

Prevention in Focus Webinar Series

Welcome!
We will begin shortly.

Prevention in Focus Webinar Series

Spreading Effective Interventions to Support Healthy Child Growth: CDC's Data Modernization and Implementation Science Efforts

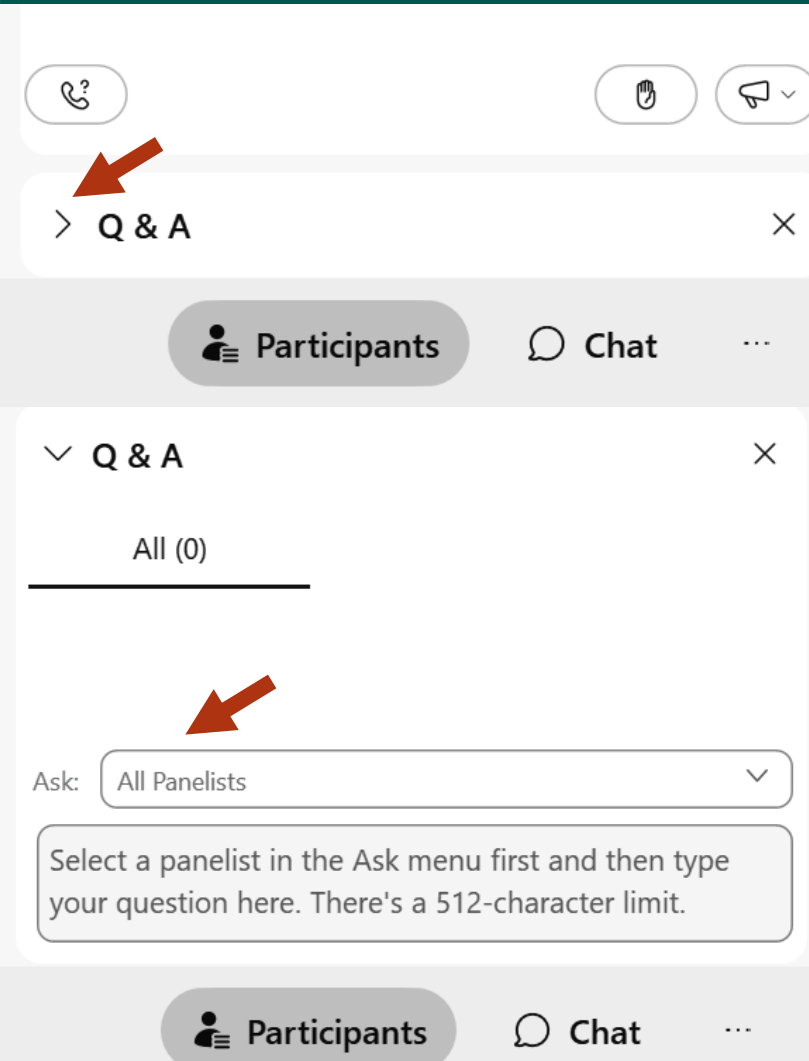


Heidi Blanck, Ph.D.

Branch Chief, Obesity Prevention
and Control Branch
Division of Nutrition, Physical
Activity, and Obesity (DNPAO)
Centers for Disease Control and
Prevention (CDC)

Introduction by Bramaramba Kowtha, Health Scientist, NIH Office of Disease Prevention

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Upcoming Q & A Session

Please send us your questions
via the **Q & A pod** directed to
All Panelists

Please use the Chat pod to request technical assistance

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Spreading Effective Interventions to Support Healthy Child Growth: CDC's Data Modernization and Implementation Science Efforts



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Spreading effective interventions to support healthy child growth: CDC's data modernization & implementation science efforts

Heidi Blanck, PhD, MS

Captain, Retired USPHS

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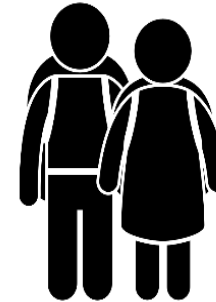
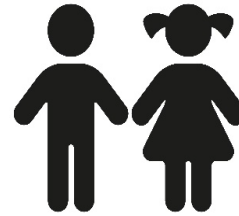
Disclaimer

The findings and conclusions in the following presentation are those of the author and do not necessarily represent the official position of the CDC and HHS.

Population-Based Approaches to Supporting Individuals' Nutrition, Physical Activity, Lifestyle

Impacts Healthy Growth & Wellness in Children

DNPAO with partners works at multiple levels to establish healthier communities to support individuals



Breastfeeding
Maternal
PA/Nutrition

Early Child
Nutrition

Early Care and Education
Schools & Youth Programs
Farm to Education

Family Healthy Weight Programs

Food Service Guidelines
Nutrition Standards in Charitable
Food Systems

Community Food & PA

Health Equity

Why is Healthy Growth Important?

13 types of cancer
(Including liver cancer)

Adult obesity

Bullying, stigma
Lower self-reported
quality of life

Childhood obesity is relatively inexpensive to prevent/treat.

Preventing child obesity may avert future health care costs as excess weight during childhood is a predictor of excess weight during adulthood.



Lower self-esteem
Anxiety, depression

High blood pressure
High cholesterol
Heart disease

Breathing problems

Fatty Liver Disease

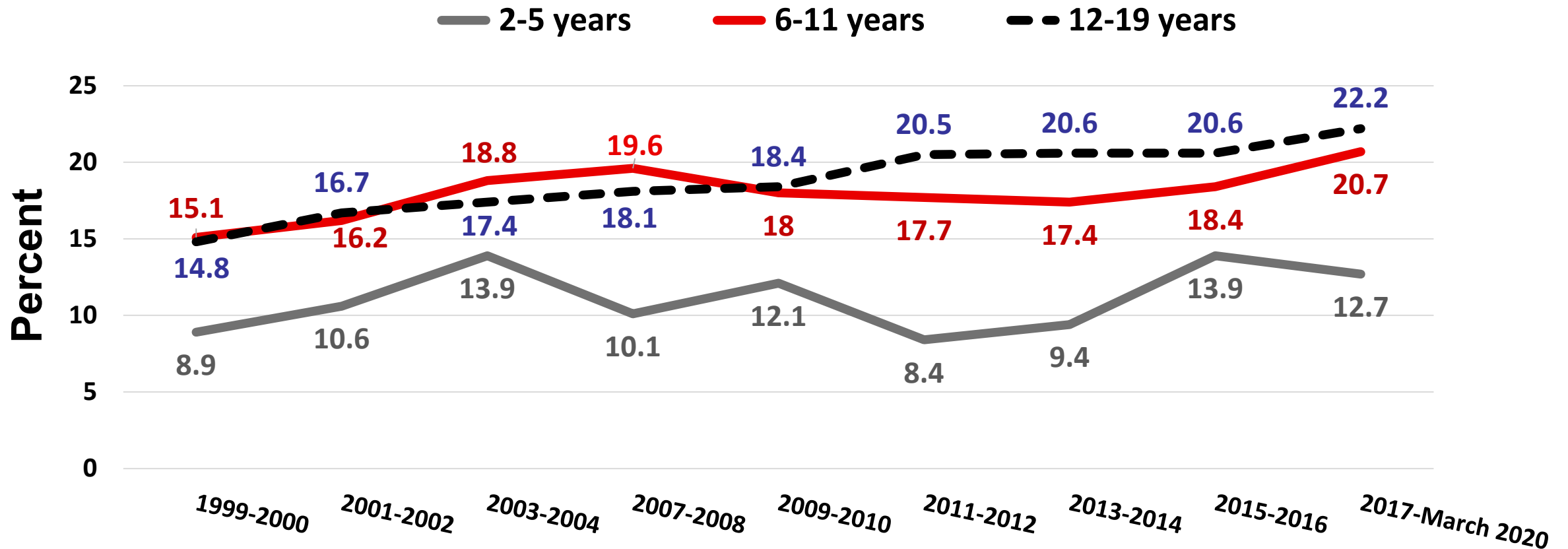
Impaired glucose tolerance
Insulin resistance
Type 2 diabetes

Musculoskeletal and joint problems

Childhood Trends

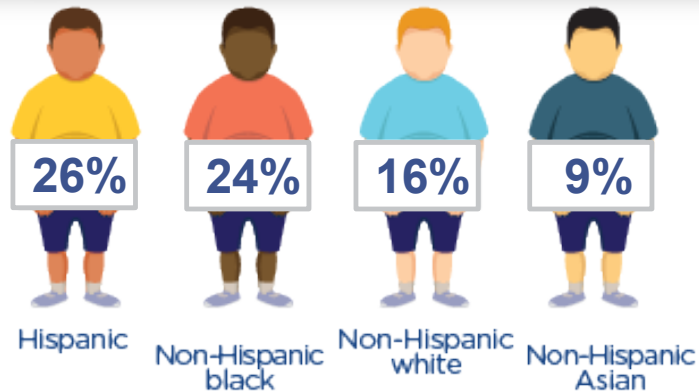
National Health and Nutrition Examination Survey

Prevalence of Obesity in US youth 2-19 years, 1999-2000 through 2017-March 2020

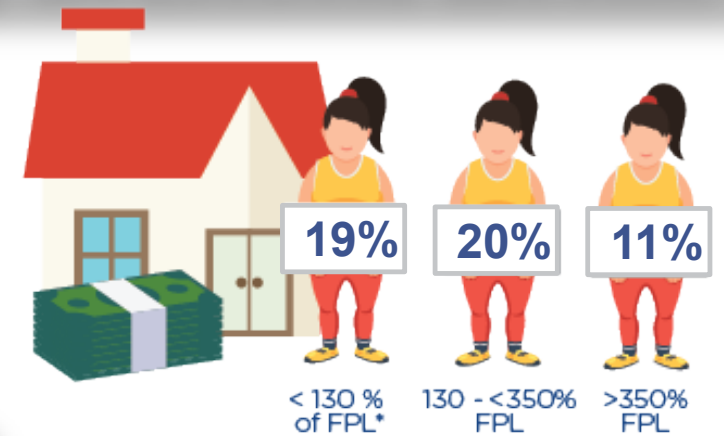


Disparities in Child Obesity Prevalence

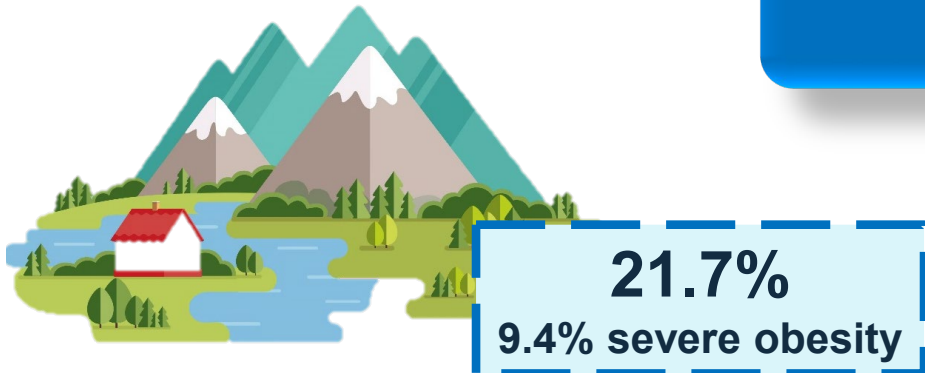
By Race and Ethnicity



By Household Income



By Metropolitan Status



How Can We Support Healthy Child Growth

Creating the conditions for healthy growth with public settings that can take in evidence-based interventions – and adapt for context with fidelity and innovative use of existing data from clinical and community settings

Improving access to quality education, park and recreation & healthcare that has healthy food options, supportive youth PA programming

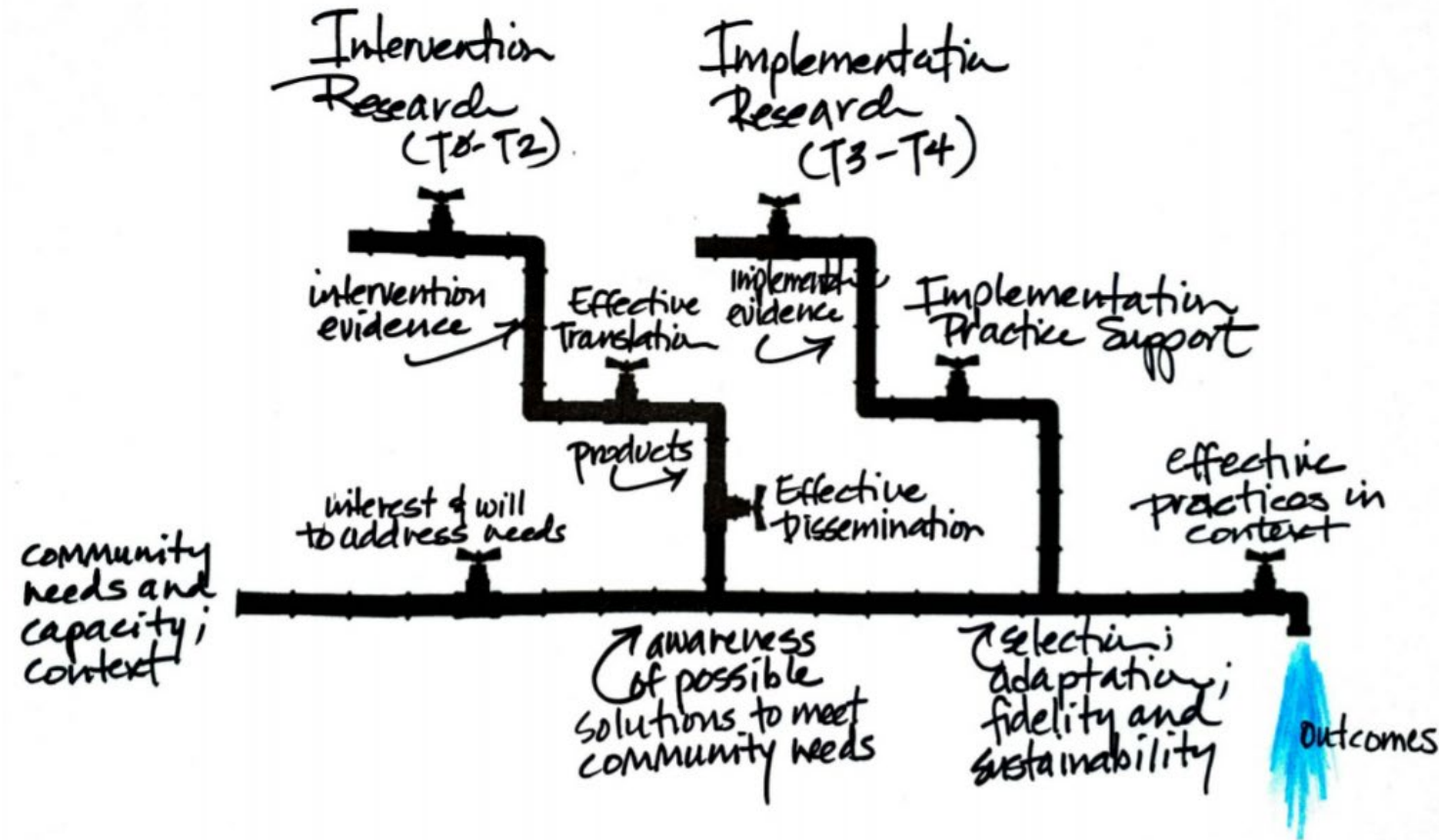
Improving school readiness, social skills, & higher academic achievement

Supporting enjoyment of physical activity, good relationships with food, positive body image & self-esteem, stress reduction skills

Whole School, Whole Community, Whole Child (WSCC) Model

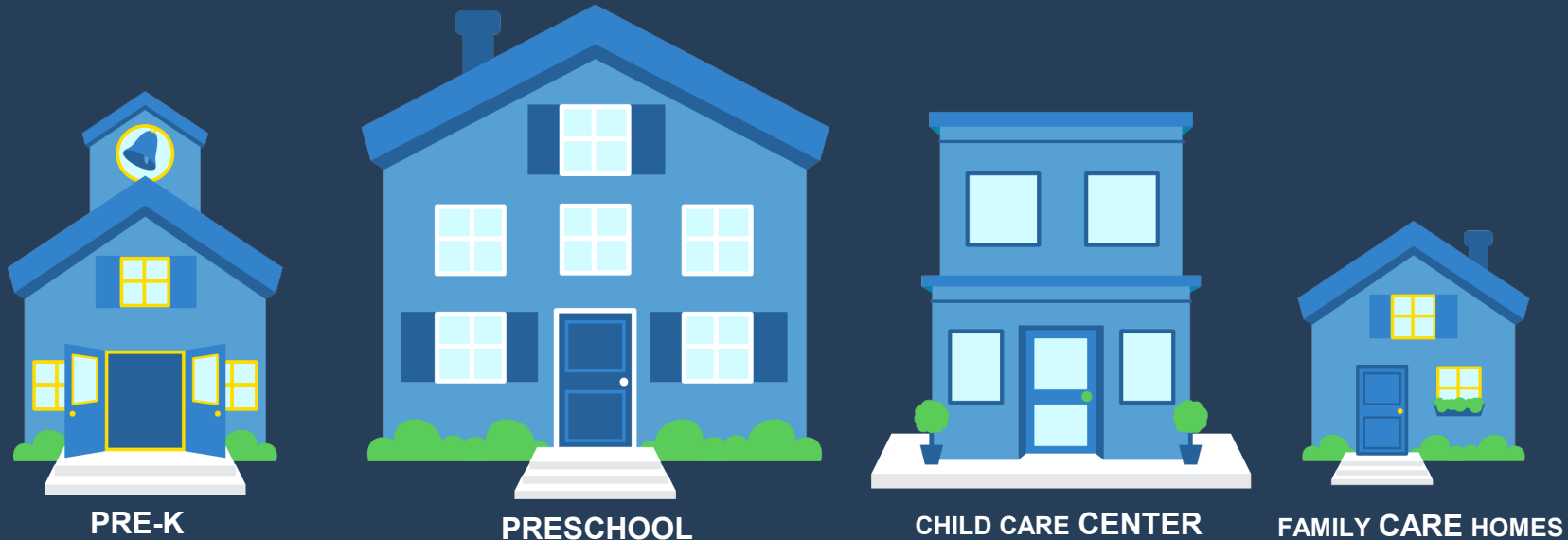


Effective Practice Pipeline



Effective Practice Pipeline, developed for CDC by Sandra F. Naoom, Tina Smith & Jennifer Kohr, 2019

The Early Care and Education (ECE) Setting Directly Influences Young Children's Behaviors and Can Have Ripple Effects



The ECE setting can **directly influence what children eat and drink and how active they are** and build a foundation for healthy habits.

Early Care and Education (ECE) – *Child Care*

- ECE impacts short-term outcomes for children related to health and school readiness
 - Children who participated in Head Start had **significantly healthier BMIs by kindergarten entry** than comparison children
- Literature demonstrates participation in ECE programs improves **long-term outcomes including**
 - Substance use, lower adult body mass index (BMI), cardiovascular disease risk
 - Educational attainment, crime, employment, and income
- Studies show the return on investment is high
- Access to quality early education is a critical social determinant of health.

Nutrition and Physical Activity in ECE

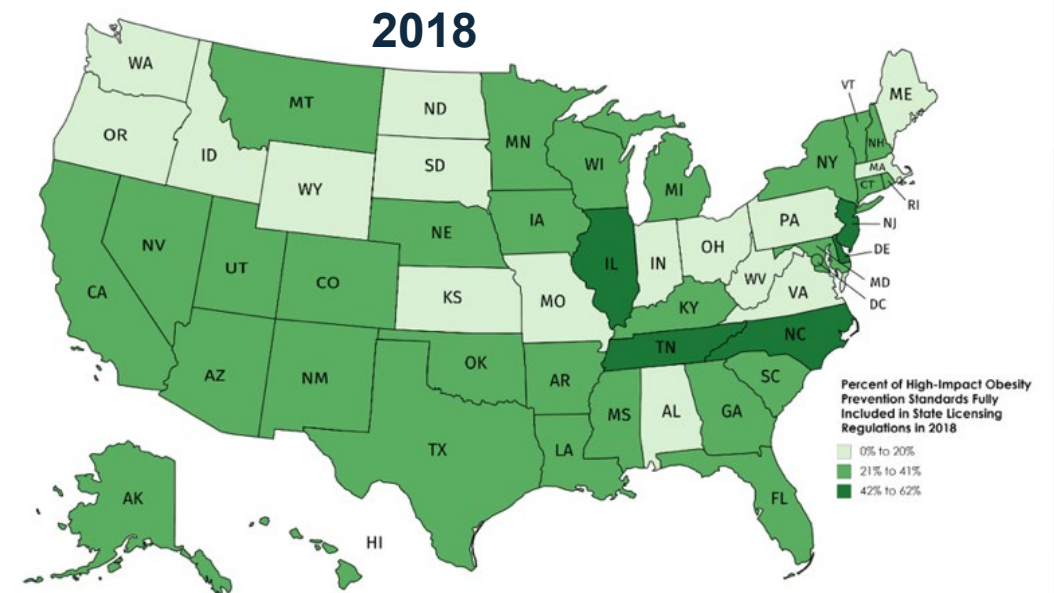
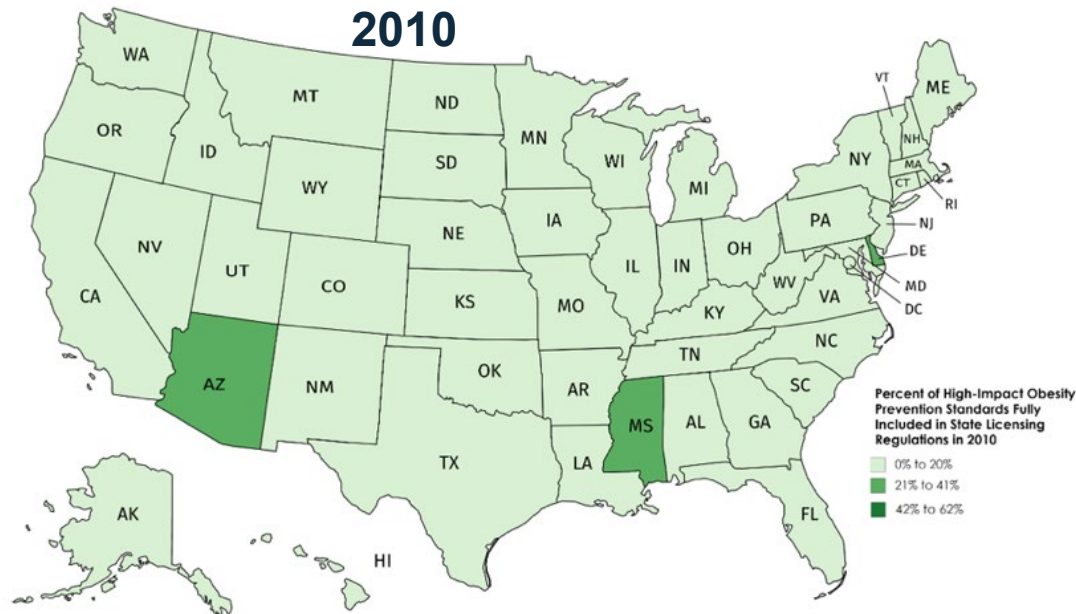
- CDC's DNPAO supports activities to improve nutrition, physical activity, breastfeeding support, and screentime reduction for children aged 0-5 in care, we support
 - States to implement National Obesity Prevention Standards from Caring for our Children into **existing state systems – e.g. licensing, quality rating**
 - Local Communities and ECE facilities to improve nutrition and physical activity through policies and adapting proven evidence-based interventions
 - ECE providers use of professional development to increase knowledge, self-efficacy to implement best practices
- DNPAO supports state and local recipients through cooperative-agreements that provide funding, technical assistance, opportunities for evaluation

- 3 State-Level cooperative agreements support 33 states and DC
- 2 local level cooperative agreements (REACH and High Obesity Program) support 23 local jurisdictions
- DNPAO's programs cover $\frac{3}{4}$ of children under 5 in the US
- Aim for sustainable change



CDC Surveillance - Monitoring State Policy Change

- ECE programs are licensed by individual states
- CDC supports a review and report on annual licensing changes
- Healthy People 2020 Objective
- From 2010-2018, 39 states updated their licensing standards to include more breastfeeding and infant feeding, nutrition, and physical activity support



Evidence-Based Intervention - Facility Level Policy Change

- The Nutrition and Physical Activity Self Assessment for Child Care (NAP SACC) was NIH and CDC funded efficacy, effectiveness trials
- Harvard Cost-Effectiveness Review found
 - Among interventions focused on kids < 5 y, NAP SACC shows strong evidence for impact on early child obesity risk
- Spread and Scale Success: 22 states now using version called GO NAP SACC (GNS) to support local ECEs, many supported through DNPAO's program funding
- States working to embed GNS into existing state systems such as QRIS, technical assistance networks and recognition programs



GO NAP SACC AN IMPLEMENTATION SCIENCE SUCCESS STORY



- Go NAP SACC website includes papers on NAP SACC's development and pilot work, the RCTs found it to be effective, papers describing the reliability and validity the tool, how it went from a pen and paper tool to an online one and papers showcasing evaluation in states
- As of August 2021, 6,270 ECE programs serving over 307,000 children have used Go NAPSACC.

Translating Evidence to Action – Prevention & Treatment of Obesity in Children and Adolescents

**2007 AAP Expert Committee Recommendations
2022 AAP Clinical Practice Guidelines – Coming Soon!**

**2017 U.S. Preventive Services Task Force Grade B
Recommendation for Child Obesity**

Healthcare: Screening & Treating Obesity in Children

U.S. Preventive Services Task Force Recommendation (2017): Grade B*

Physicians should **screen children ages 6+** using BMI and **offer/refer** children with obesity to intensive, **Family Healthy Weight Program**

26+ hours of counseling over 2-12 months on **nutrition, physical activity, and behavior change.**



Evidence Base:

Over 60 Randomized Controlled Trials show us that Family Healthy Weight Programs can promote health and result in 5-20% reduction in excess weight

* Under the ACA Grade B recommendation means that insurers must cover screening and treatment in intensive interventions as a preventive service.

URGENCY: CHILDHOOD HEALTH AND THE COVID-19 PANDEMIC

- Among youth with COVID-19, **underlying medical conditions (including excess weight) increased the likelihood for hospitalization and severe COVID-19 illness**
- Among youth, the **average rate of BMI increase doubled** during the pandemic
- Increase in incident diabetes among those <18 with COVID-19 during the pandemic
- Increase in emergency room visits for eating disorder conditions by youth

Obesity is a risk factor for both hospitalization & severe COVID-19 illness among children and adolescents

Rates of BMI change doubled among children and adolescents during the COVID-19 pandemic

Worse health outcomes

DNPAO's Work in Health Systems Across The Pediatric Care Continuum

**Prevention for all children
(universal)**

**Treatment for kids with excess weight
(high risk)**

- **Screening all children**
 - Healthy growth
 - Health behaviors (e.g., sugar- sweetened beverage intake)
 - SDoH (e.g., Food insecurity)
- **Use of Growth charts**
- **Use of Decision supports**

- **Clinical Practice Guidelines***
- **Provide Family Healthy Weight Program (HW Program)**
- **Payer reimbursement, billing & coding**
- **Clinical-community linkage**

*National Clinical Care Guidelines and Expert Recommendations

Components of Effective Family Healthy Weight Programs for Chronic Disease Prevention

Content:

- Nutrition & Physical Activity Skills & Counseling
- Focus on behavior modification
- Family-centered

Context:

- Address **social determinants** of health
- Awareness of body image, **bias, stigma** & shame

Dose & Delivery:

- >26 hours over 2-12 months
 - Higher “dose” → Better Outcome
- Booster “dose” (maintenance) → sustained effects (chronic disease)
- Setting: Clinical or Community
- Multidisciplinary providers
- Group and Individual sessions
- Virtual or in-person



Benefits of Family Healthy Weight Programs



Improved:

- child & family wellness
- health behaviors, parenting, family stress & coping
- quality of life, mental & behavioral health (depression, anxiety)
- metabolic markers (diabetes, lipids, fatty liver, blood pressure)
- health quality measures (diabetes)
- reduced or maintained child & caregiver weight
- cost effective (child & caregiver)
- cost saving (emerging) – *investments in prevention & treatment can result in later savings*

Gap: Translation & Implementation Science

CORD 3.0 - Packaging existing programs that contain components for successful implementation in settings that serve families with lower income:

- Materials in user-friendly formats
- Implementation manuals
- Training curricula
- Technical assistance
- Evaluation & quality control materials

Ensure children receive quality healthcare - screened and referred:

Supply:

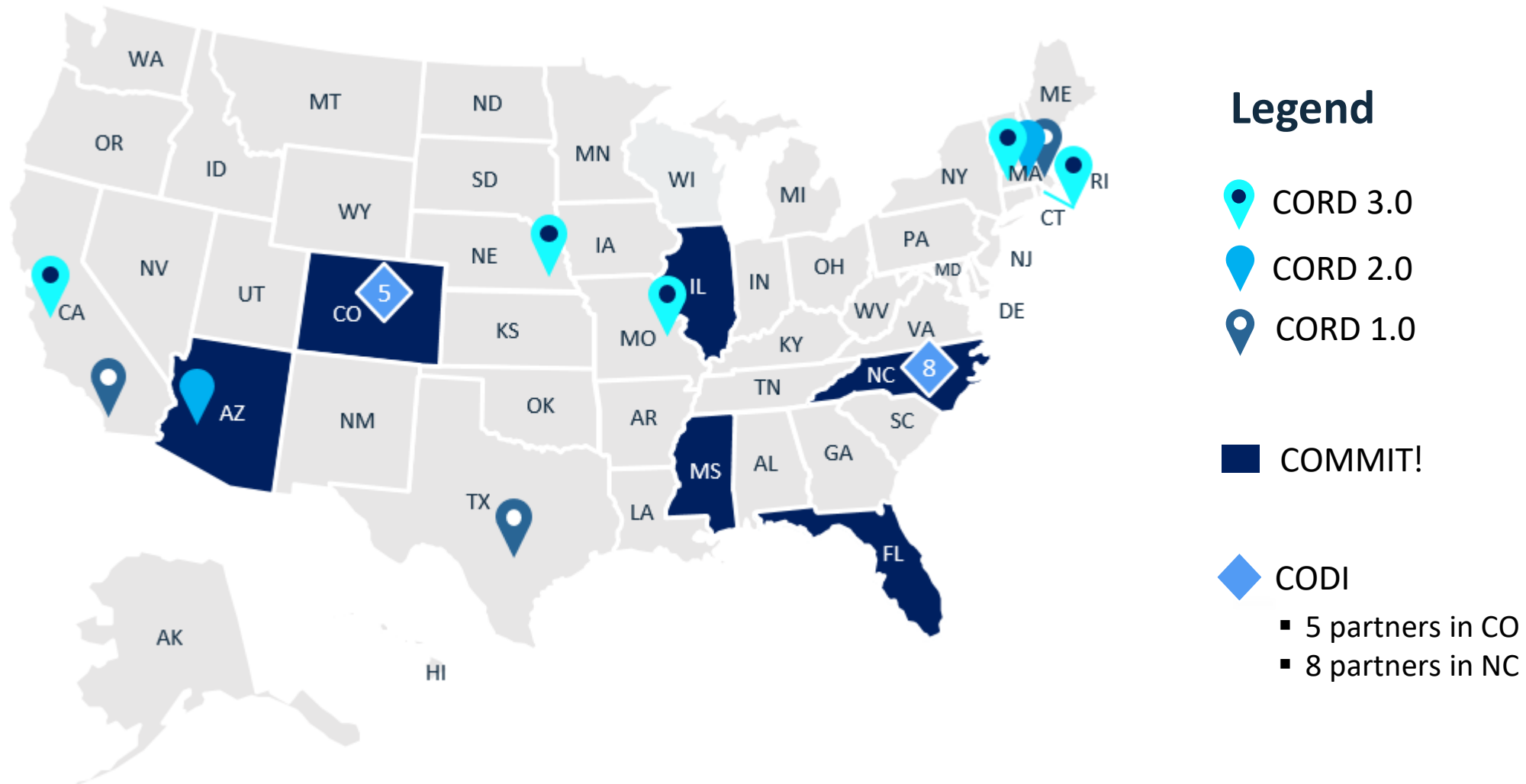
Sufficient reimbursable interventions available

Demand:

Providers are aware, confident, and referring



DNPAO's Funded Recipients for Childhood Obesity Prevention & Treatment in Healthcare & Community Settings



Childhood OBESITY

Childhood Obesity Research Demonstration 3.0:

*Study Designs for Scaling Effective
Pediatric Weight Management
Interventions for High-Risk
Children through Packaging
and Implementation*



Mary Ann Liebert, Inc.  publishers

www.liebertpub.com/chi

Goodman, et al. Moving Pediatric Healthy Weight Interventions into Real-World Settings, Using Implementation Science to Address Access, Flexibility, and Sustainability. Childhood Obesity. Sep 2021.S-5-S-10.

Examples of evidence-based Family Healthy Weight Programs

Decades of
research funding
(e.g. NIH,
PCCOR, CDC)

Healthy Weight and Your Child

Community setting (YMCA)

Bright Bodies

Community and Clinic setting

Healthy Weight Clinic

Clinic Setting

Family Based Behavioral Therapy - RYSE

Clinic setting

CDC'S CHILDHOOD OBESITY RESEARCH DEMONSTRATION (CORD) 3.0- PACKAGING, TESTING, IMPLEMENTING

Real-World Implementation and Measures

Collecting data that is acceptable and meaningful

Sharing evidence in a way that meets the needs of the end-users and reflects the wide variability in those needs.

Glasgow and Riley 2013 Pragmatic Measures

Table 1 Required and recommended criteria for pragmatic measures

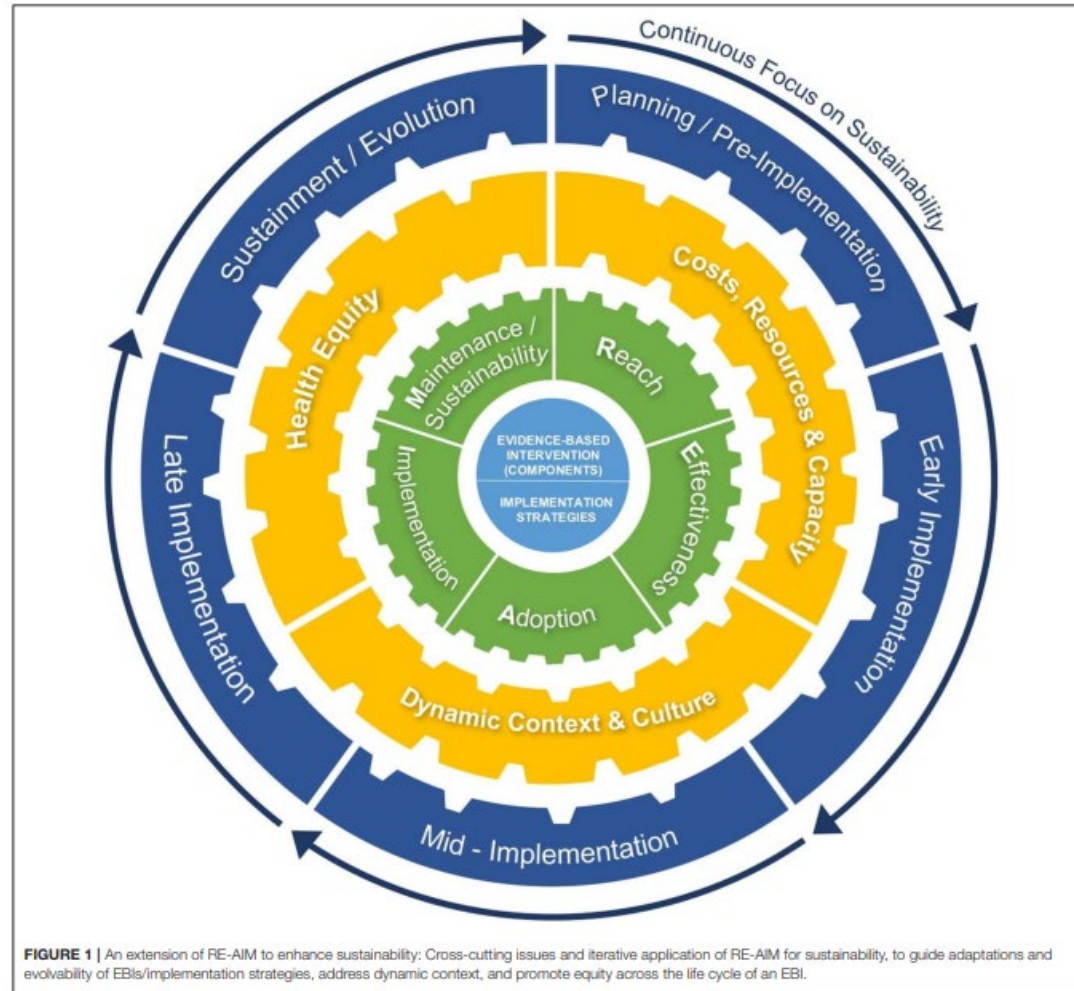
Glasgow and Riley criteria	Provider REport of Sustainment Scale (PRESS)
Important to stakeholders	Items and constructs were reviewed by practitioners, supervisors, and other researchers before data collection
Burden is low for both respondents and staff	Measure is freely available and takes less than 5 min to complete
Actionable	Easy to score and interpret
Sensitive to change	Items are phrased to be sensitive to change and valid across the spectrum of sustainment
Broadly applicable	Can be used across different settings and EBPs
Use for benchmark, has norms to interpret, or addresses public health goals	Informs sustainment of a practice in specific settings so that norms can be developed and addresses public health
Unlikely to cause harm	No sensitive information collected
Psychometrically strong	Rasch Measurement Theory and Classical Test Theory support reliability and validity
Related to theory or model	Covers constructs of EPIS model and existing constructs and definitions of sustainment

Activating Evidence:

Combining Core Components and User-Designed Systems to Build the Next Generation of Evidence-Based Policy

<https://impactgenome.org/wp-content/uploads/Activating-Evidence-Whitepaper.pdf>

INTERVENTIONS THAT PROMOTE EQUITY



[Shelton, 2020](#)

[An Extension of RE-AIM to Enhance Sustainability: Addressing Dynamic Context and Promoting Health Equity Over Time \(nih.gov\)](#)

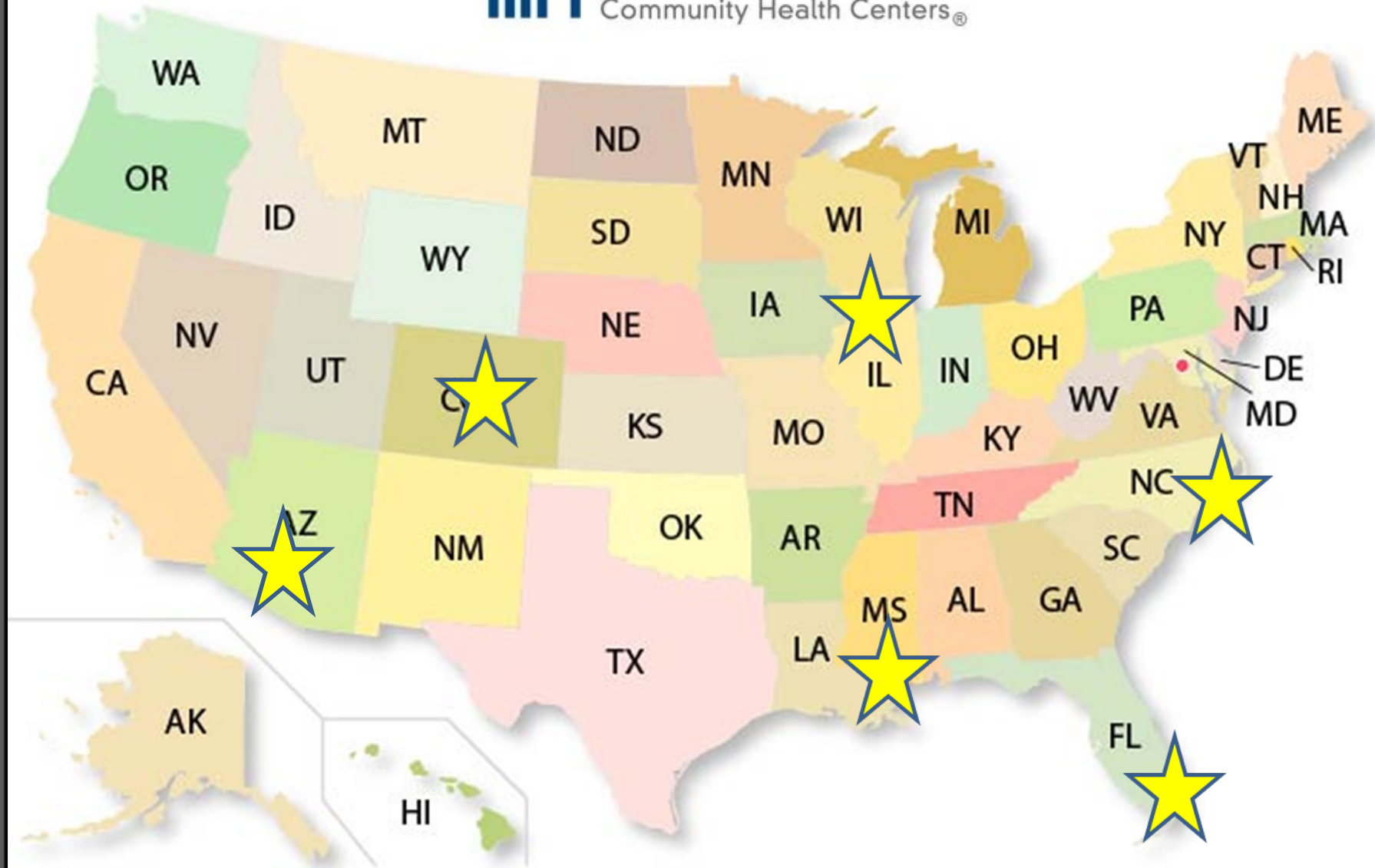
Implementation Data/Outcomes		
	Flexibility and adaptability	Other terms for construct
Acceptability - provider/organization (satisfaction)	Remote delivery (home environment) Learning from stakeholders Designed for and with vulnerable populations (but new pop?) Time constraints/resources (eve/weekends) Interventionist morale (if low #s)	
Adoption - provider (uptake/utilization)		referral rate
Adoption - institution/organization		basic counts
Appropriateness - provider, child/family, org (Fit)	5 different interventions, variety	fit of the program for audience needs
Feasibility - participants	Time/financial constraints Are adaptations needed for different participants contexts?	part/engagement rates
Feasibility - facilitators/interventionists	Training/prep, recruitment/engagement Time Systems based approach	
Feasibility - providers/administrators readiness	Do all context have resources and capacity to implement? Are adaptations needed to ensure adoption?	helps with best fit



Implementation Data/Outcomes	
	Flexibility and adaptability
Fidelity	Flexibility (balancing adaptations with fidelity) CORE COMPONENTS/stoplight- form/fit Web format- implementation side (coach/participant use of materials/reports) Coach self reporting, supervision calls (case conference), QI metrics- what is adaptable/not (core components)
Reach, Penetration	Target vs count # of individuals who should be served are being served How do you reach the populations in need
Sustainability/ Maintenance (institutionalization/sustained use)	Are there differences in site sustainability? What explains the differences? Sustained over time?

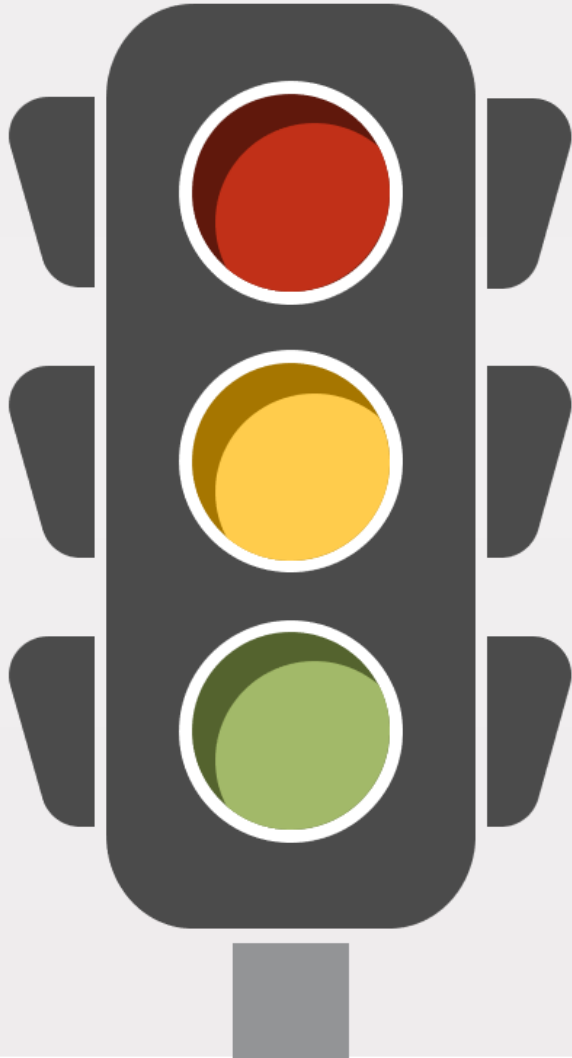


NATIONAL ASSOCIATION OF
Community Health Centers®





TRAFFIC LIGHT: Evidence-Based Integrity



STOP AND....

- Measure BMI Change
- Track sessions and train staff
- Make sure the program includes nutrition, physical activity, skill building, behavior change
- Remember to include evidence – 26 hours of intervention is key



CAUTION...

- With limiting dose intensity; with changing outcome measures or adding new ones
- With adding new activities – make sure central focus is preserved



GO!

- Modify for local culture, vary time, place and activity; offer childcare
- Consider incentives; integrate into EMR; Train others in Pediatric Weight Management Initiative provide virtually; expand to household

Data Modernization Initiatives

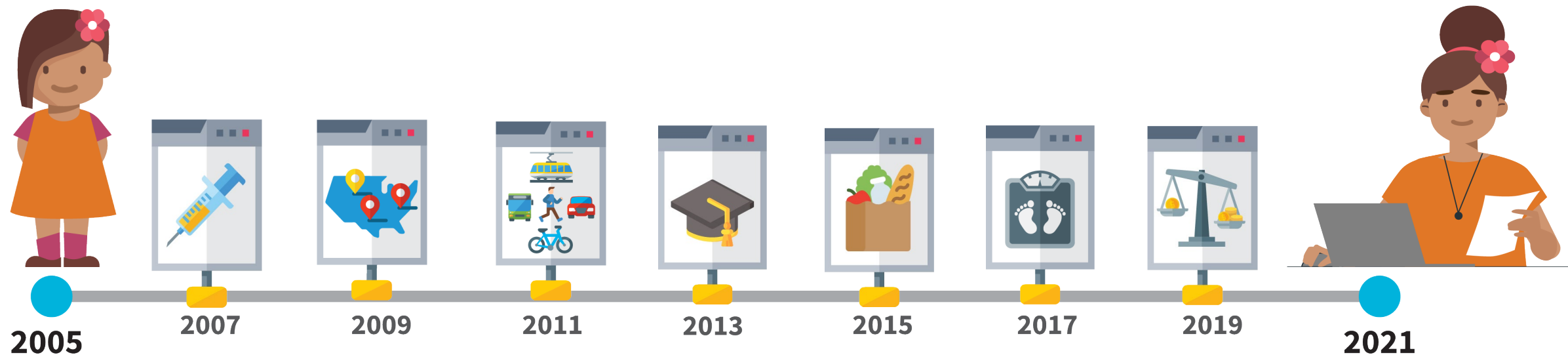
Harnessing the power of local data

CDC's Clinical & Community Data Initiative (CODI)

Colorado Pilot Site
North Carolina Pilot Site



The CODI Approach



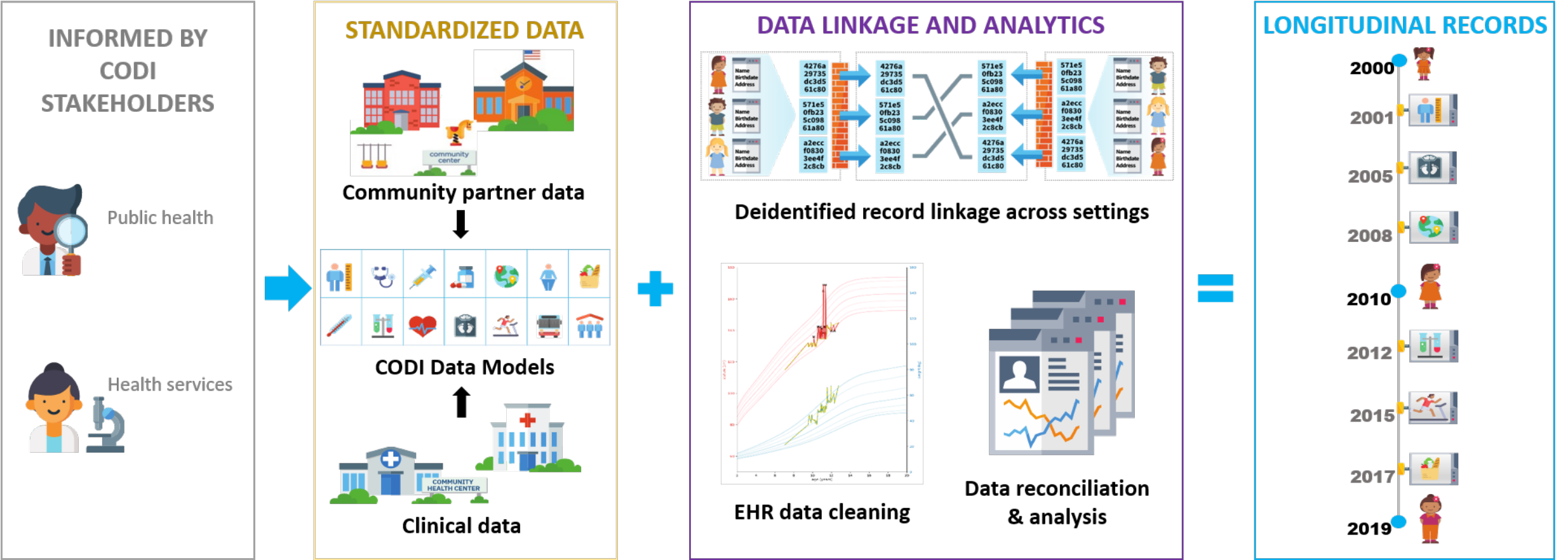
Leverage information from clinical and community organizations to create timely & useful de-identified individual-level linked longitudinal data

Why we need CODI

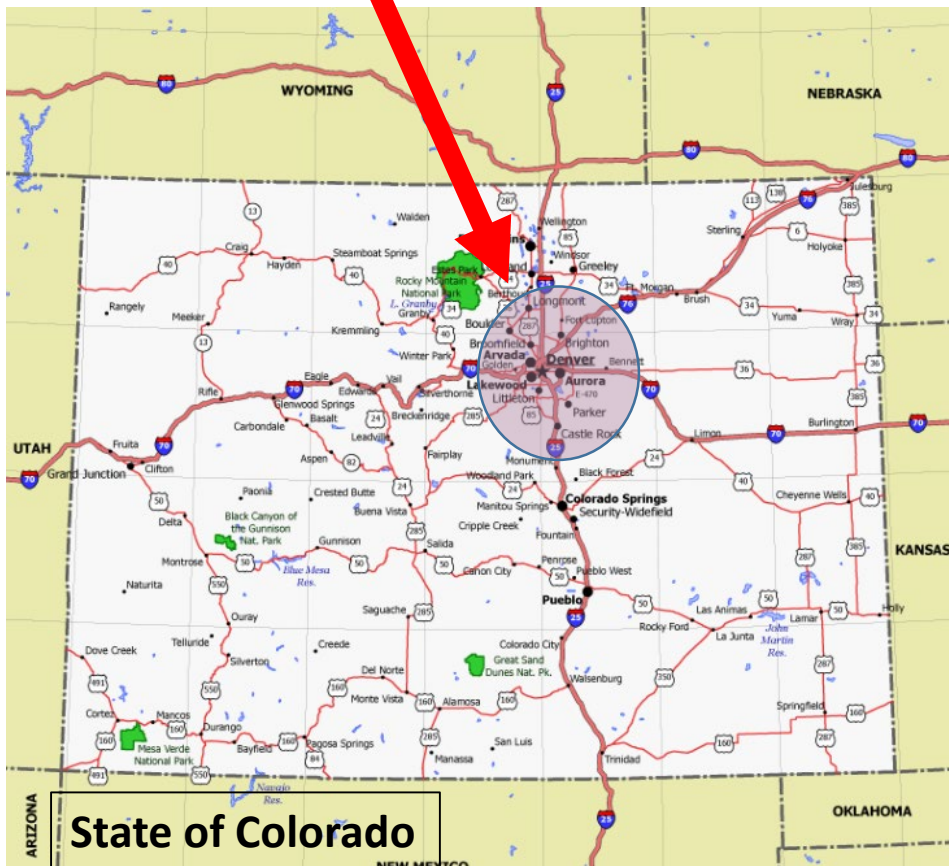


CLINICAL AND COMMUNITY DATA INITIATIVE

CODI Innovation



Denver Metro Region: 7 counties



CODI@NC



Duke
UNIVERSITY



...and other potential partners



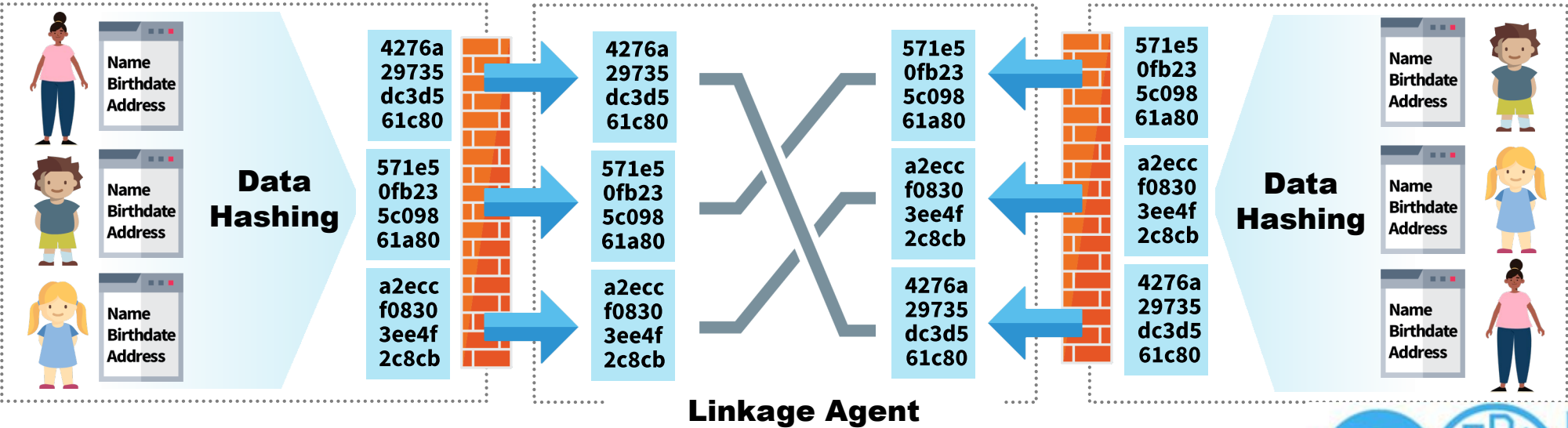
Privacy Preserving Record Linkage



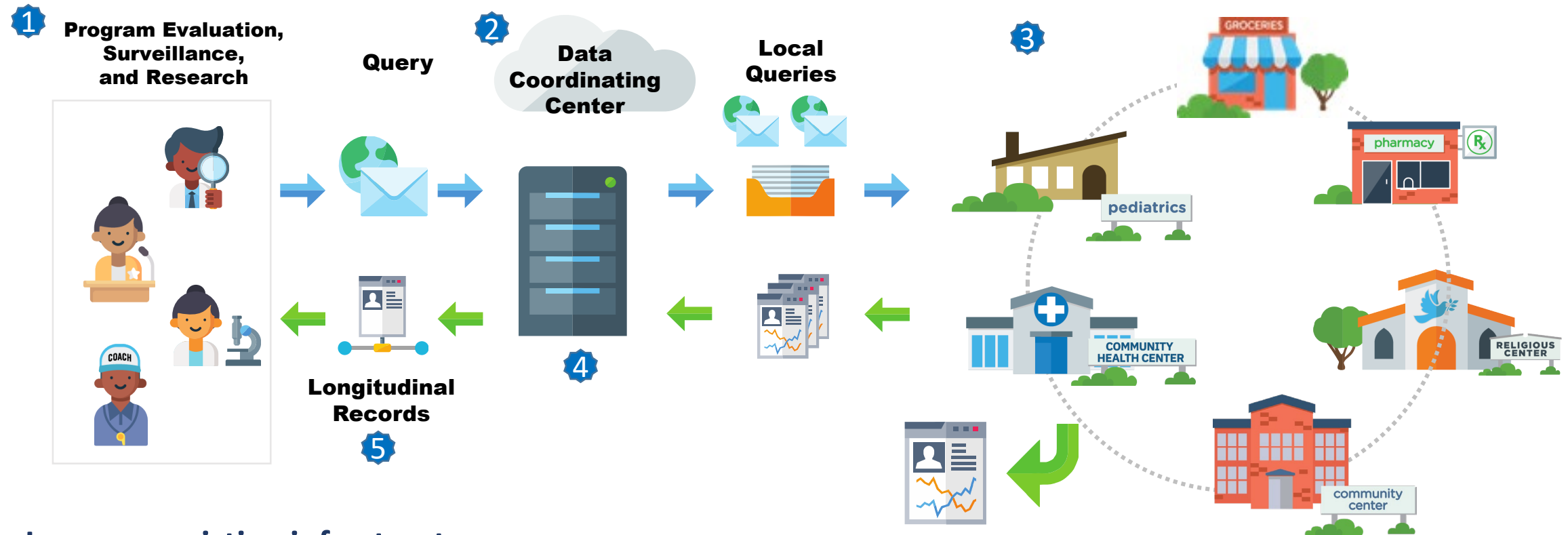
Personally Identifiable Information (PII)



Personally Identifiable Information (PII)



Clinical-Community Distributed Data Network



- **Leverage existing infrastructure**

- PCORnet and PopMedNet infrastructure
- Standardized data clinical and community data
- Privacy-preserving record linkage

What CODI Is & Isn't

What CODI is	What CODI is NOT
A sustainable data infrastructure that leverages your current electronic information	Not a data reporting project
Technical support for data exchange and access to de-identified longitudinal health data	Not an onerous data collection process
An opportunity to collaborate with local and national experts on strategies for community-clinical data linkages	Not a one-off task to test an application
	Not a grant program

What CODI hopes to achieve



Local Data for Local Action

- **Clinics:** Greater awareness of community-based programs for patient referral (and if patients are going, are programs working)
- **Community Partners:** Data on health improvements associated with interventions
- **Researchers:** Enables understanding of pragmatic aspects of dose (maintenance), booster needs; comparative effectiveness studies
- **Policy Makers:** Greater understand of chronic disease prevalence in community



Questions? THANK YOU

For more information, contact: dnpaopolicy@cdc.gov or Hblanck@cdc.gov

Help us keep America healthy and strong. See how at: cdc.gov/nccdphp/dnpao

Centers for Disease Control and Prevention

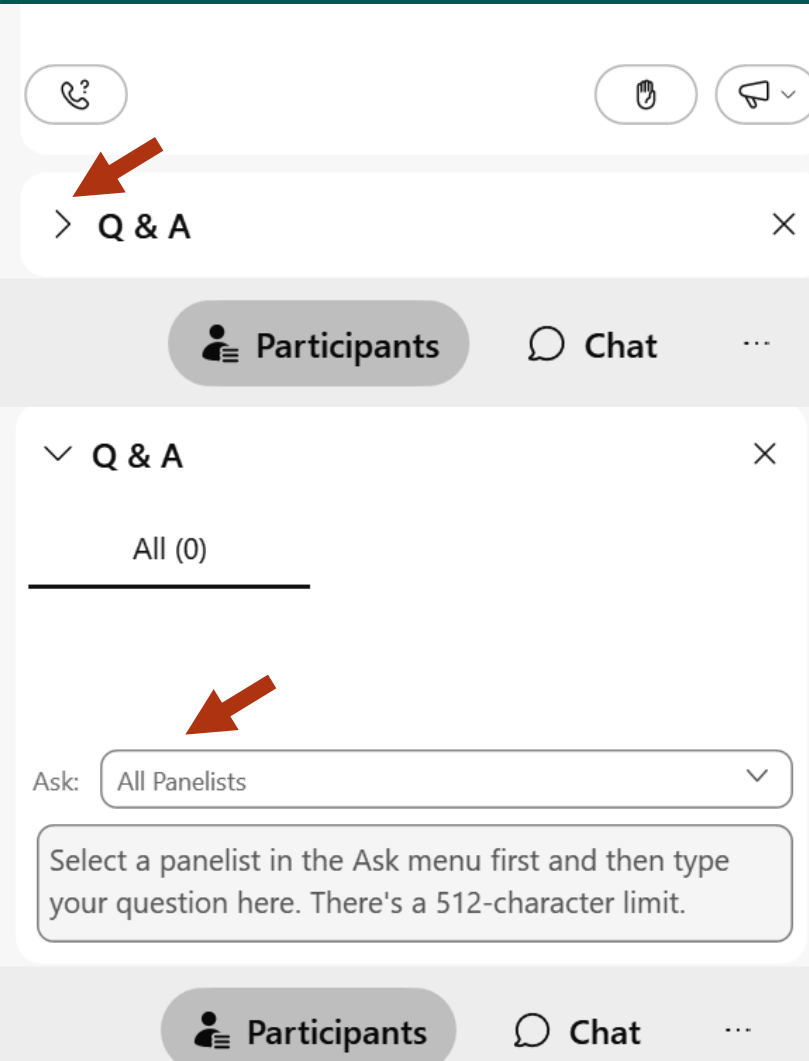
National Center for Chronic Disease Prevention and Health Promotion

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Q&A Session

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Thank You!

Stay tuned for more information
about the next webinar
on October 18th!



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