

# Coordinating Care Among Stakeholders to Raise Healthy Families

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of Pediatrics



DEDICATED TO THE HEALTH OF ALL CHILDREN™

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# Symposium Objectives

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- Discuss community and clinical care stakeholders' beliefs regarding roles and responsibilities for care domains and their attitudes toward electronic data coordination solutions
- Highlight key lessons learned on developing systems to coordinate coordinating care between clinical and community providers
- Discuss the importance of mental health screening in community and clinical settings and how coordinating care will improve health services



# The Problem

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1 of 3 children in the United States  
are overweight or obese before age 5



**In less than 2 decades  
42% of today's kids will be obese<sup>2</sup>**



<sup>1</sup>Pan, et al., JAMA, 2012; 2012;308:2563-2565

<sup>2</sup>Finkelstein, et al., Am J Prev Med, 2012

# The first 1000 days

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- Rapid change in diet, metabolic, and behavioral systems are *opportunities*
- Early onset obesity comorbidities are more serious
- Infants and toddlers don't tend to “grow out of it”
- Dietary patterns are established early in life
- Experimental studies suggest promising strategies for early obesity prevention (T1 and T2)

# The Intervention Nurses Start Infants Growing on Healthy Trajectories (INSIGHT) Study

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*EarlyInsight*



*for new parents*

- Ongoing Randomized Controlled Trial
- Recruit first time mothers from labor and delivery
- Nurse home visits, videos, mailings

**Primary Aim:** To test the efficacy of an intervention designed to prevent rapid weight gain in infancy and overweight at 3 y by providing guidance on responsive feeding and healthy dietary choices.



# INSIGHT Intervention Components



Feeding



Responsive Parenting



Sleep

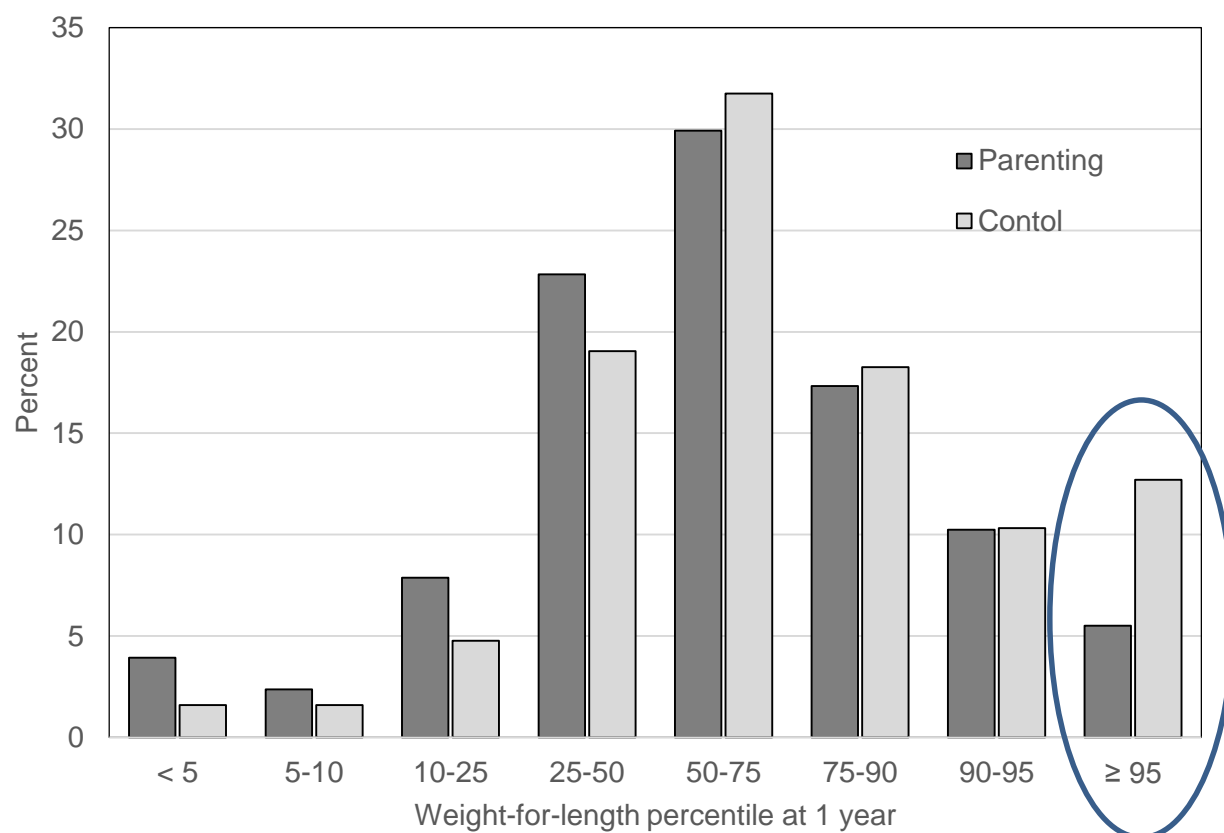


Fussing and  
Soothing



Active  
Social Play

# Lower weight-for-length percentile at 1y in parenting intervention group



5.5% in parenting infants

12.7% of control infants were overweight

Overweight = weight/length  $\geq 95^{\text{th}}$  percentile



# Next step: translation to broader population

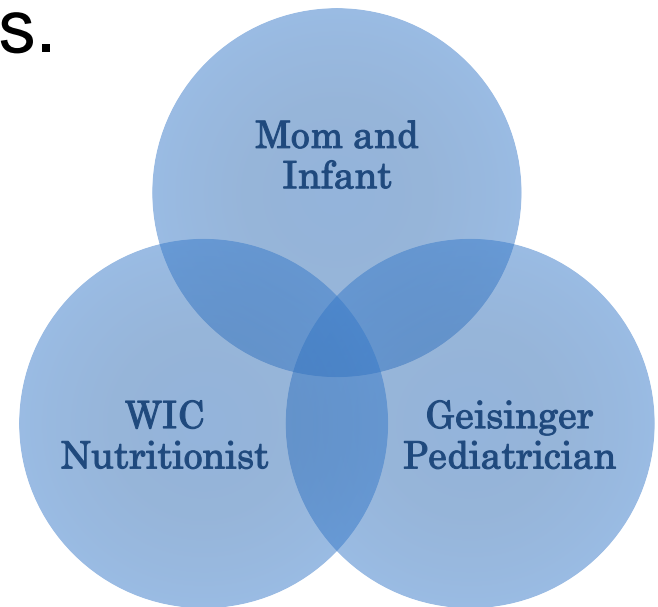
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- Large trials like INSIGHT demonstrate program efficacy, but....
  - Expensive, not feasible on large scale
  - Home delivery intervention
  - Homogenous population – highly educated, high income, low depression
  - Inclusion criteria: first time mothers
  - May not translate well to other populations
- How do we translate to broader populations?

# Goal of R40

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Develop an individually-tailored behavioral intervention designed to prevent overweight among low-income infants by providing coordinated, personalized care on responsive parenting across multiple settings.



# Goal of R40

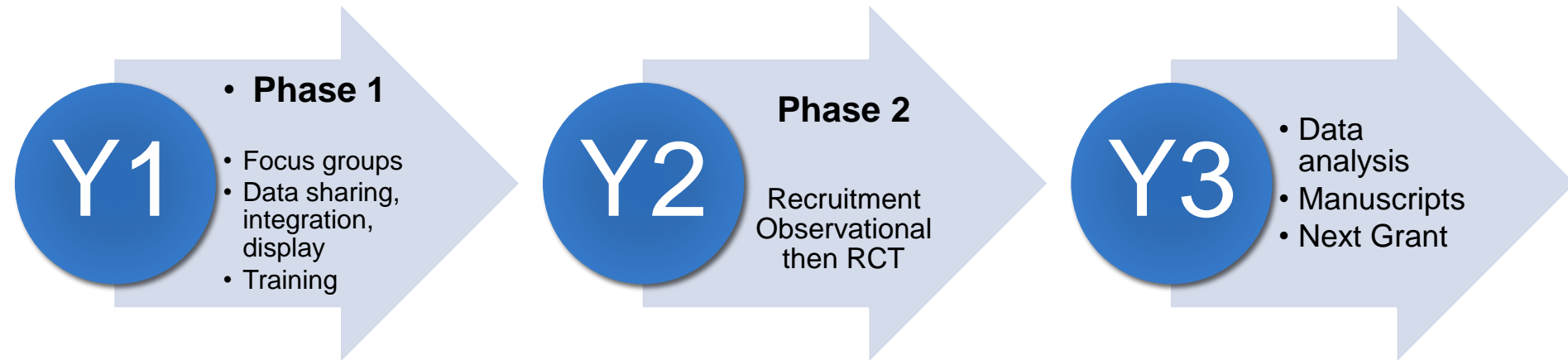
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## Coordination of care is definition:

- Deliver the same, consistent messages
- Providers will communicate preventive care plans and education with each other

	3-5 day	1 mo	2 mo	6 mo	9 mo	12 mo
WCV	X	X	X	X	X	X
WIC	X		X	X	X	X

# Research Project Overview



# Phase 1 Lessons Learned: Formative Research

1. Establishing an interdisciplinary team that includes community partners takes TIME and requires administrative leadership

# Establishing an Interdisciplinary Team that includes Community Partners

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- Center for Childhood Obesity Research
- Geisinger Health Systems Obesity Institute
  - Maternal and Pediatric Obesity Research
  - Department of Pediatrics
  - Center for Clinical Innovations
  - EPIC programmers



# Interdisciplinary Team Members

- Center for Childhood Obesity Research
- Geisinger Health Systems Obesity Institute
- American Academy of Pediatrics
  - Sandra Hassink, President, American Academy of Pediatrics
  - Janice Liebhart: Evaluation Manager, Institute for Healthy Childhood Weight
  - Alison Baker: Institute for Healthy Childhood Weight
  - Jeanne Lindros, Manager, Institute for Healthy Childhood Weight



Sandra Hassink, MD

# Interdisciplinary Team Members

- Center for Childhood Obesity Research
- Geisinger Health Systems Obesity Institute
- American Academy of Pediatrics
- Women, Infants, and Children
  - Shirley Sword: Chief, Nutrition Services Section
  - William Cramer: Director, WIC
  - Greg Johnson: IT, WIC
  - Local agency



Shirley Sword, MS, RD

# Interdisciplinary Team Members

- Center for Childhood Obesity Research
- Geisinger Health Systems Obesity Institute
- American Academy of Pediatrics
- Women, Infants, and Children
- INSIGHT intervention PIs



Ian Paul, MD, MSc  
Professor of Pediatrics and Public  
Health Sciences  
Chief, Division of Academic  
General Pediatrics



Leann Birch  
Professor of Nutrition  
University of Georgia

# Phase 1: Formative Research

1. Establishing an interdisciplinary team that includes community partners

2. Stakeholders we have spoken with:

- Focus groups: WIC nutritionists (n = 35)
- Interviews: Primary care providers (n = 15)
- Interviews: GHS patients/WIC parents: (n = 28)
- Interviews were transcribed and grounded-theory approach was used to independently open-code transcripts. Categories were identified and emerging themes reported.

# Phase 1: Lessons learned from parents

- Dislike the rigidity of the nutrition education provided by the WIC program
- Receive conflicting information from WIC, health care providers and their own families
- Think “every baby is different” and “I know best, instincts” when making decisions about feeding and caring for infant or toddler
- Want more individualized messages on feeding and caring for their child.

# Phase 1: Lessons learned from Community Nutrition and PCP

**Data sharing:** WIC nutritionists and pediatricians were enthusiastic about sharing and having access to data (e.g., progress note, immunizations, anthropometrics, formula)

## **Coordination of care**

### WIC:

- Conflict in messaging is prevalent (not clear the source: mother reporting bias or actual doctor reports... “grapevine effect”)
- Concerns: time management/work flow, and technology access (i.e., web access)

### GHS Primary Care Providers:

- Value feeding guidance provided by WIC, but disagree with some WIC policies/guidance (e.g., juice)
- Conflict in anthropometric measures between PCP and WIC
- Have little concern about time to review WIC information



# Phase 1: Lessons learned from Community Nutrition and PCP

## **Who is the expert?**

- WIC nutritionists reported trivializing their training as the expert by deferring to the physicians (“ask your physician”).
- Mothers/caregivers trust advice based on relationship; less dependent on credentials
- Both WIC and Pediatricians express that “it takes an army to parent a child” and that responsive parenting guidance is a shared responsibility.

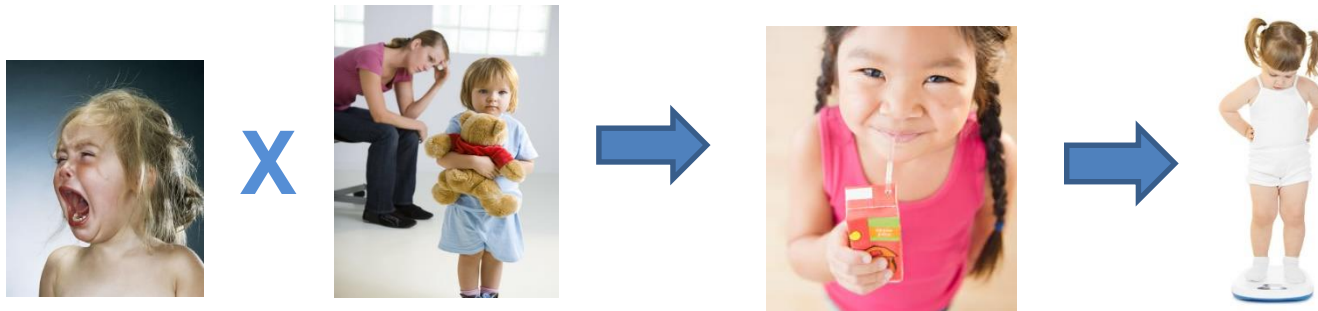
# Phase 1: Lessons learned from Community Nutrition and PCP

## **Depression**

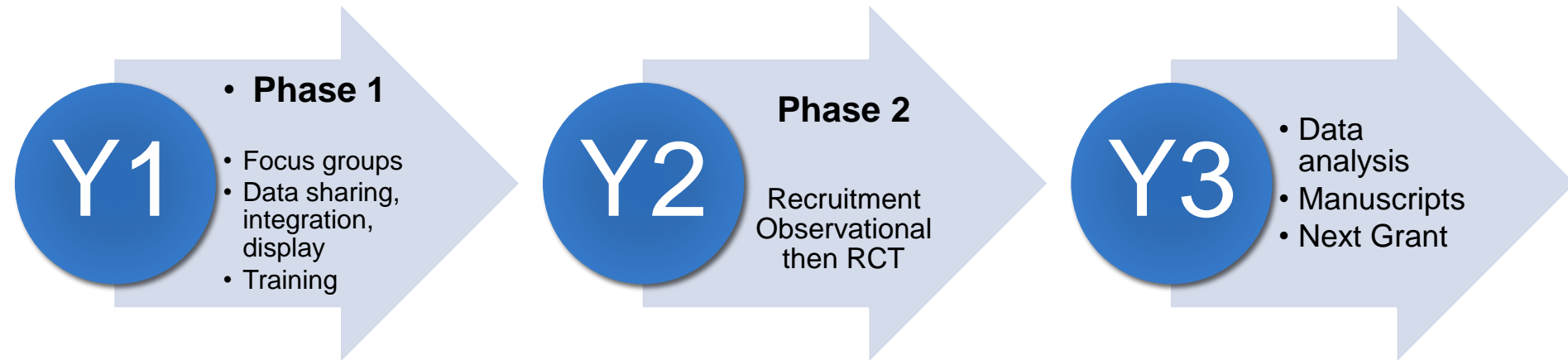
- WIC (half willingly) expands practice to screening for depression. Concerns about not being trained and lack of resources/referral procedures. Need for formal training
- Doctors report being unprepared to handle mental health referrals
- Scope of practice: parent chart is hard to get

## Maternal psychosocial factors (e.g., depression) may also influence feeding behavior and child weight

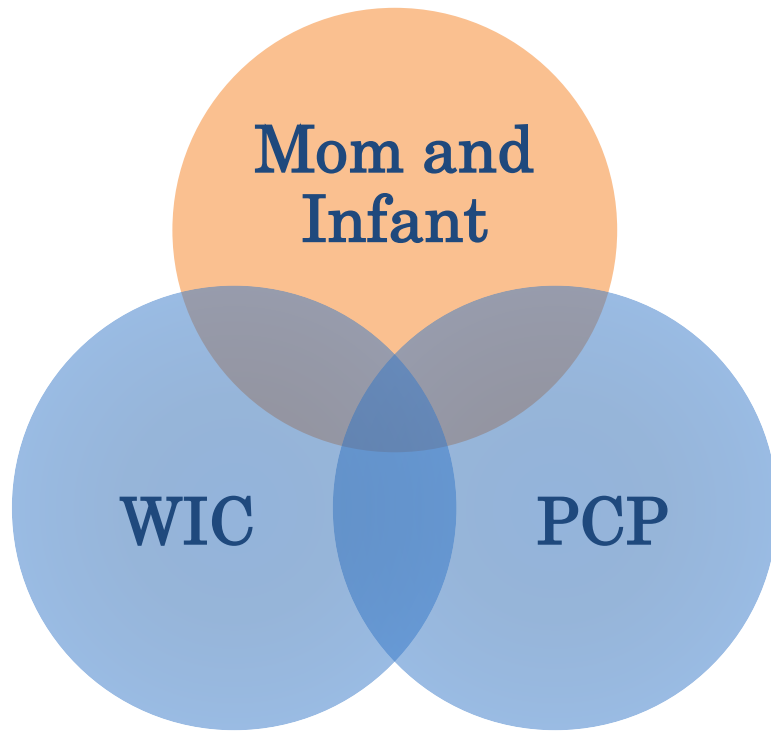
- Depression rates are high among low-income mothers (40-59%)
- Some evidence shows that depressed mothers are:
  - Less sensitive and more negating to their children (*Murray et al. 1996*)
  - More likely to endorse a non-responsive feeding style (*Hurley et al., 2008*) and tend to have heavier children (*Gross et al. 2013*)



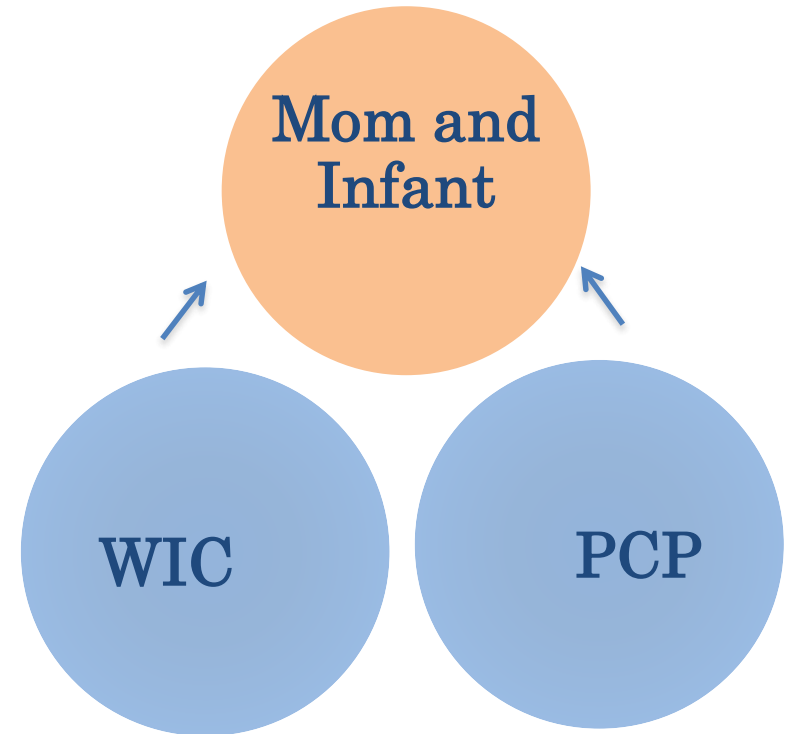
# Research Project Overview



## Phase 2: Randomized Controlled Trial



**Treatment (n=145):**  
Responsive Parenting Curriculum  
Personalized Messaging  
Data Sharing  
Care Plan Coordination



**Standard of Care Control  
(n=145)**

# Intervention components: Responsive Parenting



## Healthy Active Living for Families



Start today. Help your child stay at a healthy weight for life.  
Yes, it's true! The first years set the stage for healthy habits for the rest of your child's life. It's never too early to start.

We know how important the first years are for getting your child off to a healthy start. We also understand that being a parent is an important — and hard — job! So we talked to hundreds of parents to find out what advice when it comes to raising a healthy active child.

### Food & Feeding

Good eating habits begin early.

**baby**  
0 to 12 months

**toddler**  
1 to 3 years

**preschool**  
3 to 5 years

### Physical Activity

Even small children need to get moving.

**baby**  
0 to 12 months

**toddler**  
1 to 3 years

**preschool**  
3 to 5 years

### Tips for Parents

Being a parent is an important job!

**baby**  
0 to 12 months

**toddler**  
1 to 3 years

**preschool**  
3 to 5 years

## Early Insight



### for new parents

#### Early Insight: Helping parents raise healthy babies in the first 4 months



#### Main responsive parenting intervention themes:

- Recognition and appropriate response to infant hunger and fullness cues
- Alternatives to feeding in order to soothe infant
- Promoting adequate sleep, self-soothing, "settling"
- Developmentally appropriate introduction of solid foods and portion sizes



# Intervention Components: Data Sharing



- Name (child/parent)
- Date of birth
- Child's health insurance
- WIC participant
- Brand and product name of formula
- Breastfeeding status
- Hemoglobin/Hematocrit
- Length/Weight
- Food allergies
- Special pediatric conditions
- Neurological and psychiatric disorders
- Gastrointestinal disorders
- Hepatic, pancreatic, and biliary disorders
- Endocrine disorders
- Nutrition disorders
- Musculoskeletal disorders
- Cancer
- Renal disorders
- Cardiovascular disorders
- Immunizations
- Well child visit date
- WIC visit date

# Intervention Components: Early Healthy Living (EHL) Screening Tool to provide clinical decision support to personalize messaging

## • Examples of Care Coordination Topics

2. Select beverages that your child drank in the past week.

<input type="checkbox"/>	Breastmilk	
<input type="checkbox"/>	Formula	
<input type="checkbox"/>	Milk	
<input type="checkbox"/>	Water	
<input type="checkbox"/>	100% Juice	
<input type="checkbox"/>	Fruit punch, Fruit drink, Iced Tea, Lemonade, Soda	

		Yes	No
12.	I sometimes nurse, give a bottle, or something to eat as a way to keep my child quiet or to calm my child when he/she is upset.	<input type="checkbox"/>	<input type="checkbox"/>
13.	I try to get my child to finish his/her bottle, snacks or meals.	<input type="checkbox"/>	<input type="checkbox"/>
14.	Do you usually use a cellphone, laptop or computer, or have the television on when you are feeding or playing with your child?  	<input type="checkbox"/>	<input type="checkbox"/>
15.	Is the television usually on in the room where your child goes to sleep at night?	<input type="checkbox"/>	<input type="checkbox"/>

5. How sleepy is your child when you put him/her to bed?

☐ Wide awake



☐ Awake but drowsy/sleepy









☐ Already asleep



# Intervention Components: Coordinated Care

## Conceptual view of Epic (PCP View)

EHL Topic	Patient-Reported Data (Report Date: 11/01/15)	Topic Discussed during WCV
Beverages in past week 	Formula; 100% Juice	
	WIC Discussion (Report Date: 10/07/2015): Beverages	
Child put to sleep (start/end) 	8:00 PM/12:00 AM	
	WIC Discussion (Report Date: 10/07/2015): Sleep Routine WIC Note: Reoccurring topic. Co-sleeping. Family stressor.	

# Intervention Components: Coordinated Care

## Conceptual view of Quick WIC (Nutritionist View)

### HRSA Nutritional Survey and WIC Information

#### Demographics

Child First Name: Timmy  
 Child Last Name: Little  
 Child Middle Name:  
 Date of Birth: 1/1/2016  
 Child Current Age: 2 months, 30 days  
 Child Study ID: 1  
 Child WIC Person ID: 24630372

Caretaker First Name: Mamma  
 Caretaker Last Name: Little  
 Caretaker Middle Name: A  
 Caretaker Date of Birth: 12/31/1990  
 Caretaker Current Age: 25 years, 3 months  
 Caretaker Study ID: 2  
 Caretaker WIC Person ID: 24630303

#### Geisinger Vist Information 2016-03-17 ▼

#### Encounter DX or Active PL

Adrenoleukodystrophy: ■  
 Bronchopulmonary Dysplasia: ■  
 Cardiovascular Disorder: ■  
 Cleft Palate: ■  
 Cystic Fibrosis: ■  
 Downs Syndrome: ■  
 Failure to Thrive: ■  
 Food Allergies: ■  
 Hematology: ■  
 Hirschsprungs Disease: ■  
 Inborn Errors of Metabolism: ■  
 Musculoskeletal Disorders: ■  
 Necrotizing Enterocolitis: ■  
 Nutritional Rickets: ■  
 Phenylketonuria: ■  
 Renal Disorders: ■  
 Tyrosinemia: ■

Biliary Atresia: ■  
 Cancer: ■  
 Cerebral Palsy: ■  
 Congenital Heart Disease: ■  
 Cystinosis: ■  
 Endocrine Disorders: ■  
 Fetal Alcohol Syndrome: ■  
 Gastrointestinal Disorder: ■  
 Hepatic, Pancreatic and Biliary Disorders: ■  
 Homocystinuria: ■  
 Maple Syrup Urine Disease: ■  
 Myelomeningocele: ■  
 Neurological and Psychiatric Disorders: ■  
 Nutrition Disorders: ■  
 Prader-Willi Syndrome: ■  
 Spina Bifida and Neural Tube Defects: ■  
 Wilsons Disease (Hepatolenticular Degeneration): ■

# Intervention Components: Coordinated Care

## Conceptual view of Quick WIC (Nutritionist View)

### Immunizations

DTP/DTAP: ■  
 Hep B: ■  
 MMR: ■  
 Polio: ■  
 Varicella: ■

Hepatitis A: ■  
 HIB: ■  
 Pneumococcal: ■  
 Rotovirus: ■

### EHL Questionnaire

What is your relationship to the child being seen for an appointment today: I do not live with the child, but care for the child regularly

The child has had Formula in the past week: ■

The child has had 100% Juice in the past week: ■

When preparing a bottle, how many ounces did you put in the bottle at each feeding: 1-2 oz.

When it comes to eating, the child doesn't eat enough: ■

When it comes to eating, the child is always hungry: ■

When it comes to eating, the child spits out healthy food: ■

I try to get the child to finish their bottle, snacks or meals: ■

How sleepy is the child when you put them to bed: Awake but drowsy/sleepy

The child has had Breastmilk in the past week: ■

The child has had Milk in the past week: ■  
 The child has had Water in the past week: ■

The child has had Fruit punch, fruit drink, iced tea, lemonade or soda in the past week: ■

I sometimes nurse, give a bottle, or something to eat as a way to keep the child quiet or to calm them when they are upset: ■

When it comes to eating, the child eats the right amount: ■

When it comes to eating, the child eats too much: ■

When it comes to eating, the child is picky: ■

Do you usually feed the child when they wake at night: ■

What time did you usually put the child to bed at night: 6:00 PM

# Intervention Components: Coordinated Care

## Conceptual view of Quick WIC (Nutritionist View)

### Other

**Age at date of visit:** 2 months, 16 days  
**Weight:** 12.3  
**Hematocrit:** .2  
**Health Insurance:** Aetna  
**Comments:** Test Data!

**Height:** 5.2  
**Hemoglobin:** 1.11  
**Infant Formula Brand:** Ensure

### WIC Vist Information Current Visit ▼

### Nutritional Education Topics

**E1:**Milk supply/signs of getting enough - Child  
**H3:**Formula preparation - Caretaker  
**H7:**Inappropriate foods for infants - Caretaker  
**H8:**Food for the baby 0 - 6 months - Caretaker

**H15:**Dental health/nursing bottle mouth - Child  
**H6:**Assessing readiness for solid foods - Child  
**H7:**Inappropriate foods for infants - Child  
**H8:**Food for the baby 0 - 6 months - Child

### Other

**Age at date of visit:** 2 months, 30 days  
**Weight:** Unknown  
**Hematocrit:** Unknown  
**Breast Fed:** ☐  
**Comments:**

**Height:** Unknown  
**Hemoglobin:** Unknown  
**Infant Formula Brand:** 12.4 oz Similac Advance pwd

Comments Save

### Signoff on WIC Appointment: Signoff



# Summary of Lessons Learned

- Conflict in messaging was commonly reported by all stakeholders, but the majority were enthusiastic about sharing and having access to data
- A challenge has been establishing a health information exchange platform (i.e., data management system) and data sharing agreements
  - Data sharing agreements among state/federal agencies, health care systems, and academics take months to execute
  - IT support is critical for data sharing: Epic and Quik WIC Systems
- Need for mental health screening, referral/treatment operating procedures, and provider training
- Stay tuned for efficacy results...

# Questions?

