

IMPROVING SYSTEMS TO SUPPORT EARLY IDENTIFICATION OF CHILDREN WITH DEVELOPMENTAL DELAY

14.October.2021

Eileen Auer-Bennett

Dawn Magnusson



National Center on Disability in Public Health
Public health is for everyone.





Today's Goals

- Review key findings from Colorado's needs assessment
- Reflect on barriers and opportunities identified by the Colorado Early Childhood Screening and Referral Policy Council
- Discuss potential solutions

Project Purpose:

Support Early Childhood State Systems through the Act Early Network to Strengthen Resilience of and Resources for Children, Families, and Communities

Objectives:

*Identify current **barriers and opportunities** across various early childhood systems/programs to improve each of the 4 steps of early identification*



Parent-engaged
developmental
monitoring



Developmental and
autism screening



Referral



Receipt of EI
services for 0 to 5



Define Project Scope

Work alongside key stakeholders to clarify the purpose of the assessment.

**October
2020**

**Oct-Nov
2020**

Review Existing Data

Collect and summarize data from local, state, and national surveys.



Community Survey

Design and administer survey to Colorado families.

**Nov-Feb
2020 – 2021**

**Mar-Sep
2021**

Establish Priorities

Review findings, identify potential gaps, and prioritize key issues

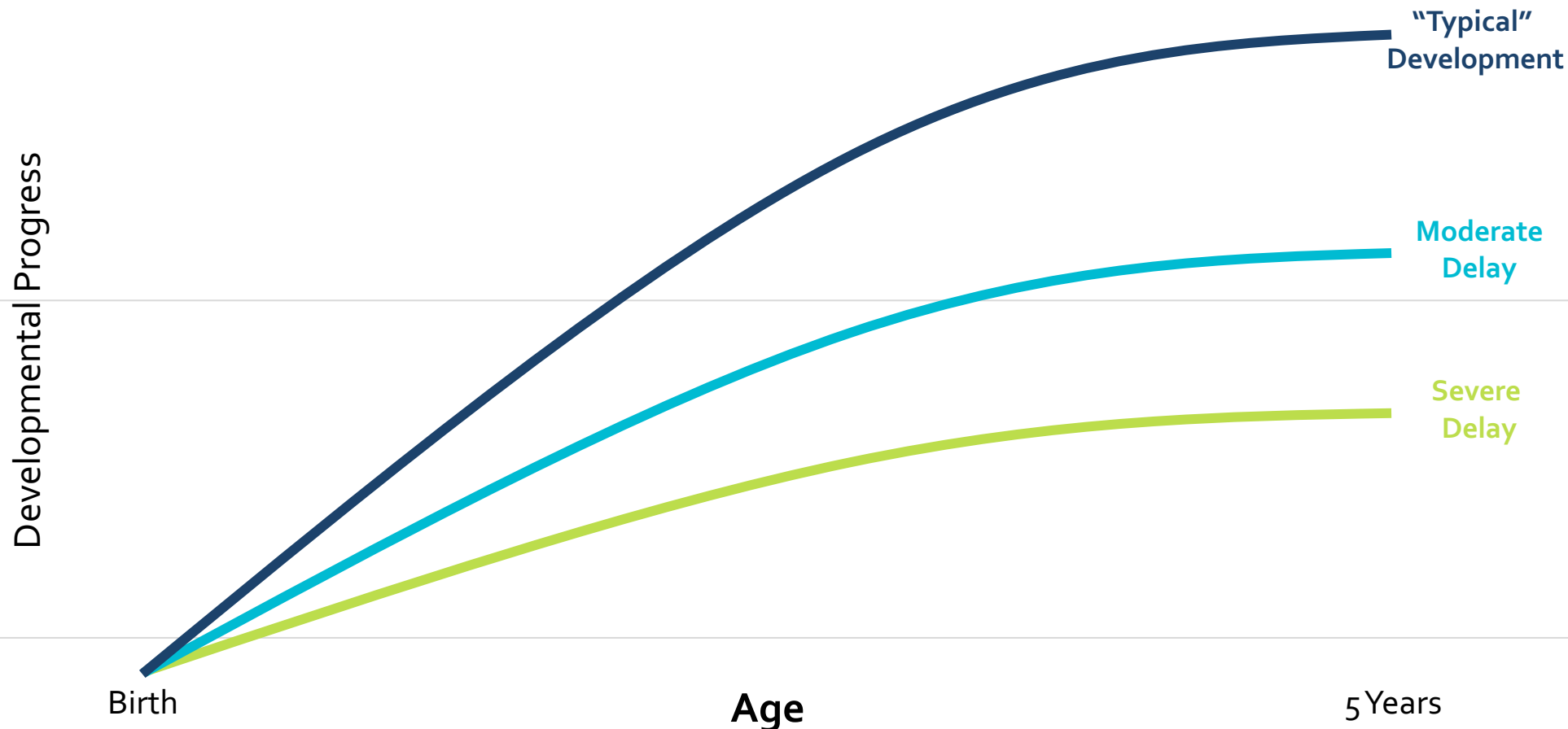


Develop Action Plan

Establish goals and objectives and implement actionable solutions.

**Sep 2021 –
Sep 2022**

1 in 4* children under the age of 5 Years at risk for experiencing developmental delays



Delays can persist and in some cases worsen as children age – further contributing to health disparities and poor health outcomes later in life.

This risk is greatest for children with limited social and financial resources, and children representing racial and ethnic minorities.

*National Survey of Children's Health, 2018-19

Key Findings

Monitoring

Primary Sources of Information:

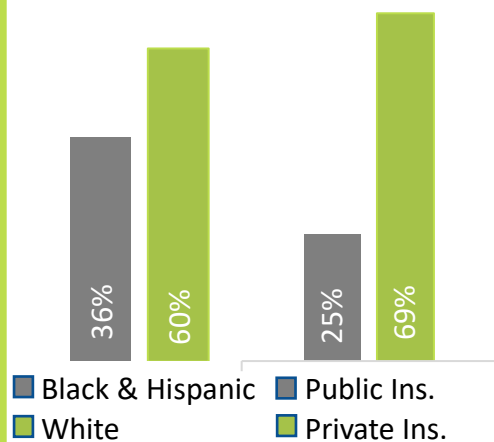
- Pediatrician 67%
- Child Care Provider 17%
- All Others $\leq 5\%$

20% of respondents reported not receiving any information about child's growth or development

Source: CDPHE Health eMoms Survey, 2018 Cohort

Screening

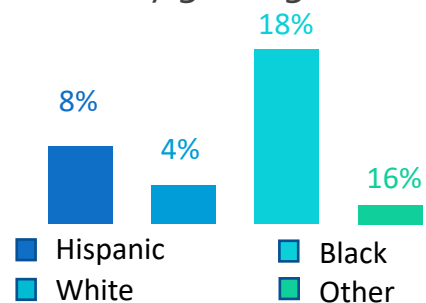
45% of caregivers recall a screener being completed in the last year:



Source: National Survey of Children's Health, CO 2018-19

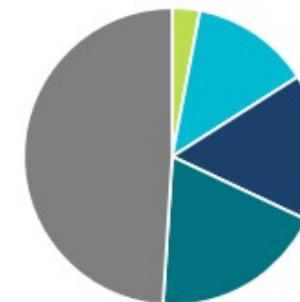
Referral

40-80% of infants and toddlers with concerning screeners referred to EI
Difficulty getting referral:



Sources: CDPHE Health eMoms Survey

Service Use

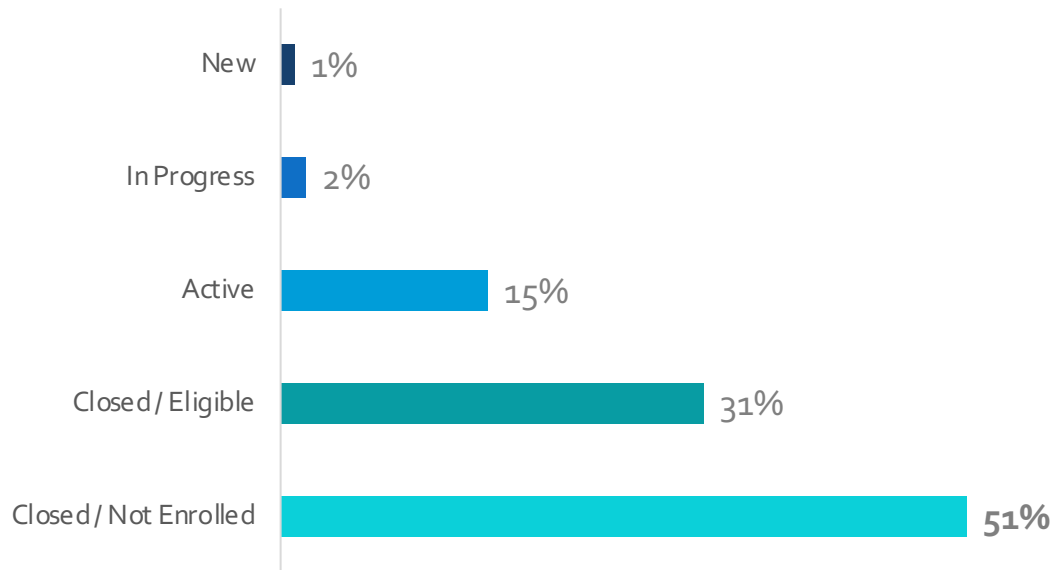


■ Wrong Service Area
■ Not Eligible
■ Family Declined
■ Contact Unsuccessful
■ In Progress, Active, or Enrolled

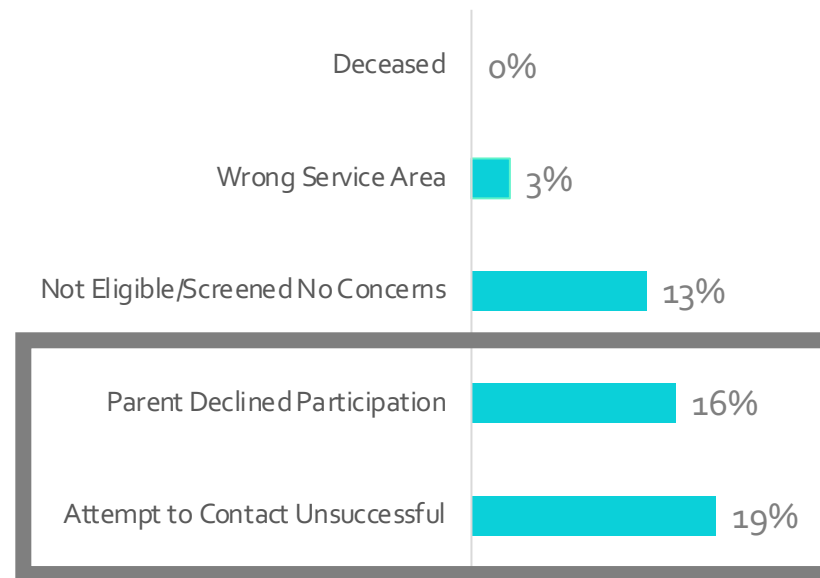
REFERRAL → SERVICE USE

- 16% of referrals closed because family declined participation (7,798 children)
- 19% of referrals closed because attempts to contact family were unsuccessful (9,260 children)

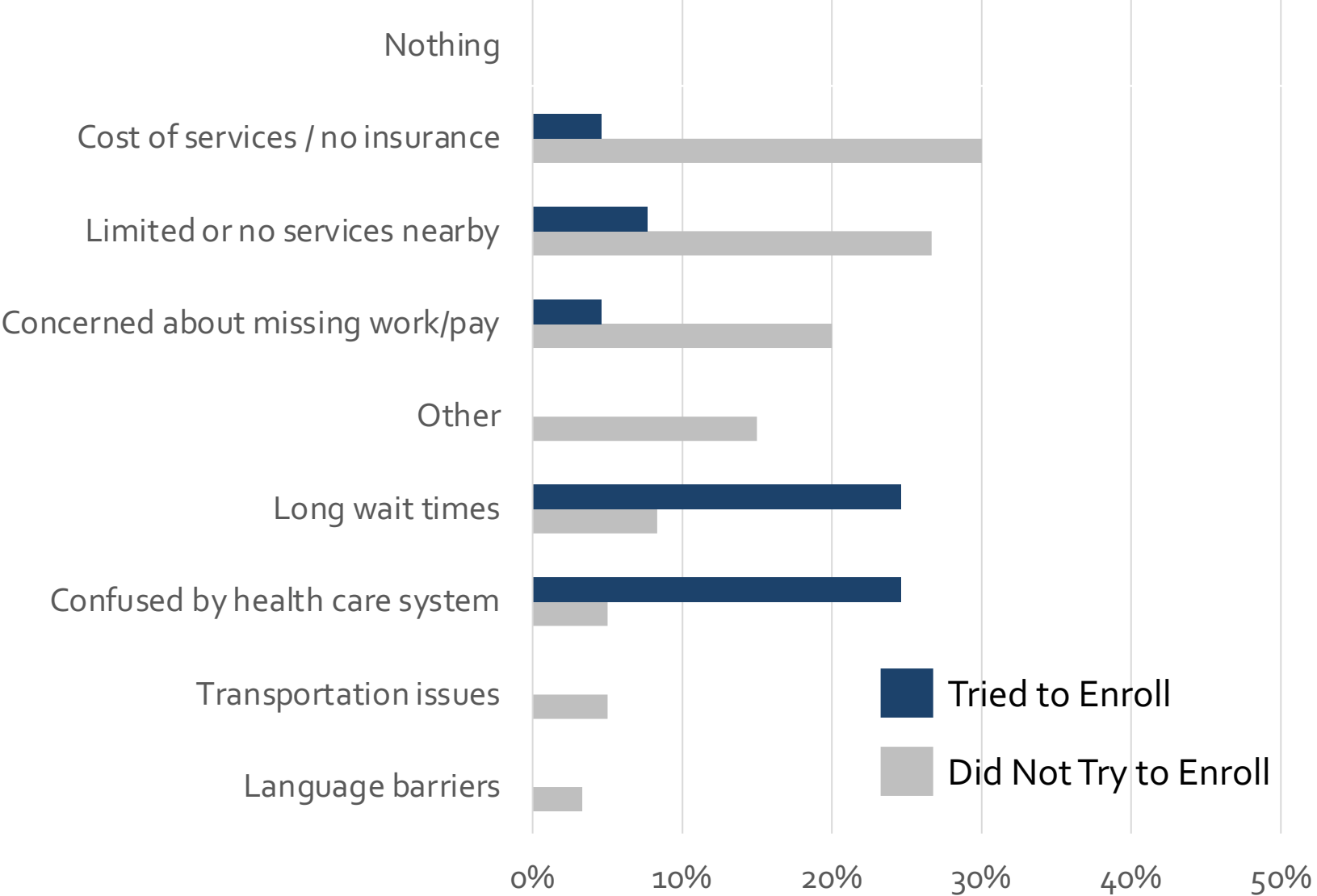
Result of referrals
(n = 48,739)



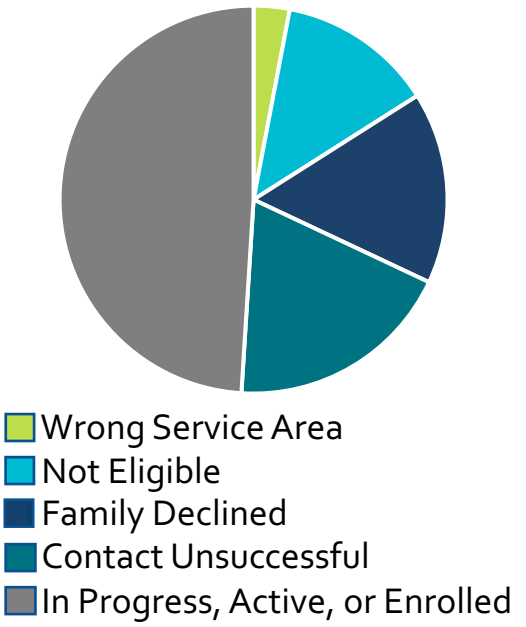
Reasons behind incomplete referral
(n=48,739)

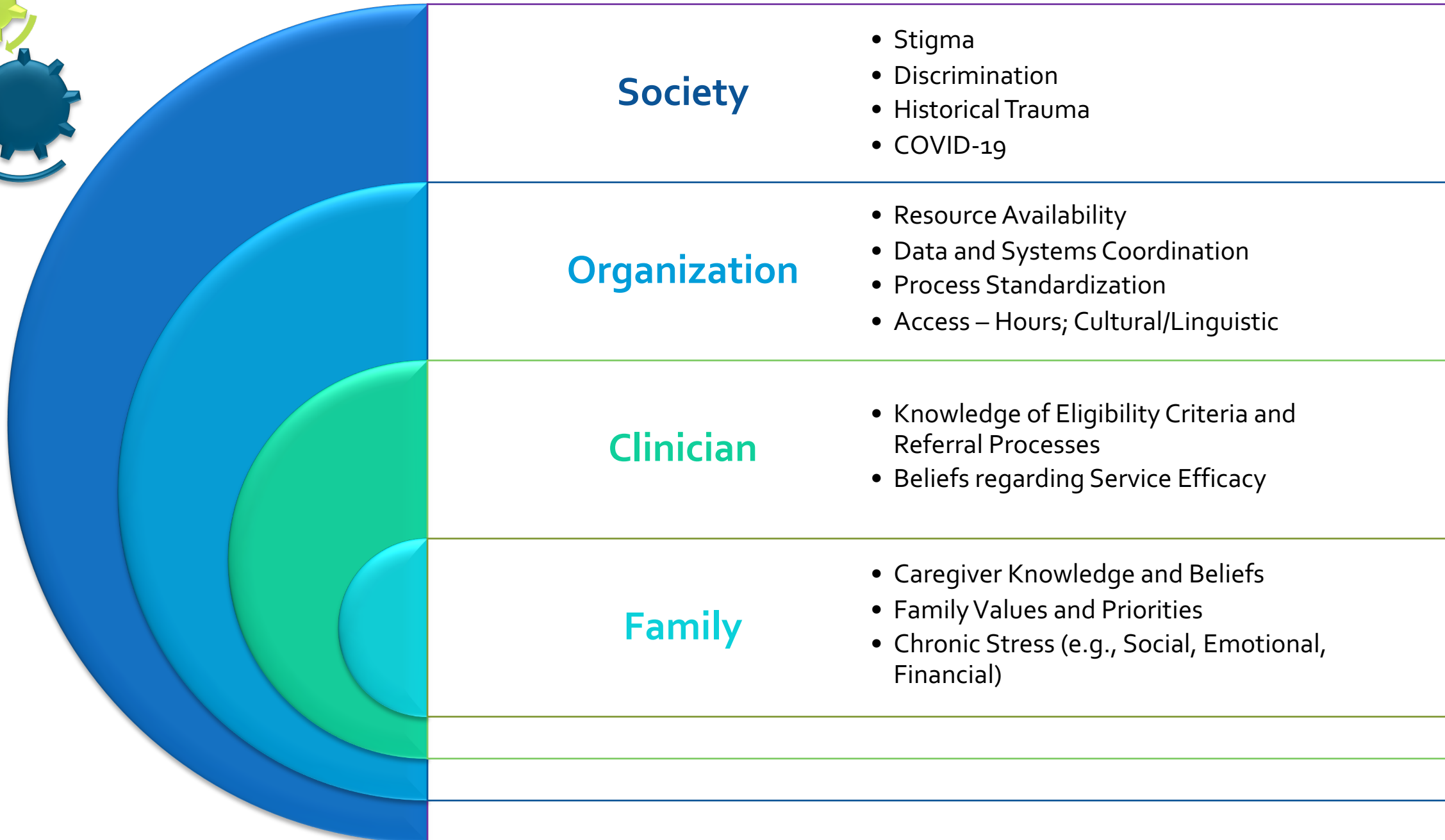


SERVICE USE



Referral Outcome (Service Use)



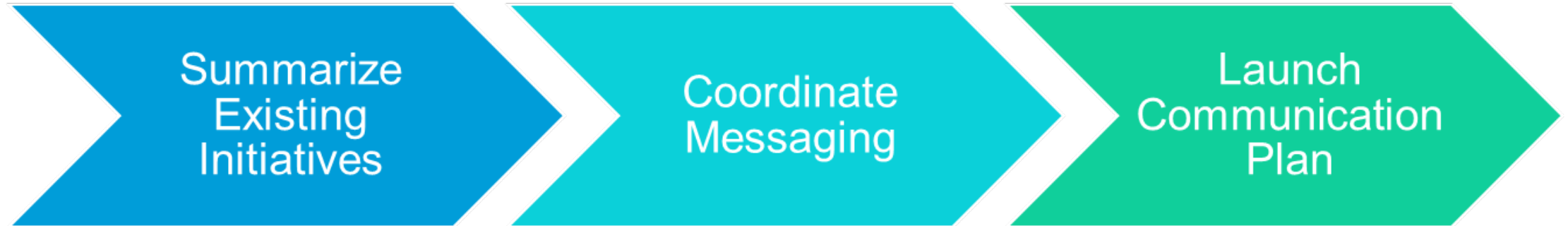


One third of referrals to EI close secondary to families declining services or children and families being lost to follow-up. Current local and state data indicate Black and Indigenous children of color (BIPOC children) and families with limited financial resources are most likely to fall through our state's service cracks.

PRIORITY SETTING

Goal #1 (Knowledge and Awareness)

Increase caregiver/community awareness about the importance of early developmental milestones and the caregiver's critical role in developmental monitoring.



Goal #2 (Behaviors)

Foster meaningful conversations and shared decisions between caregivers of children with developmental concerns and early childhood professionals.



Decision
Support
Intervention



Family
Navigation
Programs



Referral
Tracking System

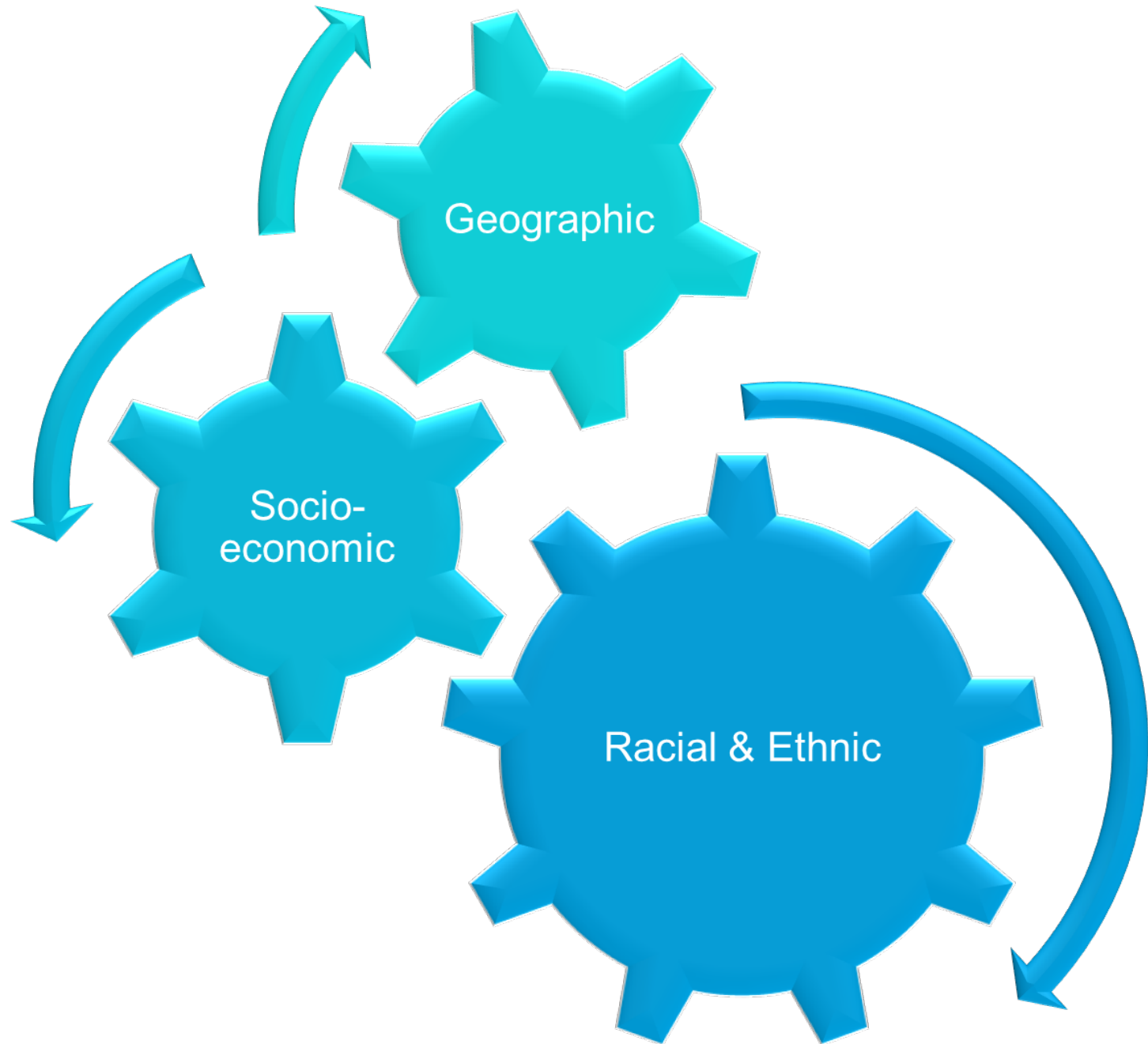


Universal
Screening



Goal #3

Reduce disparities in developmental screening, referral, and service use.



CLOSING DEVELOPMENTAL SCREENING AND EARLY INTERVENTION SERVICES GAPS FOR NON-ENGLISH, NON-SPANISH SPEAKING CHILDREN

Kristi Knuti Rodrigues, MD, MPH, Denver Health Refugee Immigrant, and Migrant Navigation Program

Betsy Ruckard, Denver Health Refugee and Immigrant Services Coordinator

Kuang Oo, Denver Health Refugee Immigrant, and Migrant Navigator

Eileen Auer Bennett, Executive Director, Assuring Better Child Health & Development

Michele Ebendick, Early Childhood Wellness Coordinator at Tri-County Health Department

Shannon Banks, Rocky Mountain Human Services Early Intervention Engagement Specialist

Heidi Troutman, MA, ECSE, Director of Early Intervention at Developmental Pathways



DENVER HEALTH

est. 1860

FOR LIFE'S JOURNEY

BACKGROUND

- **Non-English, non-Spanish speaking (NENS) patients have decreased access to health care and lower odds of receiving developmental screening and surveillance¹⁻³**

Developmental Screening Disparities for Languages Other than English and Spanish

Kristine Knuti Rodrigues, MD, MPH; Simon J. Hambidge, MD, PhD; Miriam Douglas B. Richardson, MAS; Arthur J. Davidson, MD, MSPH

From the Department of Pediatrics (Drs Knuti Rodrigues and Hambidge), Department of Family Medicine (Drs Dickinson and Davidson), University of Colorado School of Medicine, Colorado School of Public Health (Drs Hambidge, Dickinson, and Davidson), Denver Health and Hospital Authority, Denver, Colorado, Aurora, Colo; Community Health Services (Drs Knuti Rodrigues and Hambidge, and Mr Richardson), and Department (Dr Davidson), Denver Health and Hospital Authority, Denver, Colo

The authors declare that they have no conflict of interest.

Address correspondence to Kristine Knuti Rodrigues, MD, MPH, Denver Health and Hospital Authority, 777 Banfill Street, Denver, CO 80204 (e-mail: Kristine.Rodrigues@dhha.org).

Received for publication April 3, 2015; and in revised form October 19, 2015. accepted December 20, 2015.

ABSTRACT

BACKGROUND: Limited English proficiency (LEP) is a known barrier to preventive care. Children from families with LEP face socioeconomic circumstances associated with increased odds of developmental delays and decreased participation in early care

RESULTS: Compared to the English-speaking, non-Spanish group had lower odds of receiving developmental surveillance at 100% of well-child visits (95% confidence interval, 0.2, 0.5) and of being

¹Galbraith AA, Semura JJ, McAninch-Dake RJ, Anderson N, Christakis DA. Language disparities and timely care for children in managed care Medicaid. *Am J Manag Care*. 2008;14(7):417-426.

²Karoly LA, Gonzalez GC. Early care and education for children in immigrant families. *Future Child*. 2011;21(1):71-101.

³Knuti Rodrigues K, Hambidge S, Dickinson M, Richardson D, and Davidson A. Developmental Screening Disparities for Languages Other than English and Spanish. *Academic Pediatrics*. 2016 Sep-Oct;16(7):653-9.



WHY CULTURALLY RESPONSIVE NAVIGATION?

“We trust our people more than other communities. ...More than other persons. I can explain my problems fully to the person who speaks my language and I know he belongs to me....”

“If they have a Somali person working there as a health care provider, or a nurse or a translator, it will help a lot to facilitate understanding between the doctors and the clients and the Somali moms or fathers.”

Reference: Illustrative quotes from pilot NENS community member focus groups and community leader interviews.



DENVER HEALTH
est. 1860
FOR LIFE'S JOURNEY

DENVER HEALTH REFUGEE, IMMIGRANT, AND MIGRANT (RIM) NAVIGATION

Program Oversight:

- Kristi Knuti Rodrigues, MD, MPH
- Betsy Ruckard, Refugee Services Coordinator

NENS Navigators:

- Adrien Matadi
Languages: Amharic, Arabic, French, Lingala, Swahili
- Kuang Oo
Languages: Burmese, Karen, Pwo Karen
- Rasulo Rasulo
Languages: Maay Maay, Somali



DENVER HEALTH

est. 1860

FOR LIFE'S JOURNEY

PROJECT TIMELINE

NENS Navigator Training on ASQ[®]-3 and Survey of Well-being of Young Children[™] (SWYC[™])

Plan, Do Study, Act (PDSA) Cycles for ASQ[®]-3 and SWYC[™]

EDUCA Radio Shows, CAO Outreach

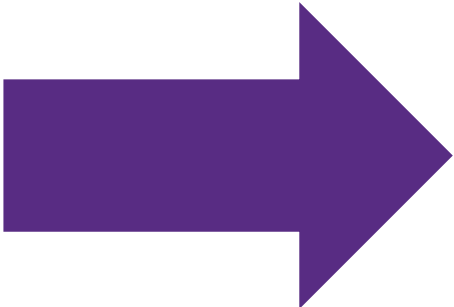
Began Offering NENS Navigator ASQ[®]-3 Assistance to NENS at Lowry Family Health Center

Before and After Data Analysis

Early Intervention Services Referrals Collaboration with Denver Health RIM Navigation, Rocky Mountain Human Services, Developmental Pathways, Denver Public Schools, ABCD, and Tri-Country Health Department

Ongoing Monitoring of Screening Rates

Adjustments for COVID-19



Oct 2017

Dec 2017

Jan 2018

Apr 2018

Jul 2019

Mar 2020



CULTURALLY RESPONSIVE ADJUSTMENTS TO ASQ[®]-3

- 2. Does your baby successfully pick up a crumb or Cheerio by using her thumb and all of her fingers in a raking motion? (9-Month ASQ-3[™])*
- 3. After a crumb or a Cheerio is dropped into a small, clear bottle, does your child turn the bottle over to dump it out? (18-Month ASQ-3[™])*

Navigator Adjustment

“Not so many people in my community know about a crumb or Cheerio, so I use rice as an example to make it more appropriate for my community.”



CULTURALLY RESPONSIVE ADJUSTMENTS TO ASQ[®]-3

6. When you ask, “What is your name?” does your child say both her first and last name? (36-Month ASQ-3™, Communication)

Navigator Adjustment

“For Burmese children, I mark this question as ‘Yes’ if the parent states that the child knows his or her name because in the Burmese community we don’t use first and last names.”



PARTNERS & COLLABORATORS

- Denver Health RIM Navigation Program
- Assuring Better Child Health and Development (ABCD)
- Tri-County Health Department
- Early Intervention
 - Rocky Mountain Human Services
 - Developmental Pathways
 - Denver Public Schools
- Lowry and Westside Family Health Centers
- Epic Champions at Denver Health
- Public Health Institute at Denver Health
- Colorado African Organization
- EDUCA Radio
- Southwest Denver Launch Together



PROJECT TIMELINE

NENS Navigator Training on ASQ[®]-3 and Survey of Well-being of Young Children[™] (SWYC[™])

Plan, Do Study, Act (PDSA) Cycles for ASQ[®]-3 and SWYC[™]

EDUCA Radio Shows, CAO Outreach

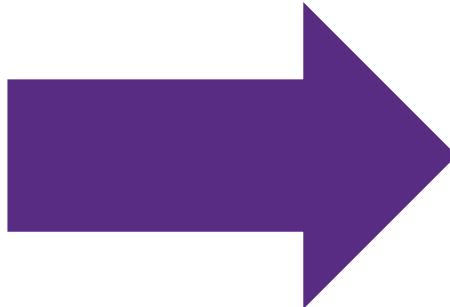
Began Offering NENS Navigator ASQ[®]-3 Assistance to NENS at Lowry Family Health Center

Early Intervention Services Referrals Collaboration with Denver Health RIM Navigation, Rocky Mountain Human Services, Developmental Pathways, Denver Public Schools, ABCD, and Tri-Country Health Department

Ongoing Monitoring of Screening Rates

Before and After Data Analysis

Adjustments for COVID-19



Oct 2017

Dec 2017

Jan 2018

Apr 2018

Jul 2019

Mar 2020



PROJECT TIMELINE

NENS Navigator Training on ASQ[®]-3 and Survey of Well-being of Young Children[™] (SWYC[™])

Plan, Do Study, Act (PDSA) Cycles for ASQ[®]-3 and SWYC[™]

EDUCA Radio Shows, CAO Outreach

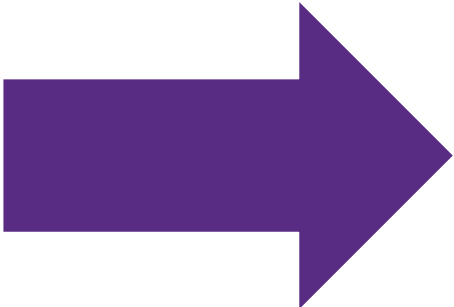
Began Offering NENS Navigator ASQ[®]-3 Assistance to NENS at Lowry Family Health Center

Before and After Data Analysis

Early Intervention Services Referrals Collaboration with Denver Health RIM Navigation, Rocky Mountain Human Services, Developmental Pathways, Denver Public Schools, ABCD, and Tri-Country Health Department

Ongoing Monitoring of Screening Rates

Adjustments for COVID-19



Oct 2017

Dec 2017

Jan 2018

Apr 2018

Jul 2019

Mar 2020



PROJECT EVALUATION: DEVELOPMENTAL SCREENING

- Starting 4/23/2018, NENS families at one clinic (Lowry Family Health Center) within Denver Health (DH), and large, integrated community health system in Denver, Colorado, USA, were offered NENS navigator assistance with ASQ-3s™ at 8-48 month well child visits (WCVs)
- Reviewed and approved by Colorado Multiple Institutional Review Board



PROJECT EVALUATION: DEVELOPMENTAL SCREENING

- Collected demographic and ASQ completion data for NENS children offered NENS navigator assistance
- Calculated monthly developmental screening rates for 8-48 month WCVs before, during, and after implementation of NENS navigator ASQ-3™ assistance (Figure 1)
- Through a retrospective observational cohort study of all NENS children, system-wide, who attended 8-48 month WCVs 5/1/2018-7/31/2019, compared ASQ screening for those offered assistance to those who were not with multiple logistic regression analysis



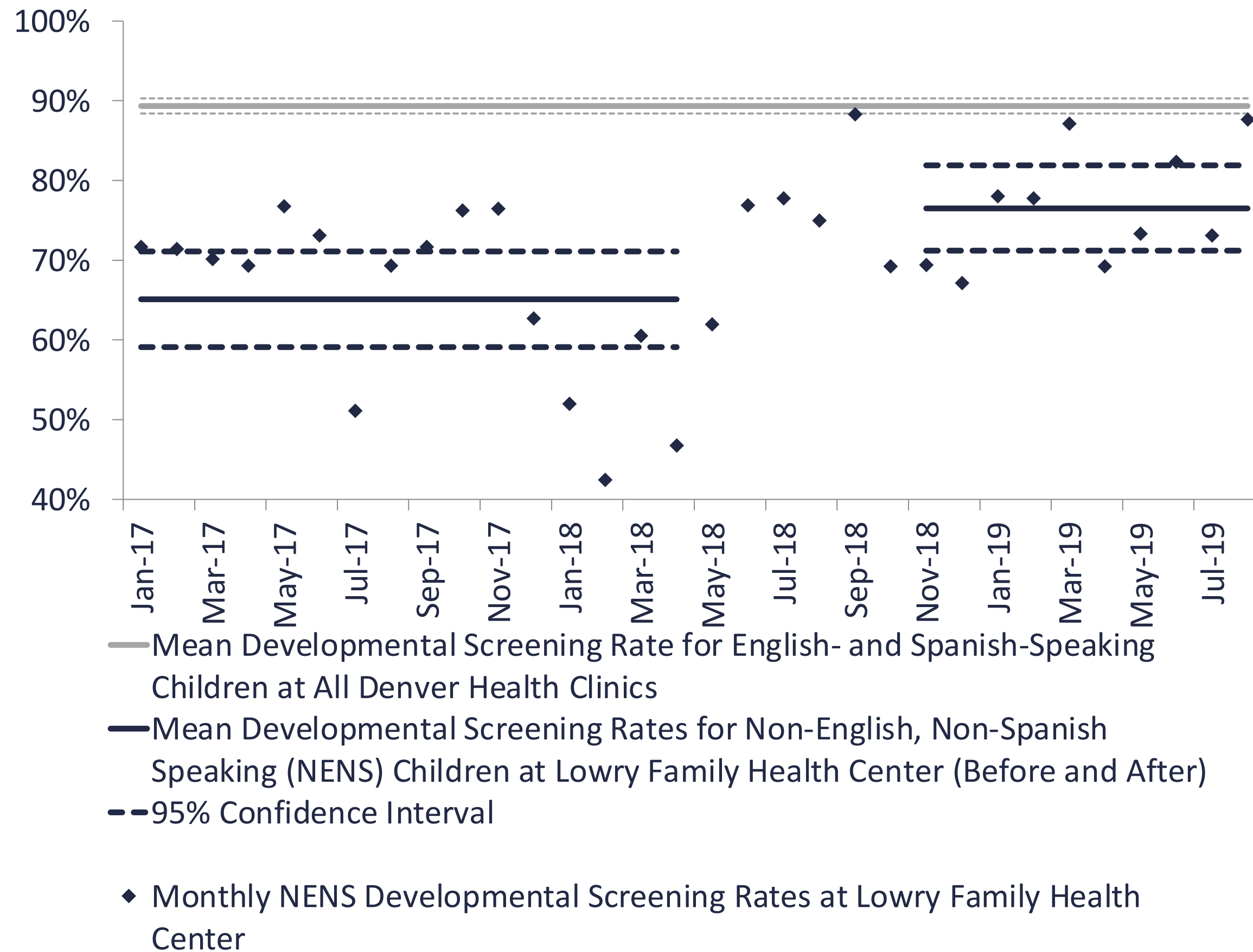
RESULTS: DEVELOPMENTAL SCREENING

- From 4/23/2018 to 7/31/2019, families of 341 NENS children were offered ASQ assistance at WCVs by NENS navigators (77% one WCV, 23% \geq one WCV)
- NENS families accepted 88% of the time
- Of those who accepted assistance, the ASQ was completed 98% of the time, and 41% had family/navigator language concordance
- Most common languages: Amharic (20%), Burmese (16%), Nepali (11%), and Arabic (11%)



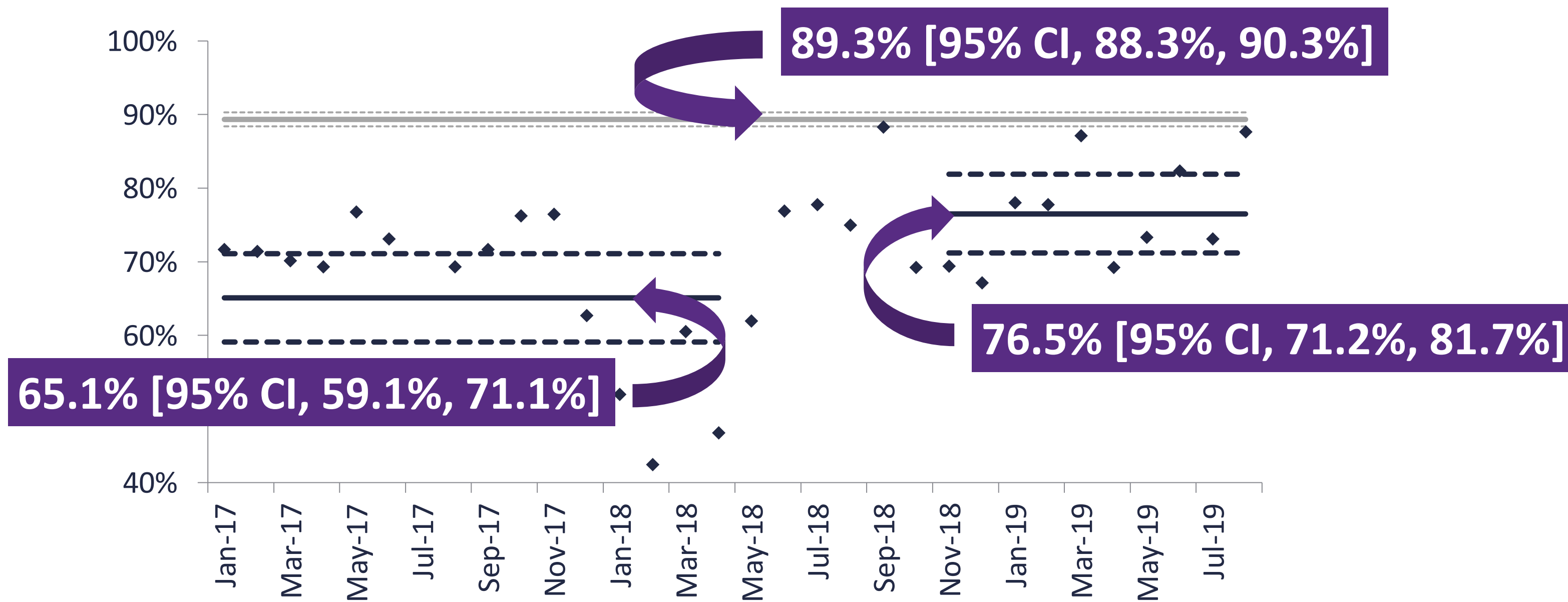
RESULTS

Figure 1. Developmental Screening Rates Before, During, and After Implementation of Non-English, Non-Spanish Navigation at 8-48 Month Well Child Visits



RESULTS

Figure 1. Developmental Screening Rates Before, During, and After Implementation of Non-English, Non-Spanish Navigation at 8-48 Month Well Child Visits



- Mean Developmental Screening Rate for English- and Spanish-Speaking Children at All Denver Health Clinics
- Mean Developmental Screening Rates for Non-English, Non-Spanish Speaking (NENS) Children at Lowry Family Health Center (Before and After)
- - 95% Confidence Interval

◆ Monthly NENS Developmental Screening Rates at Lowry Family Health Center



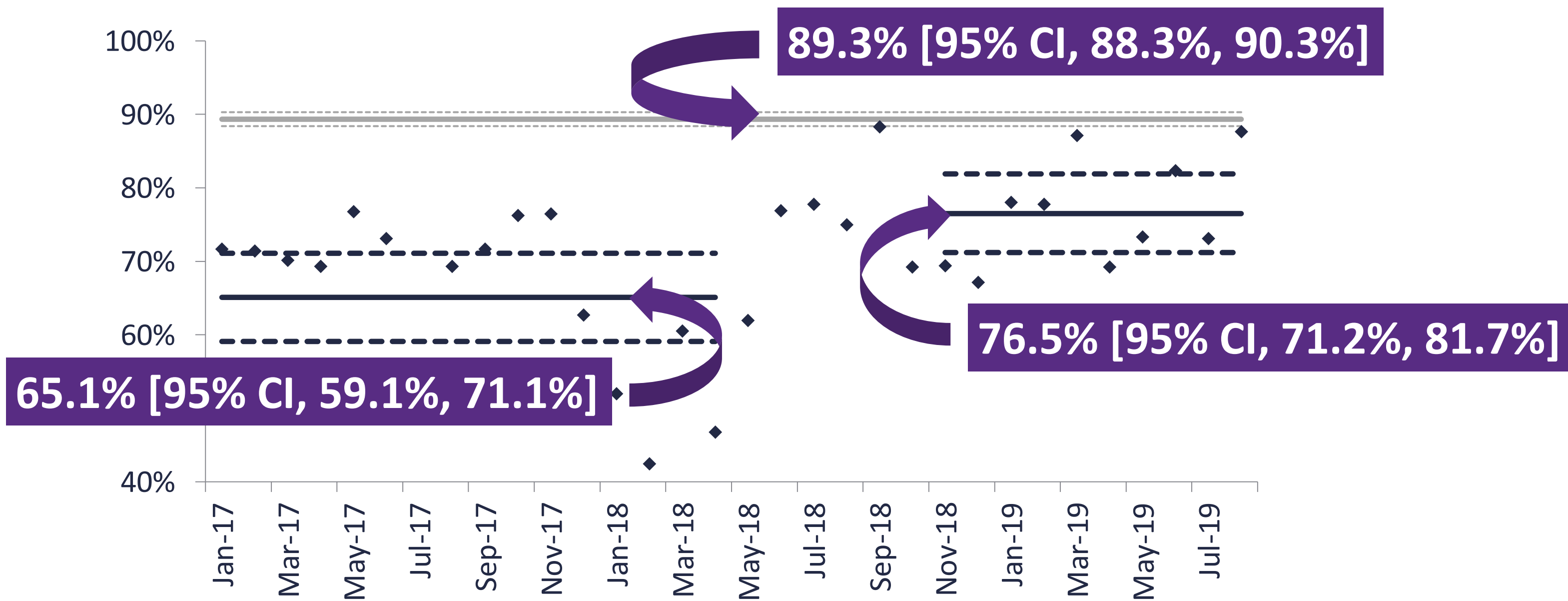
RESULTS: DEVELOPMENTAL SCREENING

- **NENS children offered NENS navigator assistance had higher odds of completing an ASQ [adjusted odds ratio 7.78; 95% CI, 3.02, 20.11]**



RESULTS

Figure 1. Developmental Screening Rates Before, During, and After Implementation of Non-English, Non-Spanish Navigation at 8-48 Month Well Child Visits



- Mean Developmental Screening Rate for English- and Spanish-Speaking Children at All Denver Health Clinics
- Mean Developmental Screening Rates for Non-English, Non-Spanish Speaking (NENS) Children at Lowry Family Health Center (Before and After)
- - 95% Confidence Interval

◆ Monthly NENS Developmental Screening Rates at Lowry Family Health Center



RESULTS: DEVELOPMENTAL SCREENING

More Recent Lowry Family Health Center NENS Developmental Screening Rates:

- August 2019: 87.7%
- September 2019: 77.2%
- October 2019: 77.3%
- November 2019: 76.9%
- December 201: 63.6%
- January 2020: 77.2%
- February 2020: 81.8%

} Project's lead NENS navigator out on leave



PROJECT TIMELINE

NENS Navigator Training on ASQ[®]-3 and Survey of Well-being of Young Children[™] (SWYC[™])

Plan, Do Study, Act (PDSA) Cycles for ASQ[®]-3 and SWYC[™]

EDUCA Radio Shows, CAO Outreach

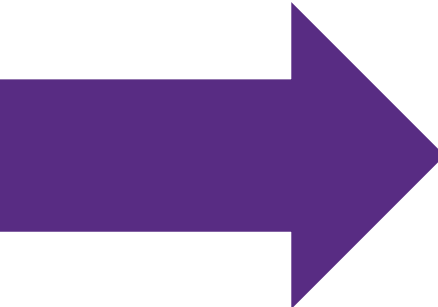
Began Offering NENS Navigator ASQ[®]-3 Assistance to NENS at Lowry Family Health Center

Before and After Data Analysis

Early Intervention Services Referrals Collaboration with Denver Health RIM Navigation, Rocky Mountain Human Services, Developmental Pathways, Denver Public Schools, ABCD, and Tri-Country Health Department

Ongoing Monitoring of Screening Rates

Adjustments for COVID-19



Oct 2017

Dec 2017

Jan 2018

Apr 2018

Jul 2019

Mar 2020



ACKNOWLEDGMENTS

We thank the Colorado Health Foundation for generously funding this work.

Thank you to our many partners and collaborators.



DENVER HEALTH

est. 1860

FOR LIFE'S JOURNEY

QUESTIONS OR ADDITIONAL INFORMATION

Denver Health RIM Navigation

Kristine.Rodrigues@dhha.org

Betsy.Ruckard@dhha.org



DENVER HEALTH™

est. 1860

FOR LIFE'S JOURNEY

PANEL DISCUSSION

- **Reflections on Developmental Screening Project Component**
- **Collaboration between Denver Health, Rocky Mountain Human Services, Developmental Pathways, Denver Public Schools, ACBD, and Tri-County Health Department to Improve NENS Access to Early Intervention Services**

