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.
Using data to prioritize action on the social determinants of health

Andrew F. Beck, MD MPH
Center for Care Innovations Webinar
November 16, 2017
Outline

• Patient-level social risk data to inform care delivery
• Neighborhood-level social risk data to inform population health improvement
• Prioritizing and analyzing data to support Cincinnati’s neighborhood-based improvement efforts
  • Data sharing and merges
  • Hospital-community partnerships
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?
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.”
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

REFERRALS
- Allergy/Immunology
- Audiology ≤ 6 months
- Audiology > 6 months
- BMCP (Behavioral Medicine and Clinical Psychology)
- Cardiology
- DBF (Developmental Delay and Behavioral Pediatrics)
- Dermatology
- Early Intervention
- Endocrinology
- ENT
- Otorhinolaryngology
- Genetics
- Genomics
- Hematology/Oncology
- HealthWorks!
- Health Law Partnership (HoLP)
- Hypertension
- Nephrology
- Neurology
- Neurosurgery
- Nutrition (CCHMC)
- Nutrition (FPG)
- Occupational Therapy
- Ophthalmology
- Orthopedics
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
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
Patient-level risk assessment (inpatient)

Environmental history

Cincinnati Health Department referral

Chronic management
Controller Medication - {CHRONIC:304400039}
In-hospital consults and referrals - {CONSULTS/REFERRALS:304400040}
Community referrals - [Community Referrals 304400041]
Asthma act as other ***
Close follow up with primary care physician
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 inpatient asthma unit
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
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 **place** influence patient care?
Enhance Place-Based Risk Assessments

- No car
- Mental health challenges
- Food insecure
- Mold present

Asthma-related ED visits and hospitalizations
- Crime rate
- Poverty rate
- Housing code violation density
- Medically underserved areas
- Cincinnati neighborhoods

Food insecure, mold present, and no car contribute to enhancing 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

High poverty: Low poverty inpatient bed-day ratio
- Appendicitis = 1.30
- Epilepsy = 1.66
- Respiratory infection = 2.07
- Injury = 2.28
- Gastroenteritis = 2.33
- DKA = 3.28
- Asthma = 6.77
A neighborhood approach

Moving from push-pins ...

... 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

**Innovative Research**
- Place-based predictors of health outcomes
- Enhance ongoing research

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

**Community-centered QI**
- Identification and depiction of disparities across conditions (and subspecialties)
- Delineate targets for SMART aims
- Facilitate visualization and transparency \(\rightarrow\) activation
Data/infrastructure to cool “hot spots”
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
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 rate 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

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
Questions? Comments?

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Thank you!

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