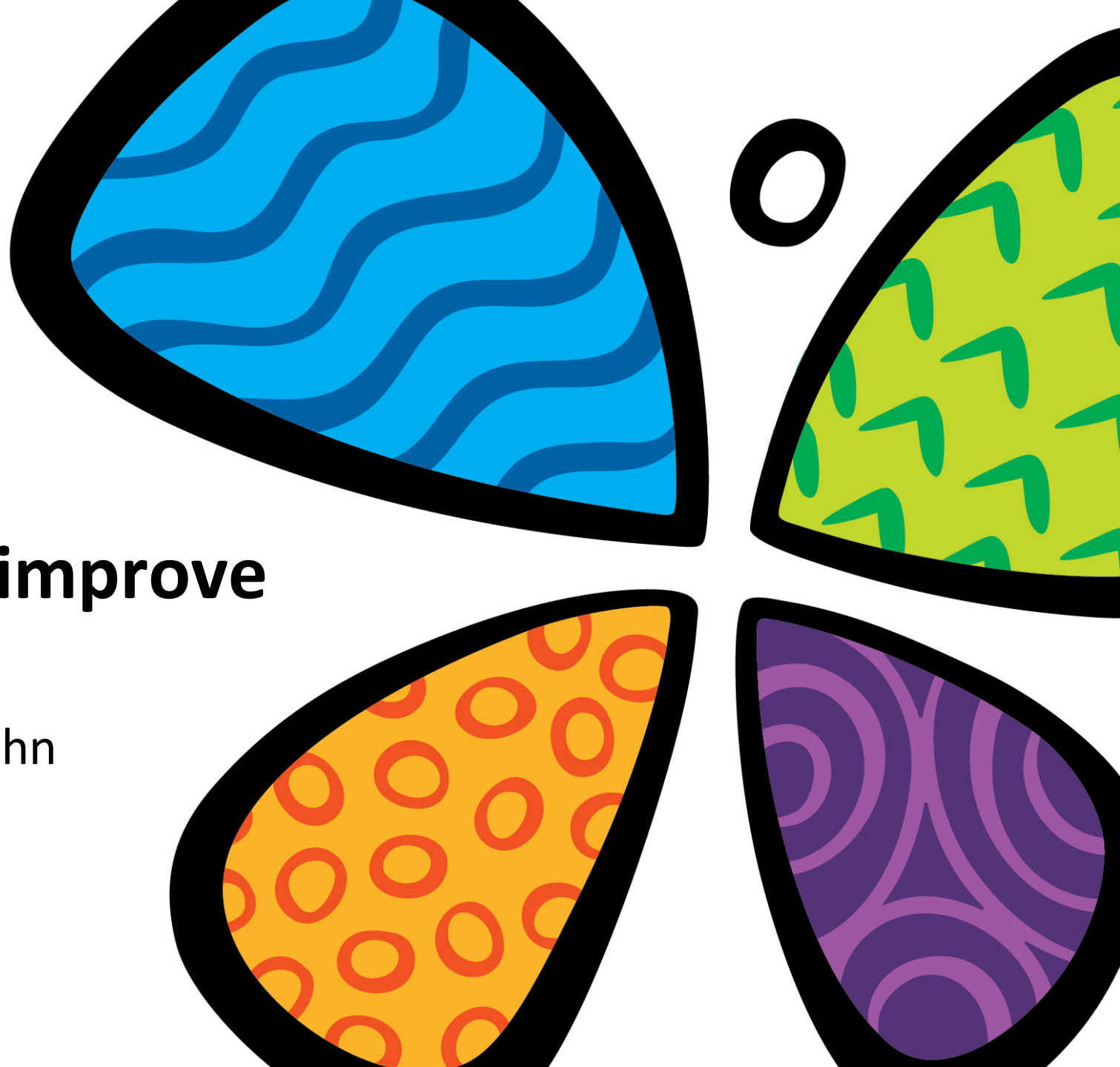




# Moving upstream to improve population health

Andrew F. Beck and Robert S. Kahn  
2019 Health Value Dashboard  
April 17, 2019



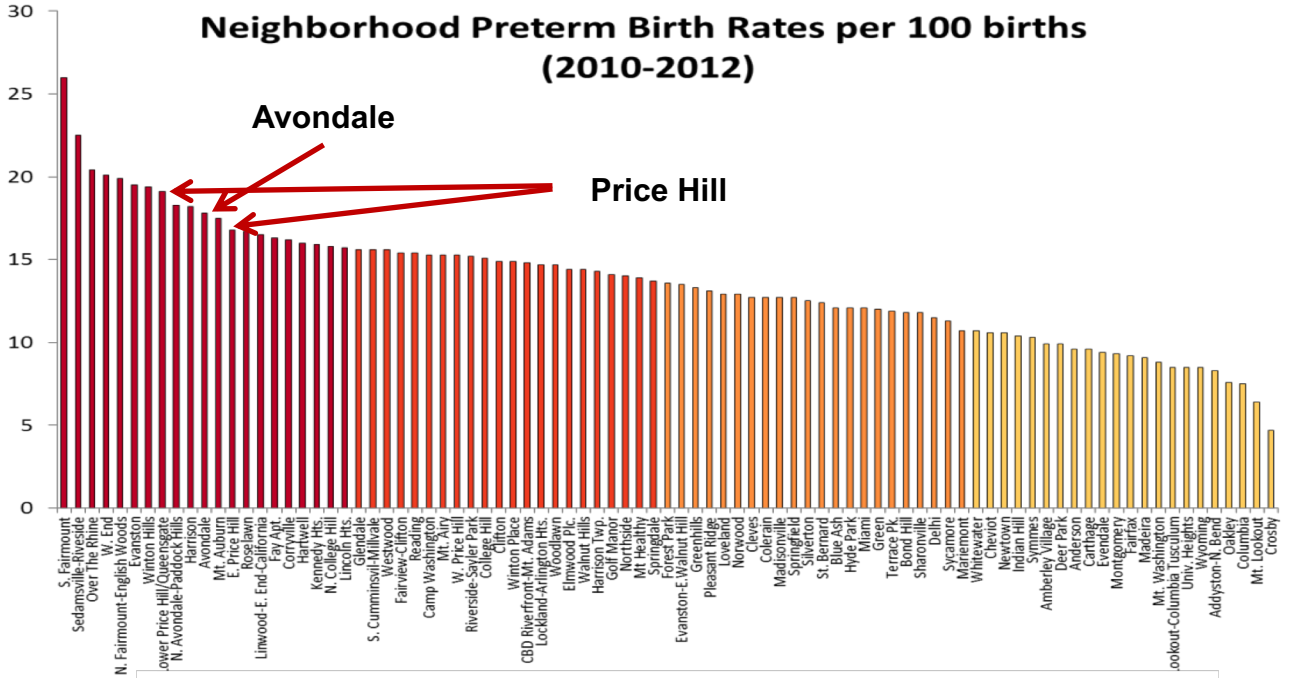
# Objectives

1. Illustrate the degree of health equity gaps across Greater Cincinnati
2. Discuss population health improvement efforts currently ongoing across our community
3. Introduce community-based quality improvement and community activation as methods vital to moving successfully upstream

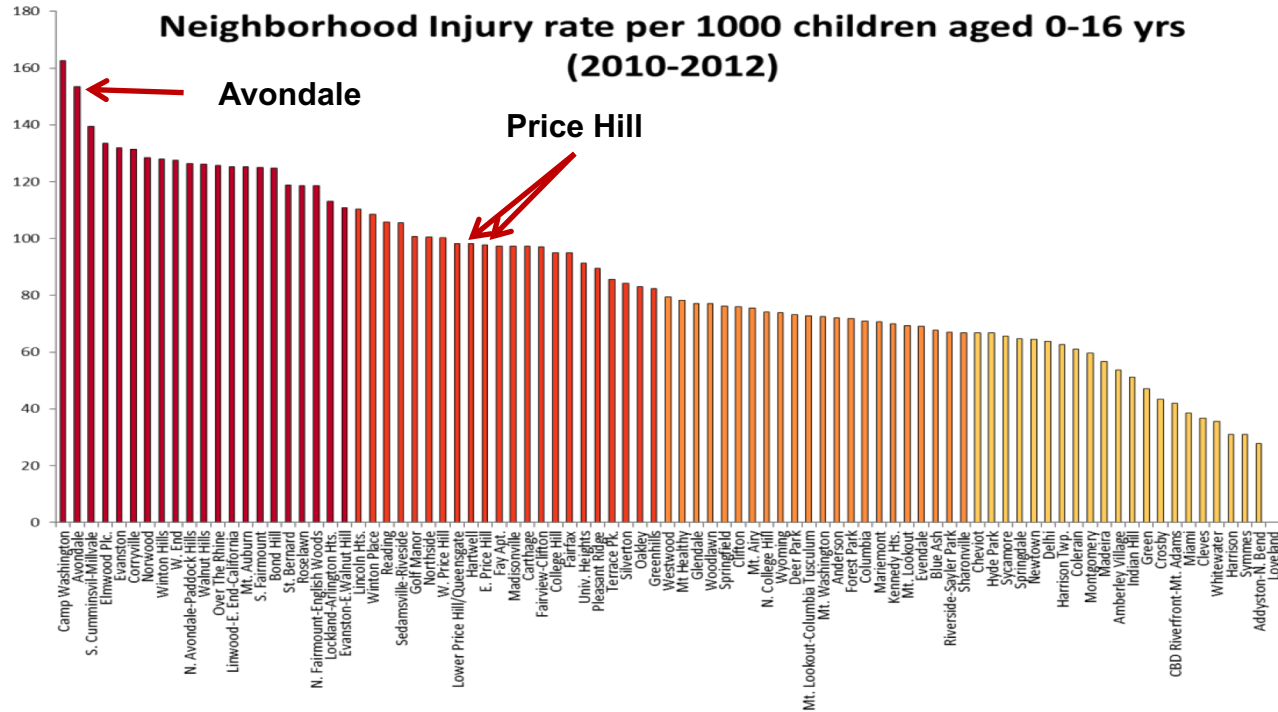
**Neighborhood asthma admission rate per 1000 children, Hamilton County, 3 year average (2010-2012)**



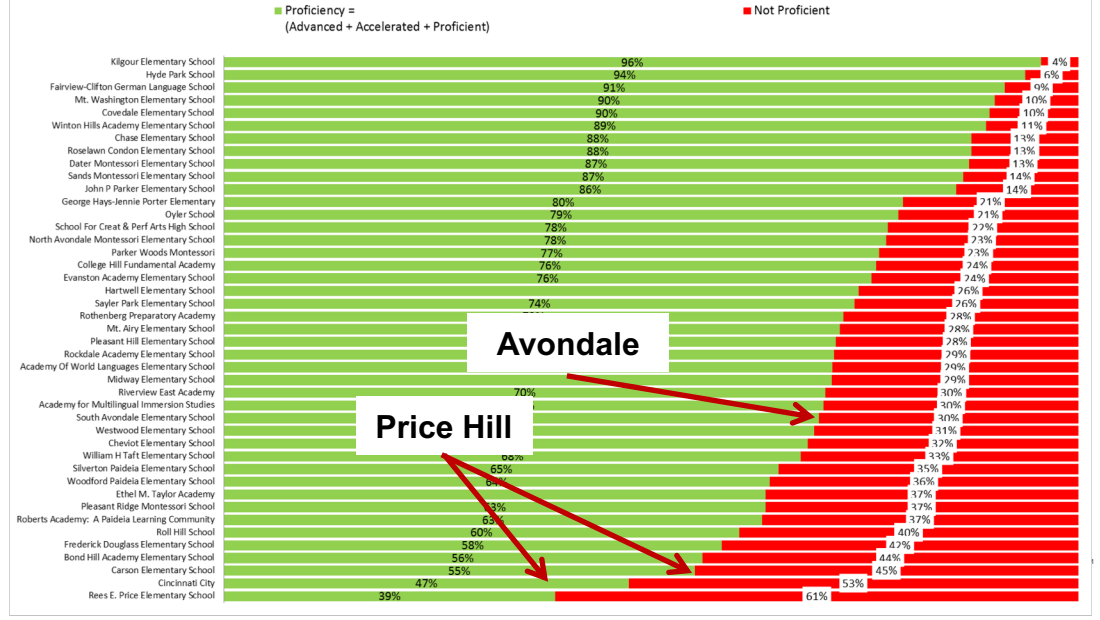
**Neighborhood Preterm Birth Rates per 100 births (2010-2012)**



**Neighborhood Injury rate per 1000 children aged 0-16 yrs (2010-2012)**



**3rd Graders reading proficiently or above, by building, ODE, 2014-2015**



# Clinical-community partnerships

## Example of **Medical-Legal Partnerships**

- Partnership between CCHMC and Legal Aid Society of Greater Cincinnati
  - In-clinic office staffed by attorneys and paralegals 5 days/week
  - Housing concerns, public benefit denials/delays, education services, family/custody issues
  - Work with city or county agencies if necessary
- Interdisciplinary advocacy training
- Outcomes to date (since 2008) for >5,000 referred families:
  - Reduced SDH-related risks
  - Early evidence of ↓ hospitalizations, bed-days
  - Pattern recognition – patient to population

## Patient → Population Health

## Client → Population Justice

- Physicians making multiple referrals during hot summer (A/C complaints)
- Team soon realize all from buildings with same absentee landlord
- Advocates assist in formation of tenant association

CINCY URBAN APARTMENTS  
1003 Lincoln Avenue  
Cincinnati, Ohio 45206  
(513) 221-1212  
(513) 221-4121 FAX

### NOTICE TO ALL RESIDENTS

May 24, 2010

At this time all residents are not permitted to install any a/c units for your apartment.

**Anyone with an a/c unit will be evicted immediately.**

Thank you  
Management



**Pattern recognition through collaboration:**

**1 patient → 16 households → Tenants of 670 units**



### When Doctor Visits Lead to Legal Help

By ERIK ECKHOLM  
Published: March 23, 2010

It was not the normal stuff of a pediatric exam. As a doctor checked the growth of Davon Cade's 2-month-old son, he also probed about conditions at home, and what he heard raised red flags.



Get more from The New York Times

Ciera Jones and her son, Jamari, 4, in a meeting with the Legal Aid Society of Greater Cincinnati at Cincinnati Children's Hospital this week. Ms. Jones said she was looking for a day-care facility for her son, who has asthma.

Enlarge This Image



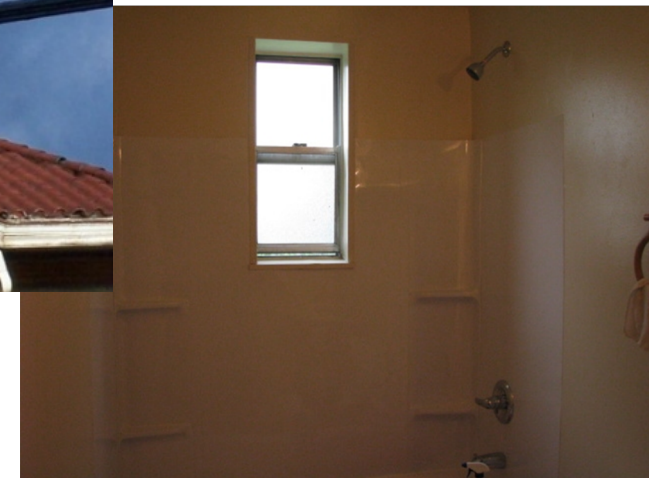
Ms. Cade's apartment had leaky windows and plumbing and was infested with roaches and mold, but the city, she said, had not responded to her complaints. On top of that, the landlord was evicting her for falling behind on the rent.

Help came through an unexpected route. The doctor referred Ms. Cade to the legal aid office right inside the pediatric clinic at Cincinnati Children's Hospital.

Within days, a paralegal had secured an inspection that finally forced the landlord to make repairs, and also got the rent reduced temporarily while Ms. Cade searched for less expensive housing.

"It got done when the lawyers got involved," Ms. Cade said. Doctors and social workers have long said that medical care alone is not enough to address the health woes of the poor, which are often related to diet, living conditions and stress.

- SIGN IN TO RECOMMEND
- TWITTER
- E-MAIL
- SEND TO PHONE
- PRINT
- REPRINTS
- SHARE



**Unit and building complex-level action – how can we systematize such work?**

# Cincinnati Children's | 2020 Strategic Plan

Care

Deliver exceptional, safe, and affordable care for every child and every family, every day

Community

Help Cincinnati's kids to be the healthiest in the nation through strong community partnerships

Discovery

Transform child health with our collaborative culture of discovery, translation and learning

Impact

Improve the lives of children everywhere by creating deeper connections with families, care providers and organizations

People

Realize our full potential by engaging, inspiring and enabling all employees to make a difference



# All Children Thrive Learning Network (ACT LN)

**Help Cincinnati's 66,000 kids be the healthiest in the nation through strong partnerships**

## **Morbidity and Mortality**

- Reduce annual infant deaths in Hamilton County
- Reduce disparity in hospital bed days focusing on 2 high risk neighborhoods

## **Thriving**

- Ensure 5 year olds have a 'healthy mind and body'\*
- Increase percent of children reading proficiently or above by 3<sup>rd</sup> grade in Cincinnati Public Schools

*\*Bundle measure: immunization, BMI, dental, behavior, vision, emergent literacy, speech, hearing*



# All Children Thrive Learning Network

Outcomes

Infant Mortality

Bed Day Disparity

Thriving at 5

3<sup>rd</sup> Grade Reading

Improvement  
Teams

Infant Mortality (Cradle  
Cincinnati)

Inpatient Bed Days  
Equity Team

Community Connected  
Primary Care

3<sup>rd</sup> Grade Reading

Cores

Community QI Capability

Social Influences in Neighborhood, Community Activation

Data Management and Analytics

In Home Supports

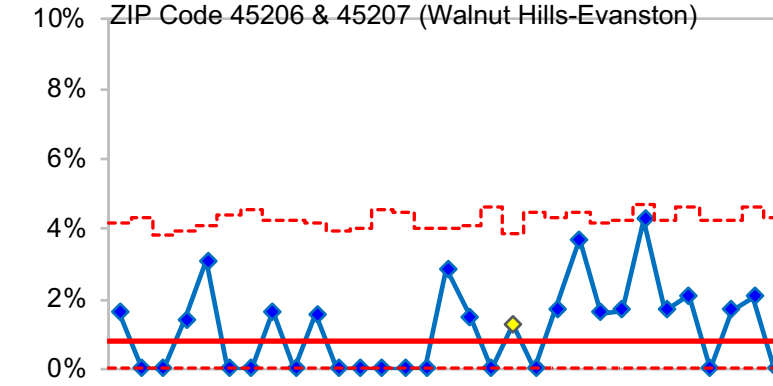
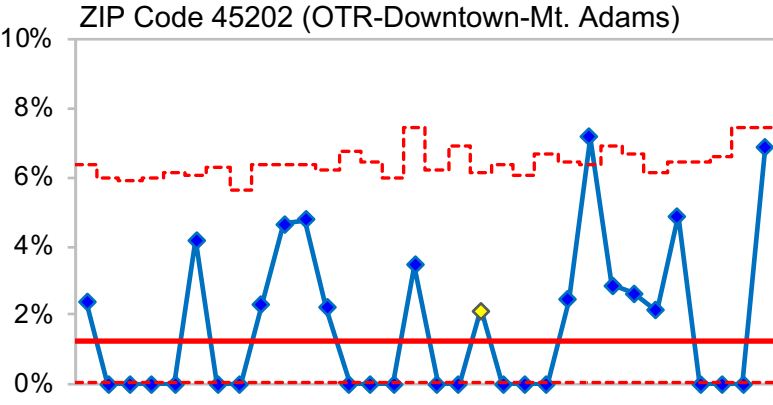
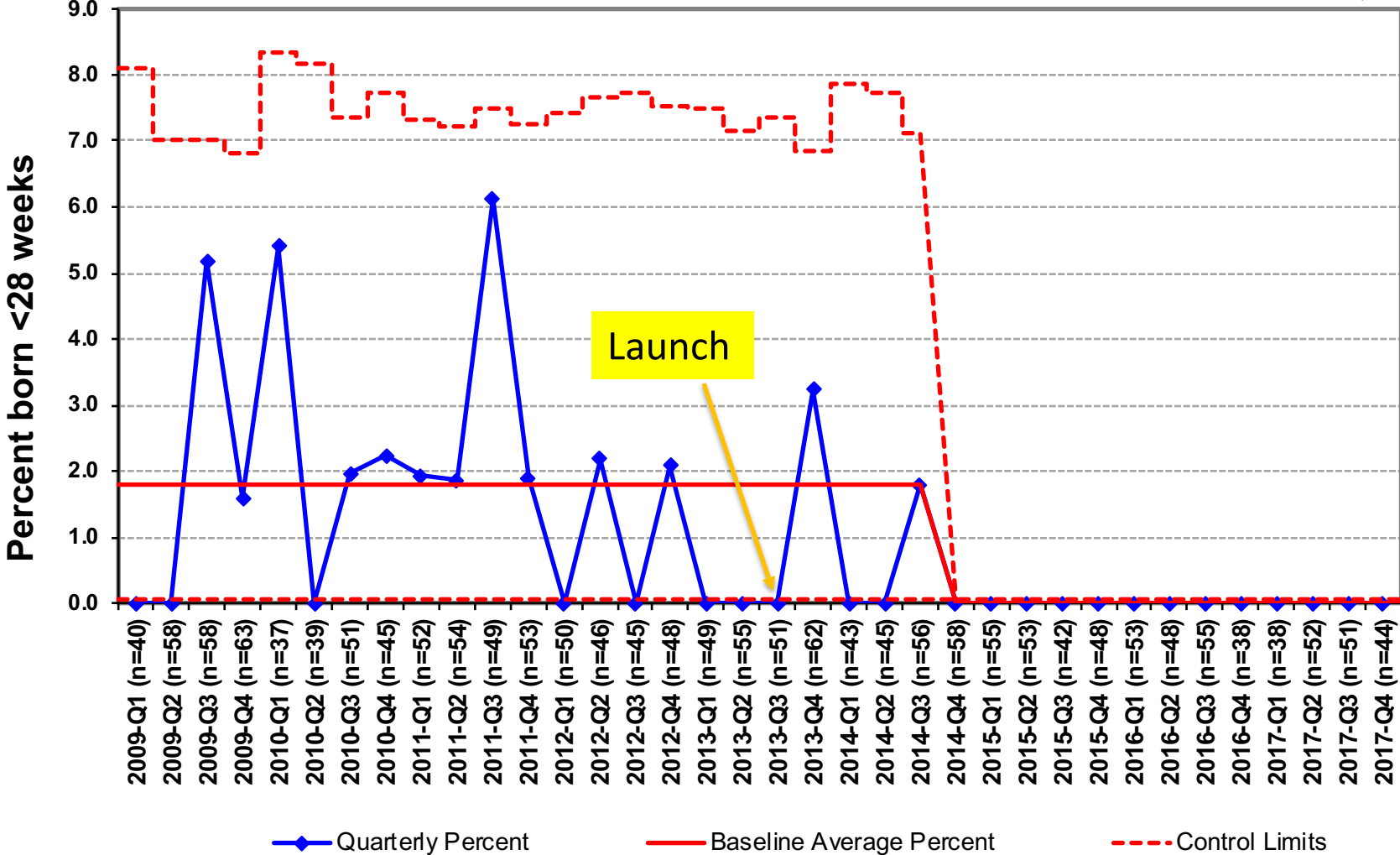


# INFANT MORTALITY REDUCTION

# Infant mortality

## Resident singleton extreme preterm births

in ZIP Code 45229 (Avondale - North Avondale), by quarter, 2009-2017  
(Obstetric estimate of gestation <28 weeks)



- ### Strategy
1. Find every mother
  2. Build trust
  3. Connect seamlessly

Source: Hamilton County Public Health. Updated by J. Best 1/17/18



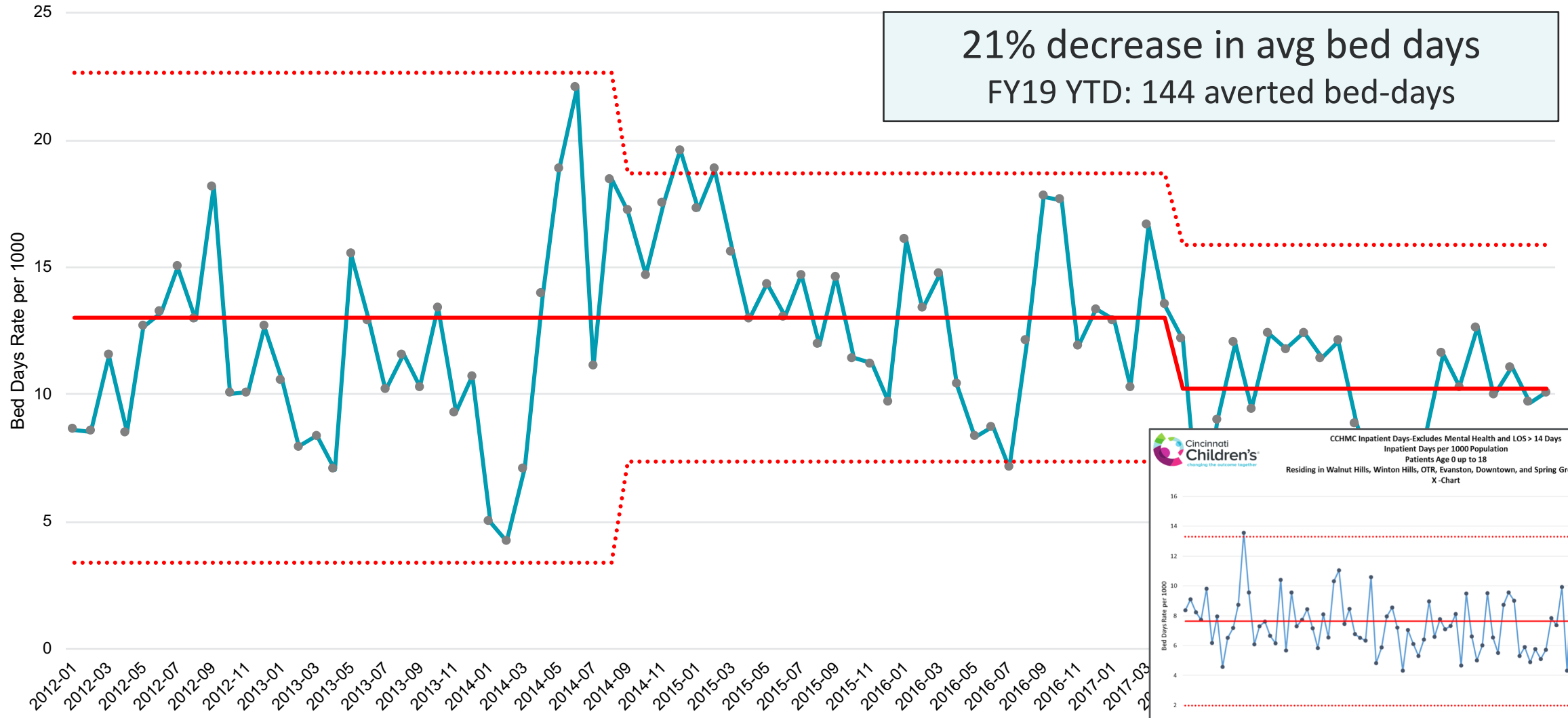
**REDUCE DISPARITIES IN BED-DAYS**

# CCHMC Inpatient Days-Excludes Mental Health

Inpatient Days per 1000 Population

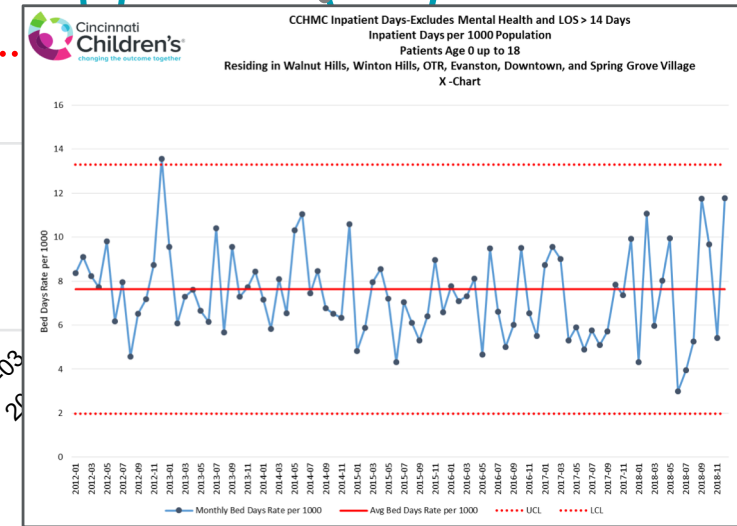
Patients Age 0 up to 18 Residing in Avondale, East & Lower Price Hill (Population=8,830)

X -Chart



Updated by:  
Kate Rich 2019-02

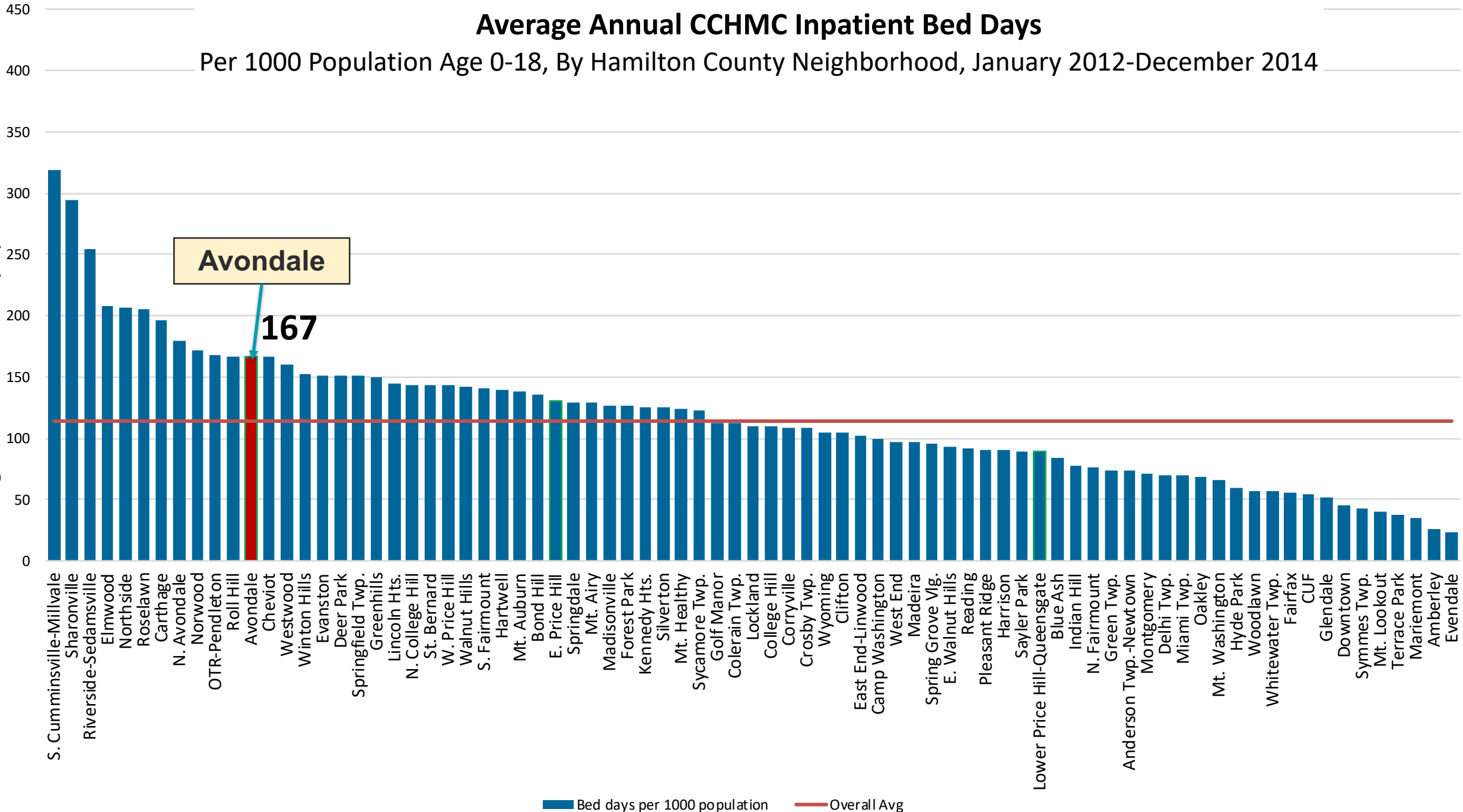
● Bed Days per 1000    
 — Avg Bed Days per 1000    
 ⋯ UCL    
 ⋯ LCL



# Average Annual CCHMC Inpatient Bed Days

Per 1000 Population Age 0-18, By Hamilton County Neighborhood, January 2012-December 2014

Average Annual Bed Days per 1000



Bed days per 1000 population Overall Avg

# Average Annual CCHMC Inpatient Bed Days

Per 1000 Population Age 0-18, By Hamilton County Neighborhood, FY 2018

Average Annual Bed Days per 1000

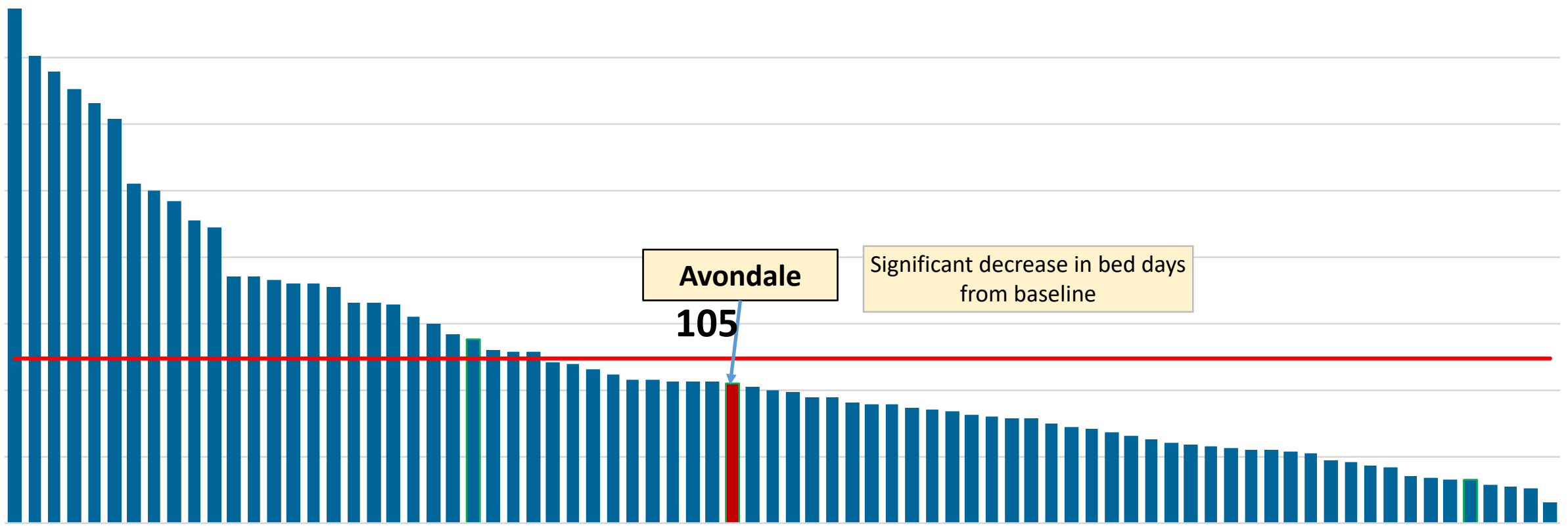
450  
400  
350  
300  
250  
200  
150  
100  
50  
0

Lincoln Hts.  
N. Fairmount  
Winton Hills  
Mt. Healthy  
N. College Hill  
Bond Hill  
Westwood  
Riverside-Sedamsville  
Downtown  
Roll Hill  
Miami Twp.  
Forest Park  
College Hill  
Mt. Airy  
Clifton  
Walnut Hills  
S. Cumminsville-Milvale  
Mt. Lookout  
Norwood  
West End  
Colerain Twp.  
Lockland  
OTR-Pendleton  
E. Price Hill  
Fairfax  
Whitewater Twp.  
Amberley  
Roselawn  
Montgomery  
Blue Ash  
Spring Grove Vig.  
Carthage  
Sharonville  
Mt. Washington  
Deer Park  
Greenhills  
Avondale  
Evanston  
Springfield Twp.  
Hartwell  
S. Fairmount  
Hyde Park  
Oakley  
Corryville  
Cheviot  
Reading  
Springdale  
Kennedy Hts.  
Sycamore Twp.  
Silverton  
W. Price Hill  
Anderson Twp.-Newtown  
CUF  
Golf Manor  
Harrison  
Madisonville  
Green Twp.  
N. Avondale  
East End-Linwood  
Delhi Twp.  
Northside  
Symmes Twp.  
Wyoming  
Mt. Auburn  
Crosby Twp.  
Pleasant Ridge  
Madeira  
Glendale  
Elmwood  
St. Bernard  
Indian Hill  
Saylor Park  
E. Walnut Hills  
Lower Price Hill-Queen sgate  
Mariemont  
Terrace Park  
Woodlawn  
Evendale

**Avondale**  
**105**

Significant decrease in bed days  
from baseline

Bed days per 1000 population Overall Avg





**HELPING CHILDREN THRIVE AT 5**



# Increase Healthy Mind and Body at Age Five

## PHYSICAL HEALTH

Fully vaccinated

Healthy teeth

Healthy vision

Healthy hearing

Healthy weight

## LANGUAGE/COMMUNICATION/COGNITIVE DEVELOPMENT

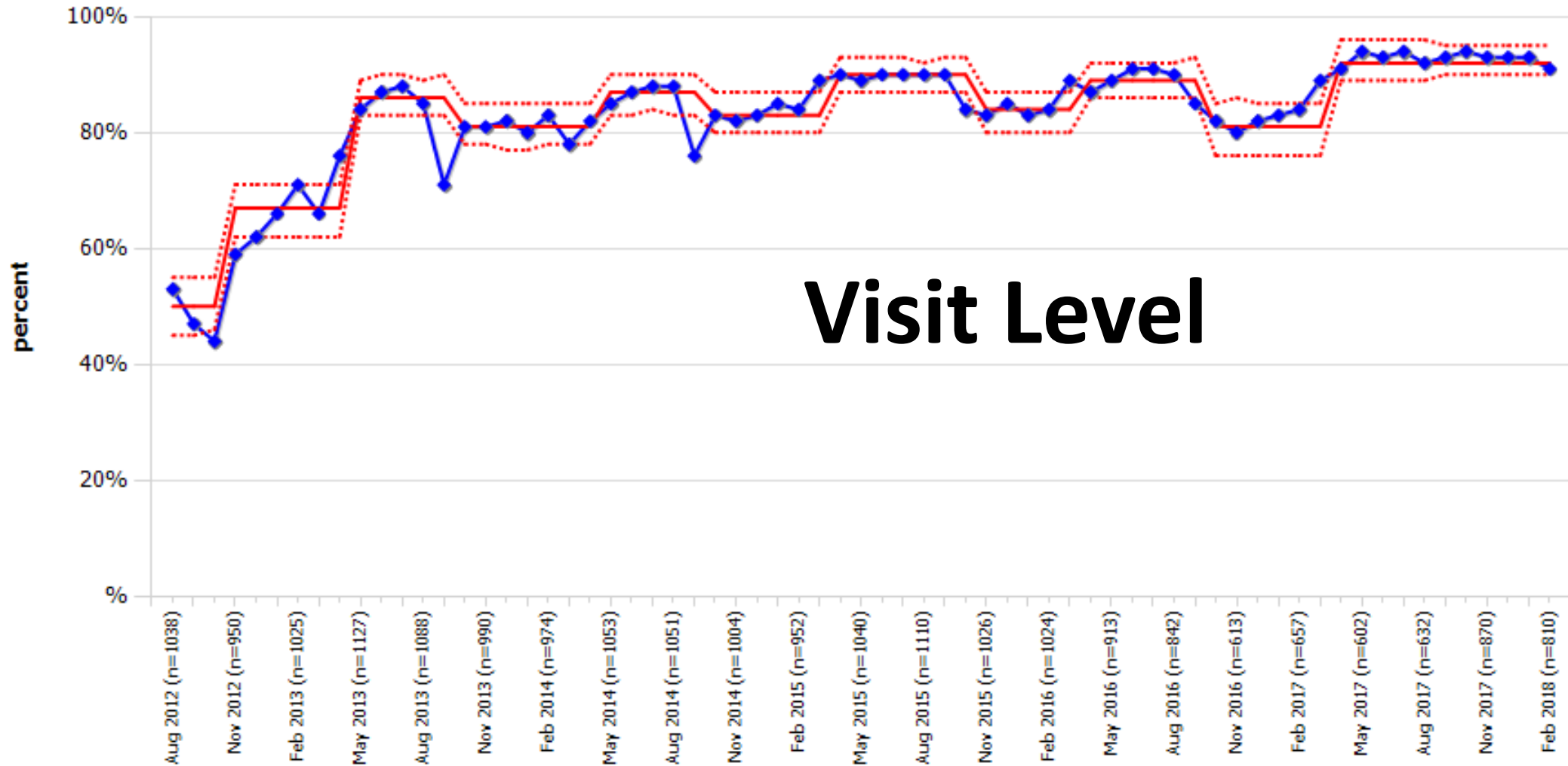
Normal speech

Normal literacy

## SOCIAL COMPETENCE AND EMOTIONAL MATURITY

Mental, emotional, behavioral health

**% of GP pts 0-14 mths receiving all eligible preventative services  
General and Community Pediatrics - Main Hospital**



**Visit Level**



— Mean    ····· Control LCL    ····· Control UCL    - - - - Measure Goal    — Measure Value

Desired Direction



Immunizations  
Vision  
Dental  
Hearing  
**Speech**  
**Behavioral health**  
**BMI**  
**Emergent literacy**

Thrive at 5 Health Outcomes

CCHMC  
Primary  
Care

Community  
Partners  
(e.g.,  
Parents, ECS,  
Head Start)

Health Dept  
Primary  
Care

Engaged Families

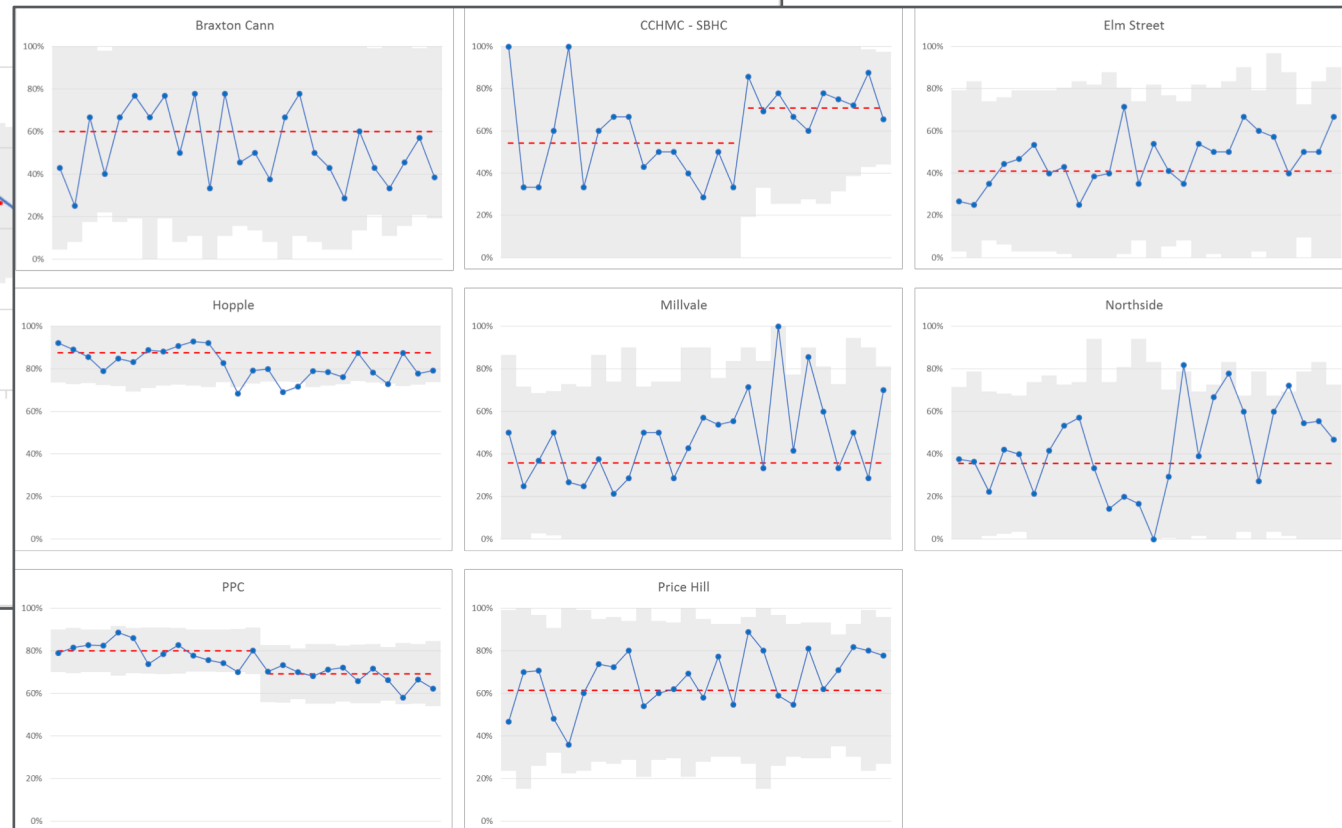
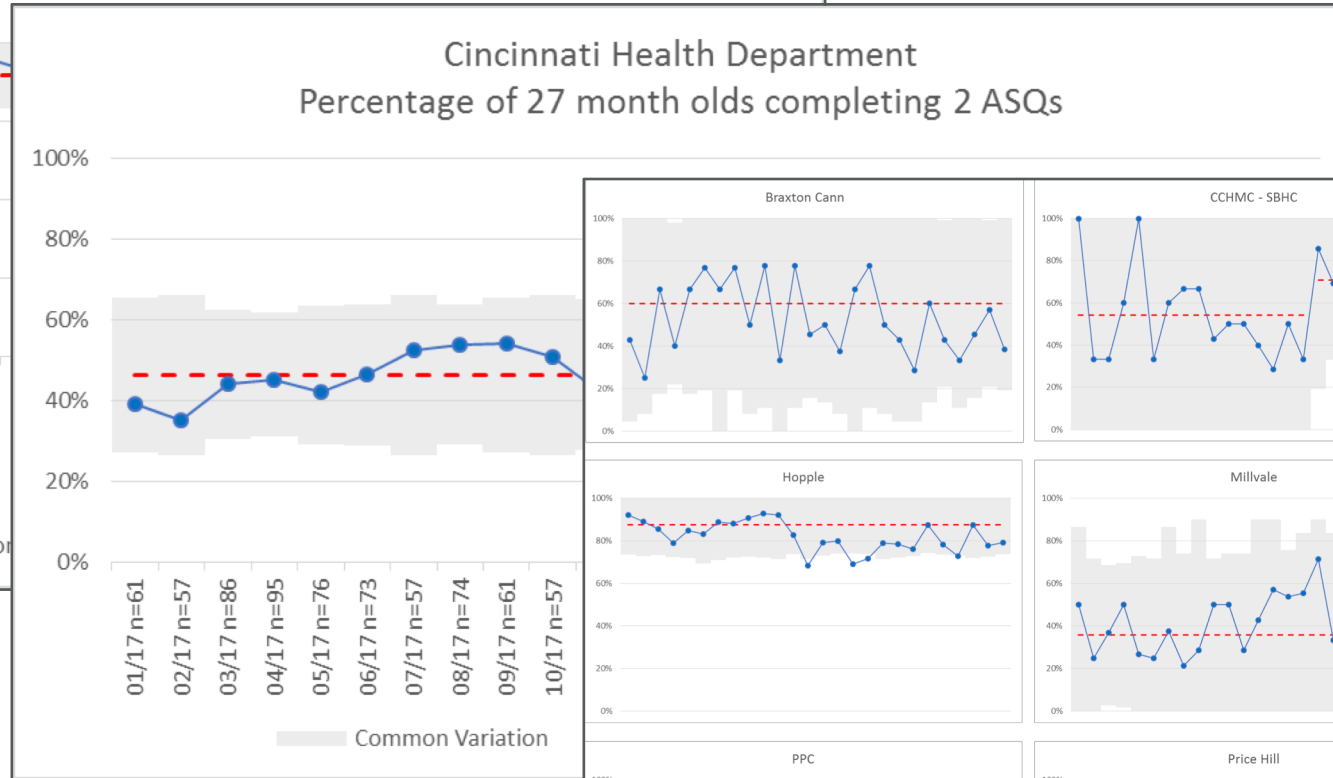
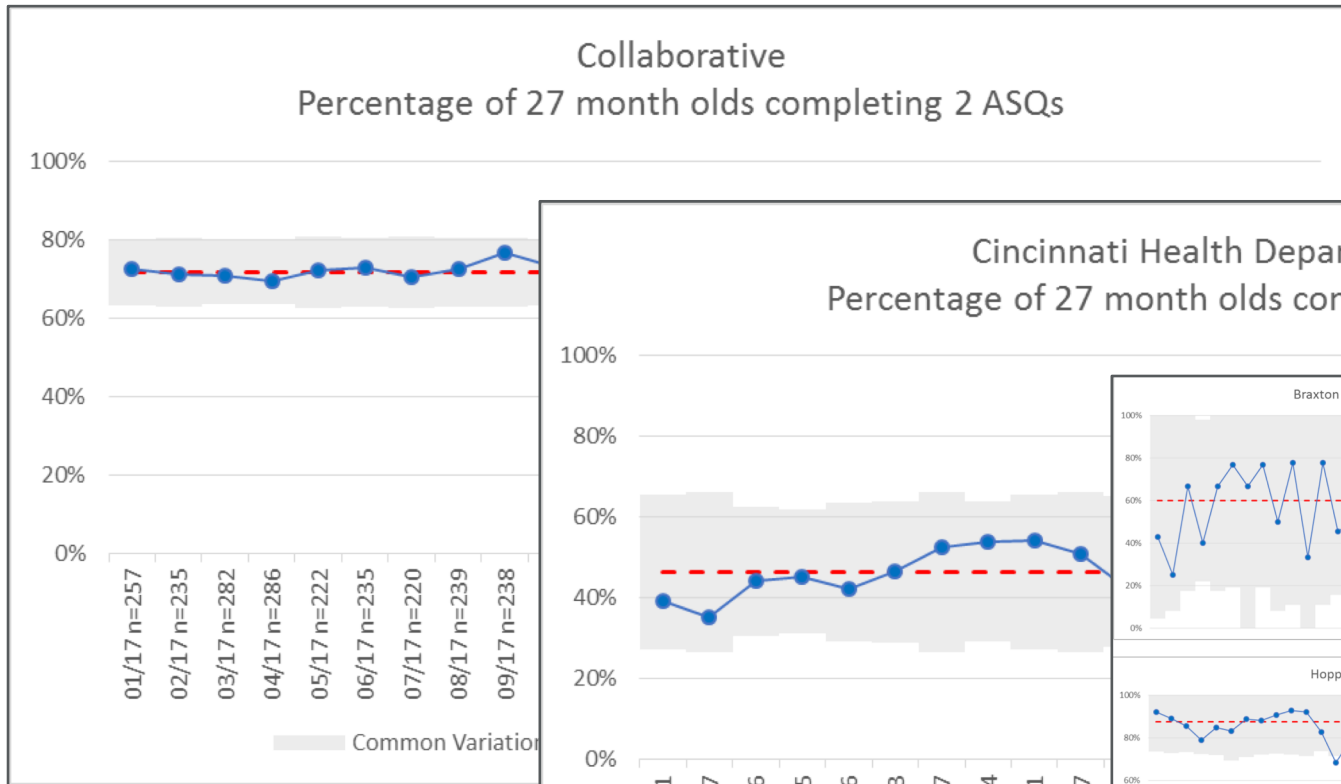
*Less Connected  
Families*

Engaged Families

*Less Connected  
Families*

Cincinnati's Children and Families

# Thrive at 5 – All Cincinnati Collaborative



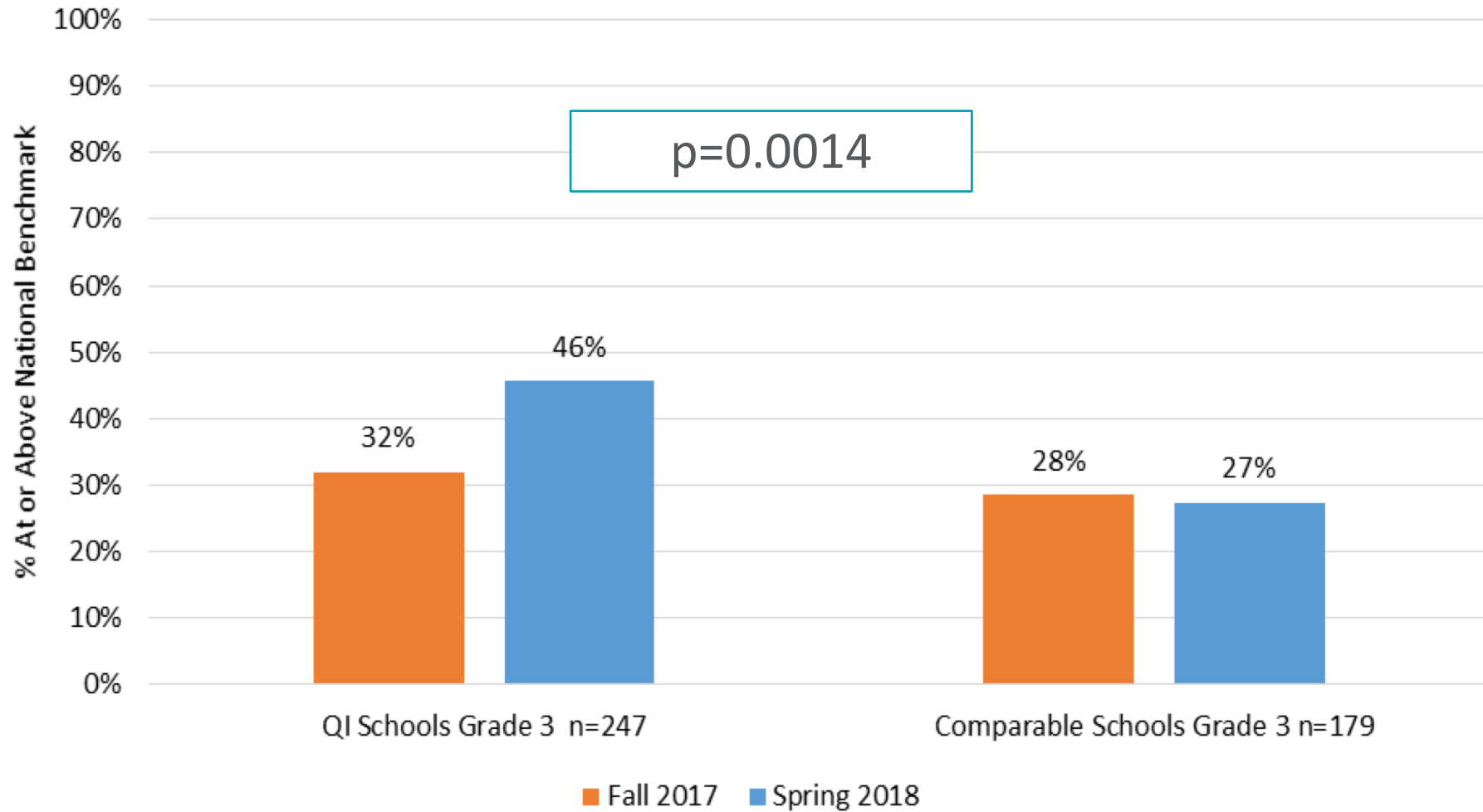
Braxton Cann  
Elm Street  
Millvale  
Northside  
Price Hill  
Roll Hill SBHC



## 3<sup>RD</sup> GRADE READING IMPROVEMENTS

Cincinnati Public Schools  
% of 3rd Grade Students  
Meeting or Exceeding National Benchmark on MAP Reading Test  
2017-2018

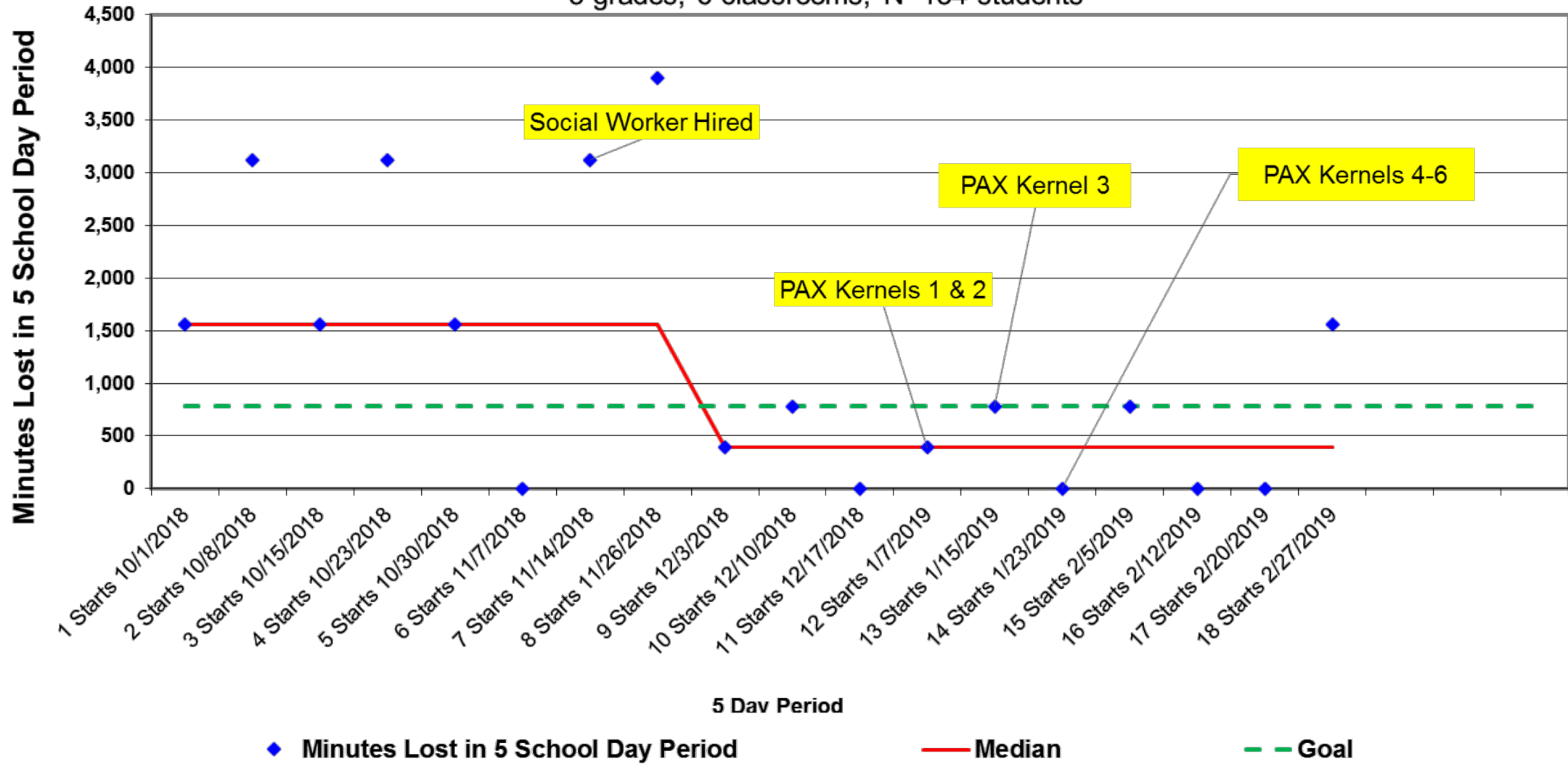
Includes students who were in same CPS school all year and took all three tests

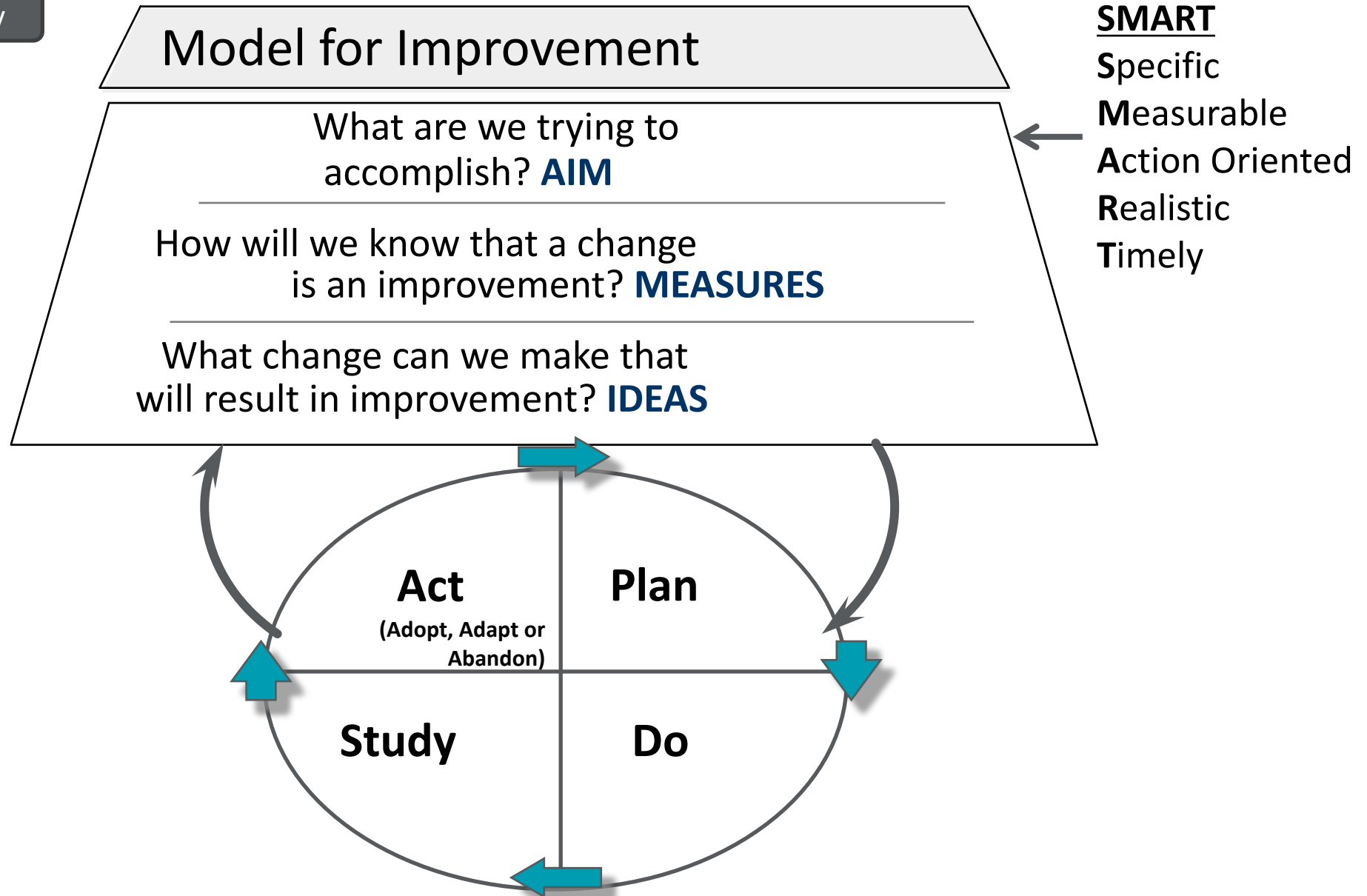


# Minutes of Lost Instruction Due to Behavioral Infractions, School a



3 grades, 6 classrooms, N=134 students





Building a reliable system



# Progress and Integration

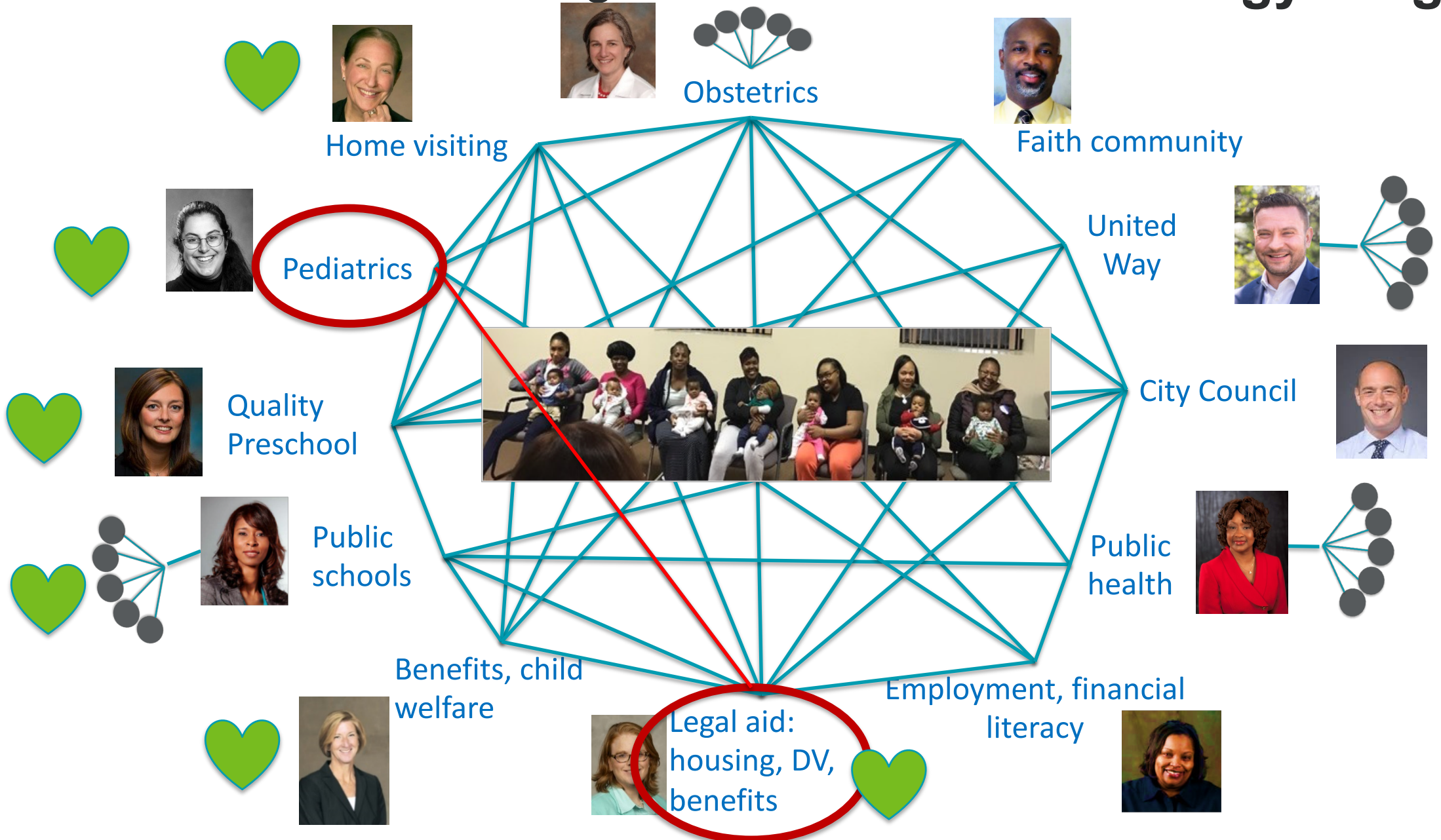
## All Children Thrive Learning Session

- Families at the center, co-designing solutions
- Across teams, sectors
- Rapid learning

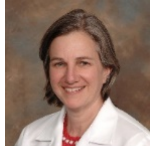


# All Children Thrive Learning Network: (

# HPIO Strategy Bingo



Home visiting



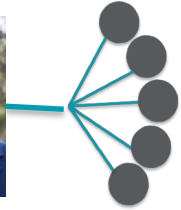
Obstetrics



Faith community



Pediatrics



United Way



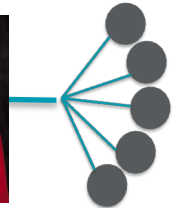
Quality Preschool



City Council



Public schools



Public health



Benefits, child welfare



Legal aid: housing, DV, benefits



Employment, financial literacy



# Summary Elements

- Clear shared vision and goals
- Inherently motivated leaders
- Measurement system
- Children and family centered
  - Empathy and trust building
- Quality improvement approach
  - Frequent testing, transparent results, data for improvement not evaluation
- Share seamlessly, steal shamelessly



# Questions? Comments?

[Andrew.Beck1@cchmc.org](mailto:Andrew.Beck1@cchmc.org)  
@afbeckMD

[Robert.Kahn@cchmc.org](mailto:Robert.Kahn@cchmc.org)  
@DocRob64

<https://www.actnowcincy.org>



CINCINNATI

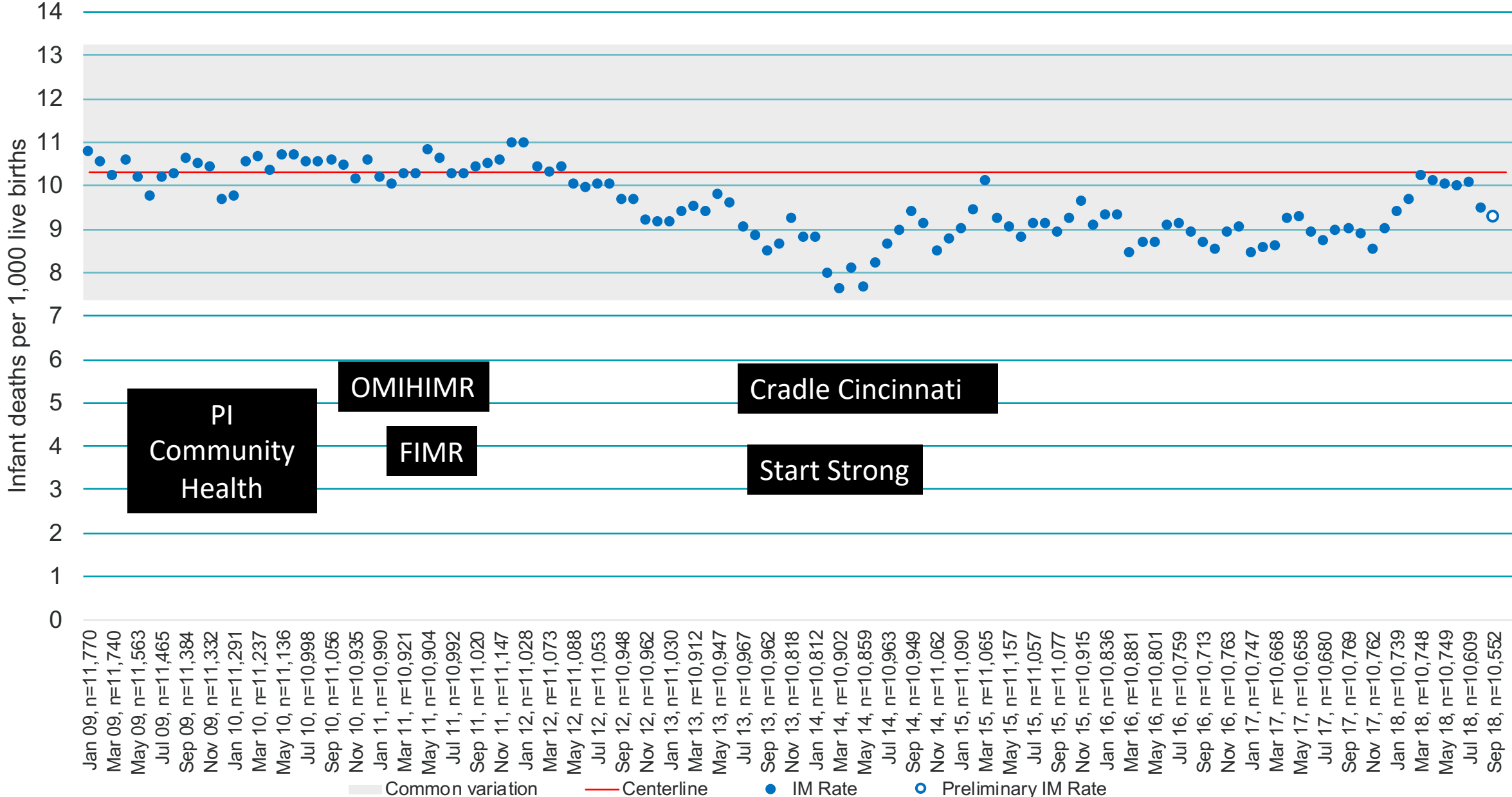
# Activating partners and building capacity

Importance of going beyond “population health management” to address upstream factors and social influencers of health, including policy and programmatic strategies to dismantle drivers of inequities and disparities.



**Infant mortality**

# Hamilton County infant mortality rate 12-month moving average



Source: Hamilton County Public Health. Updated by Stuart Taylor, 11/14/18  
 Source: Hamilton County Public Health. Updated by Stuart Taylor, 11/14/18

# Data is Visible in QI Classrooms, Students Own their Data

## ACT

We studied our results from 11/7-11/10

We improved ----

We did not improve ✓

+	△
- Bingo game Sorting	- Dibels practice Attendance

## PLAN

Dates- 11/14-11/17

I will tell 10 more sounds in words.

I know I have it when...  
I get 10 more points on PSF for Dibels on Thursday.

## STUDY

Pre-Test PSF

## DO

Mrs. Lawson will

Students will

Strategy Bank

- Dibels practice
- Robot talk
- Teacher Station
- Teacher Station
- Role play-robot talk
- Finger Spell
- Dibels Practice
- Dibels practice
- Finger Spell



# QI capability, stakeholder activation, family-centered co-design



Emily Campbell  
@mlepcampbell

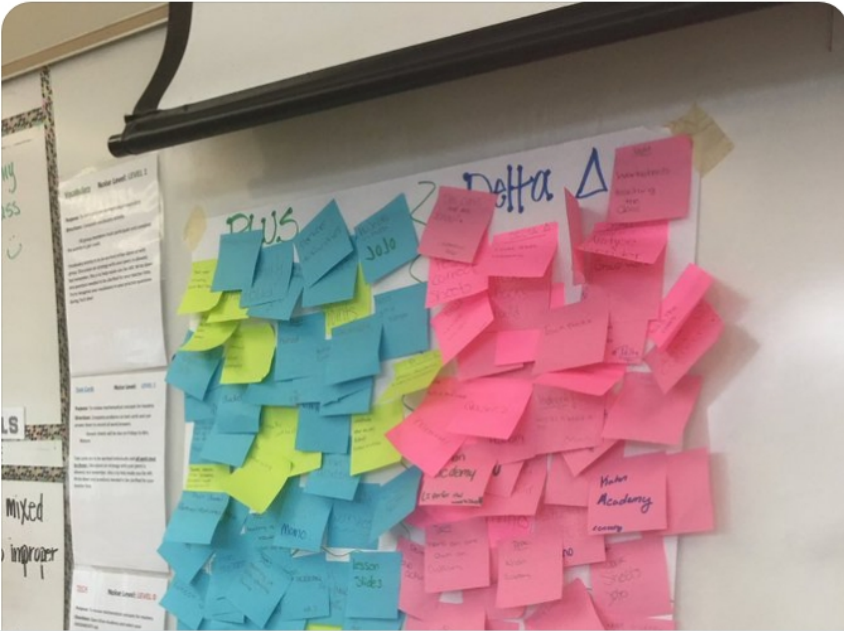
Following

Today we choose to collectively use Quality Improvement to "be the best at getting better." @CincyChildrens @StriveCincyNKY @tianay2000 @CargileLori @Walters\_HCESC



Crystal Watson  
@CPSWatsonsClass

Plus / Delta on Module 1. Next we will plan for Module 2! #CPSQI #iamcps #cpsmathandme @TimmersAimee @mlepcampbell @lylesle1 @MrADLewis @HartwellCPS



Tweet your reply



# Community QI Capability

## ImpactU: Multi-sector leaders and shared 'how' of getting better

Multi-Work stream

Santa Maria Community Services  
President

**United Way**  
Senior Vice President

Work streams

3<sup>rd</sup> grade reading  
Early Childhood Education

**Cincinnati Public Schools**  
Assistant Superintendent

4C for Children  
Quality Programs Specialist

Children's Home  
Education Management

Community Action Agency  
Head Start Exec Director

**Cincinnati Public Schools**  
Superintendent

Community Connected  
Primary Care

Northside Pediatric Clinic  
Nurse

Crossroads Pediatric Clinic  
Pediatrician

School Based Health Center  
Nurses

**Cincinnati Health Dept**  
Health Commissioner

Neighborhoods in  
Social Influences

Legal Aid  
Managing Atty – Benefits, Health

**Urban League**  
Executive Director

The Community Builders  
Resident Life Director

Cincinnati Metropolitan  
Housing Authority

**LISC**  
Executive Director

United Way  
STEPS (2 generational coaching),  
Program Director

Infant Mortality

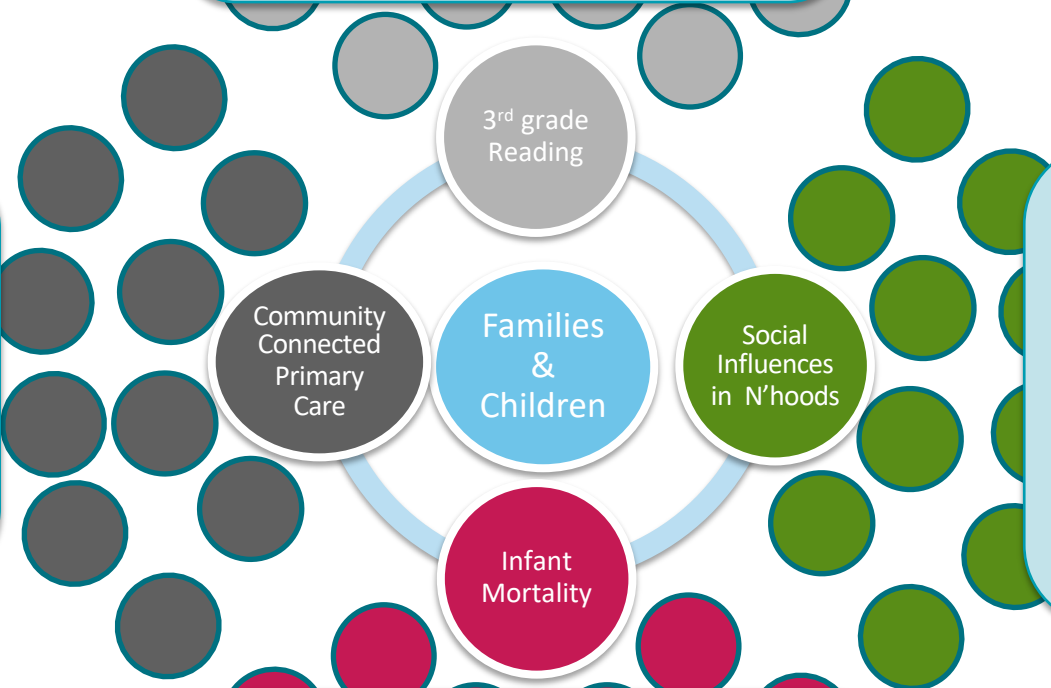
Cincinnati Health Dept.  
Millvale OB Clinic  
Nurse Practitioner



# All Children Thrive Learning Network

**3<sup>rd</sup> Grade Reading**  
*(Amat, Campbell)*  
Cincinnati Public Schools  
Success by Six Coalition  
4C's Child Care Resource Center  
Community Action Agency/Head Start  
Strive Partnership  
Pediatric Clinics

**Community Connected Primary Care**  
*(Crompton/Mansour)*  
Cincinnati Health Department  
Behavioral Health Agencies  
Home Visiting  
Community Action Agency/Head Start  
Pharmacies



**Neighborhood Social Influences**  
*(Riley)*  
Place Matters/LISC  
Greater Cincinnati Urban League  
Santa Maria Community Svcs  
The Community Builders  
Legal Aid Society Greater Cincinnati  
>20 Families

**Infant Mortality**  
*Cradle Cincinnati*  
*(Adcock/Greenberg)*  
FQHC Obstetric Teams  
Good Samaritan Hospital  
University of Cincinnati Hospital  
Every Child Succeeds,  
Comm Health Workers