



## **Introducing NEST**

**Using an Ecological Perspective to Screen Young Children  
for Developmental Risk and Resilience**

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Carmela J. DeCandia, Psy.D. • Katie Volk, Ph.D.

# Creators of NEST



**Carmela J. DeCandia, Psy.D., Principal Investigator**  
Owner & President, Artemis Associates



**Katie Volk, MA, Principal Investigator**  
Formerly of the Center for Social Innovation; Artemis Senior Associate



**Jay Unick, Ph.D., Research Statistician, Associate Professor,**  
University of Maryland Baltimore School of Social Work



**Rosie Donegan, MA, Research Associate,**  
Center for Social Innovation

*\* Originally developed in partnership with the Center for Social Innovation.*

# NEST Advisory Committee

- **Ellen Bassuk, M.D.** Owner, Center for Social Innovation
- **Susan Douglas, Ph.D.**, Assistant Professor of the Practice of Human Development, Department of Leadership, Policy, and Organizations
- **Mary Haskett, Ph.D.**, Professor of Psychology at North Carolina State University
- **Janette Herbers, Ph.D.**, Assistant Professor of Psychology, Villanova University's College of Liberal Arts and Sciences,
- **Lenore Rubin, Ph.D.**, Child Psychologist, King County Public Health Childcare Health Team

# NEST Funding

NEST was originally developed in partnership with the Center for Social Innovation and funded by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD (Grant #1 R44 HD088291-01)). The NICHD approved the study design during the grant review process but was not involved decisions about data analyses and platform development.



**N**eurodevelopmental  
**E**cological  
**S**creening  
**T**ool

*An instrument to screen children's development that can be administered by nonclinical staff in low-resourced settings*

A woman with glasses and a patterned headscarf is sitting on the floor, reading a book to a group of young children. The children are also sitting on the floor, looking at the book. The background shows a classroom setting with colorful decorations.

## Features

- Developed with a diverse sample
- Ecological framework
- Assesses risk/protective factors
- Online and user friendly
- Designed for non-clinical professionals
- Actionable recommendations in real-time

**Protective**

**Risk**

**Individual  
Family  
Environment**

**The Science of Risk & Resilience**

# Assessment vs. Screening

## Assessment

- Scope: Broad/Deep.
- Time: Lengthy.
- Purpose: Diagnostic.

## Screening

- Scope: Narrow/Snapshot.
- Time: Brief.
- Purpose: Determine Risk.



# **Why Screen for Developmental Risk: 4 Critical Needs**

# Addressing a Critical Need:

## 1: Prevalence of Risks—*Child*



### Developmental Delay

- **6-7%** US children (age 3-17) diagnosed
- **2x** Children living in poverty
- **2x** Hispanic and Black children
- **25%** Young children who are homeless

Sources: National Child Health Survey, 2017; Child Trends, 2013; Haskett et al, 2015, RWJF, 2017

# Addressing a Critical Need:

## 1: Prevalence of Risks—*Child*



### Adverse Childhood Experiences (ACE) One or more

- **40%** White children
- **51%** Hispanic children
- **64%** Black children
- **62%** children with family incomes under 200 percent of the federal poverty level

Sources: National Child Health Survey, 2017; Child Trends, 2013; Haskett et al, 2015, RWJF, 2017


# Addressing a Critical Need:

## 1: Prevalence of Risks—*Child*



### Adverse Childhood Experiences (ACE) children ages 3 – 5

Impacts a child's social emotional development and chances of school success.

- **2+ ACEs**  **4x** more likely to have trouble calming themselves down, be easily distracted, and have a hard time making and keeping friends.
- **75%** children ages 3 to 5 who have been expelled from preschool also had ACEs.

Source: RWJF (2017) <https://www.rwjf.org/en/library/articles-and-news/2017/10/traumatic-experiences-widespread-among-u-s--youth--new-data-show.html>

# Addressing a Critical Need: 2: Prevalence—*Parents*



*“Extremely poor and homeless women have disproportionately high rates of depression that are compounded by their circumstances.”*

—Bassuk & Beardslee, 2016

- **25%** mothers living in poverty; ethnic/racial minorities
- **40% to 60%** low-income mothers with young children
- **45% to 85%** mothers experiencing homelessness

Sources: Hayes et al., 2013, Weinreb et al., 2006 Bassuk et al, 1998; Grote, Zukoff, Swartz, Bledsoe, & Geibel, 2007; Kessler et al., 2003; Knitzer, Theberge, & Johnson, 2008.)

# Addressing a Critical Need:

## 2: Prevalence—*Parents*



*“Exposure to trauma is directly related to socioeconomic status (SES) in a dose response manner such that lower income is associated with increased traumatic exposure.”*

*“Children who grow up in economically disadvantaged families and communities are at increased risk for what is referred to as a “toxic stress response.”*

—American Psychological Association

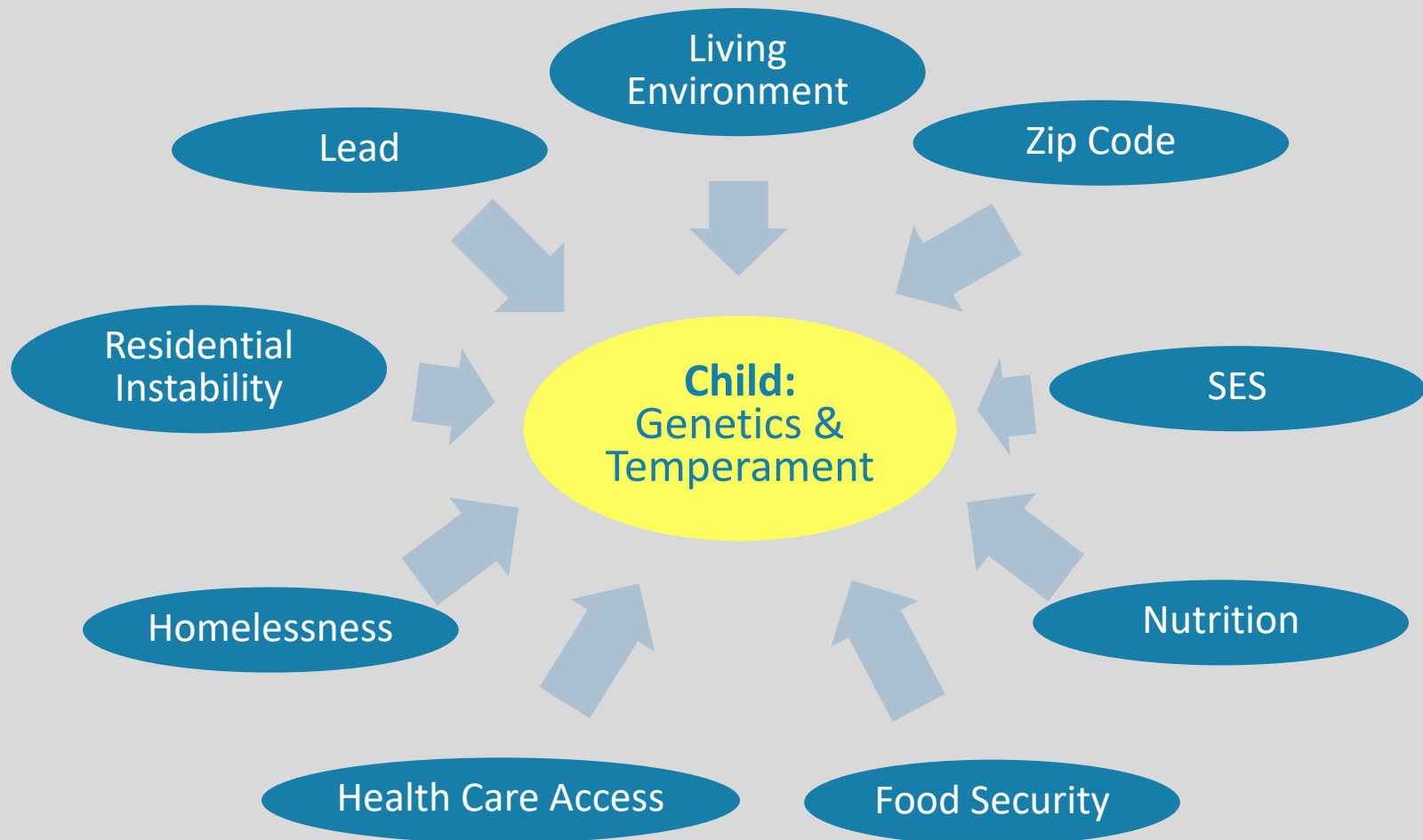
- **90%+** homeless mothers exposed to child/adult trauma
- **30%+** homeless mothers meet criteria for PTSD

Sources: Hayes et al., 2013, Weinreb et al., 2006 Bassuk et al, 1998; Grote, Zukoff, Swartz, Bledsoe, & Geibel, 2007; Santiago, Kaltman, & Miranda, 2013; Sedlak et al., 2010;

Kessler et al., 2003; Knitzer, Theberge, & Johnson, 2008,  
file:///C:/Users/Carmela%20DeCandia/Downloads/economically-disadvantaged.pdf )

# Addressing a Critical Need:

## 3: Ecological Context



# Addressing a Critical Need:

## 4: Support Providers/Teachers



# Addressing a Critical Need:

## 4: Support Providers/Teachers

### Child

- **Ages & Stages**  
(gross, fine, problem-solving, *personal-social, general parental concerns*)
- **Brigance**  
(communication, academic, motor)
- **Denver**  
(personal/social, gross/fine motor, language)
- **PEDS** (cognitive, language, gross/fine, behavior, social-emotional, self-help, school)

### Norms

- 66% white, 54% 4+ years college,
- 65% white, 54% completed college
- 54-60% white, Colorado
- 65% white, 25% low-income, represents US @ 1996 Census

### Caregiver

- **PHQ-9** (depression)
- **PCL** (PTSD symptoms)
- **ACE** (trauma exposure)
- **Parenting Assessment of Core Factors**
- **PSI-V** (parenting stress)
- **Arnold** (parenting behaviors)
- **AAPI** (parenting competence/quality of relationship to child)
- **DAST-10**
- **GAD-7** (anxiety)

### Environment

- **VI-SPDAT** (housing)
- **USDA/state-based lead screener**
- **Child ACE**
- **Social Support Screener**
- **USDA Food Security**

**Combine into recommendations.**

“For developmental screening to be effective it should begin early in a child’s life;

be repeated throughout early childhood;

and use reliable, valid screening tools appropriate to the age, culture, and language of the child.”

Moodie et al (2014) *Early childhood developmental screening: A compendium of measures for children ages birth to five.*  
Administration for Children and Families.

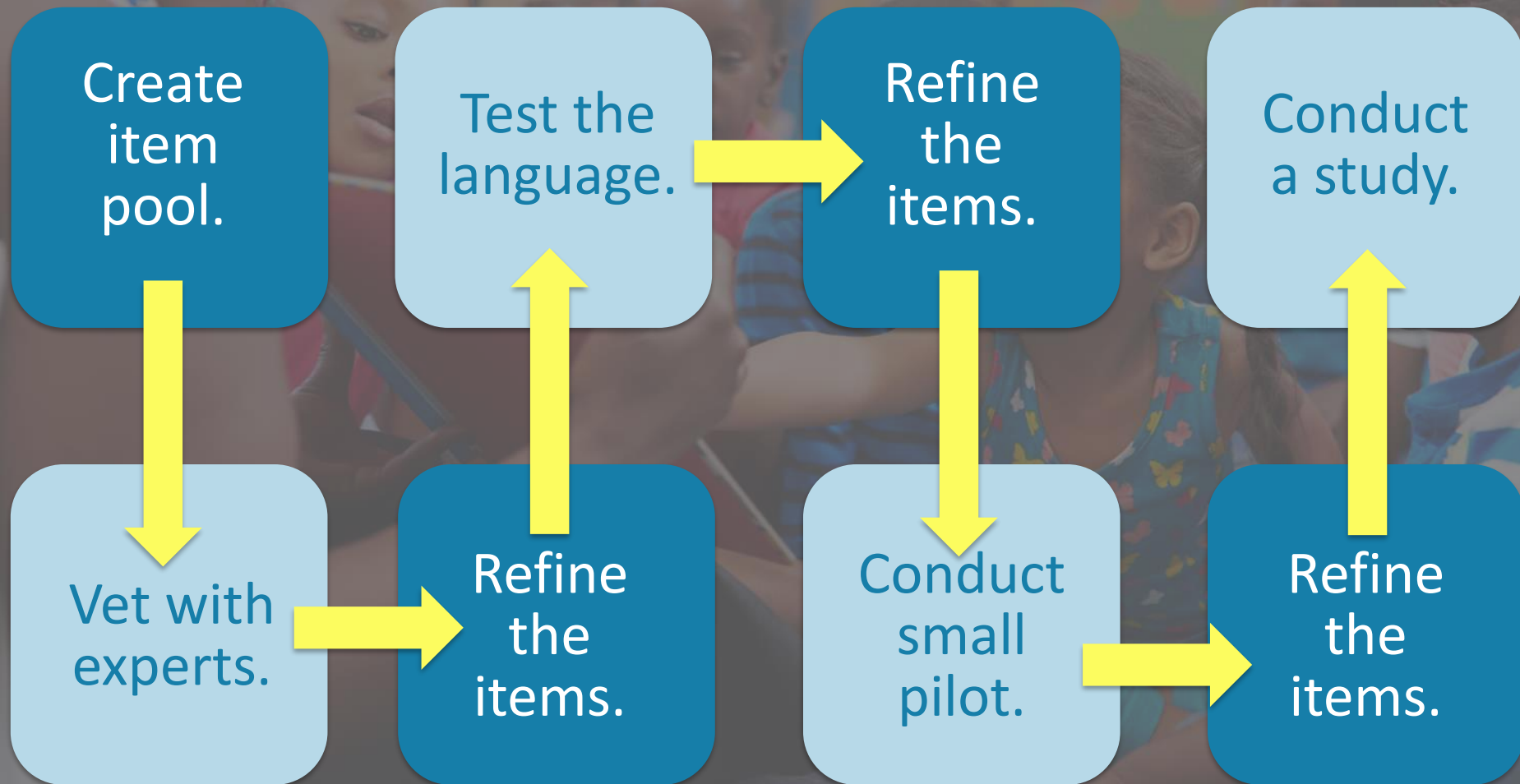
“This can be a challenge, since very few developmental screening tools are developed or tested with linguistically or culturally diverse samples of children.”

Moodie et al (2014) *Early childhood developmental screening: A compendium of measures for children ages birth to five.*  
Administration for Children and Families.



## How was NEST Developed

# Research Process



# Creating the Item Pool



- Literature Review:
  - Child development, caregiver influence, environment
- Input
  - Experts in the field
  - Family & Provider-Cognitive testing

# Pilot Study



- Sample
  - 5 Massachusetts programs
  - n = parents of 60 children
- Inclusion criteria:
  - Children aged 3 – 5 experiencing homelessness
  - English (5th grade)
- Results:
  - 20 – 30 minutes
  - 47 worked well (no changes)
  - A few need slight re-wording
  - A few need to be re-thought

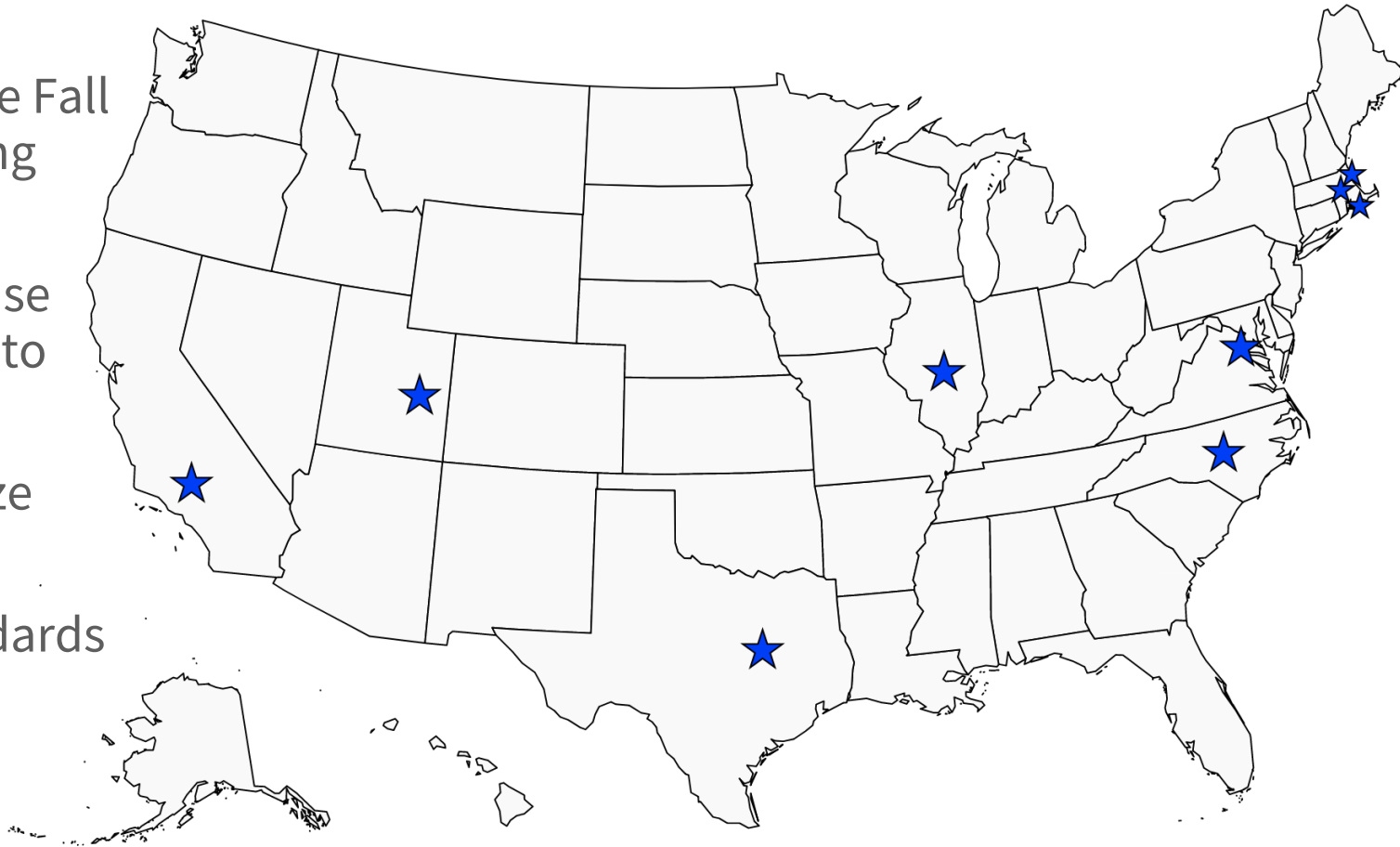
# Adjustments & Final Item Pool



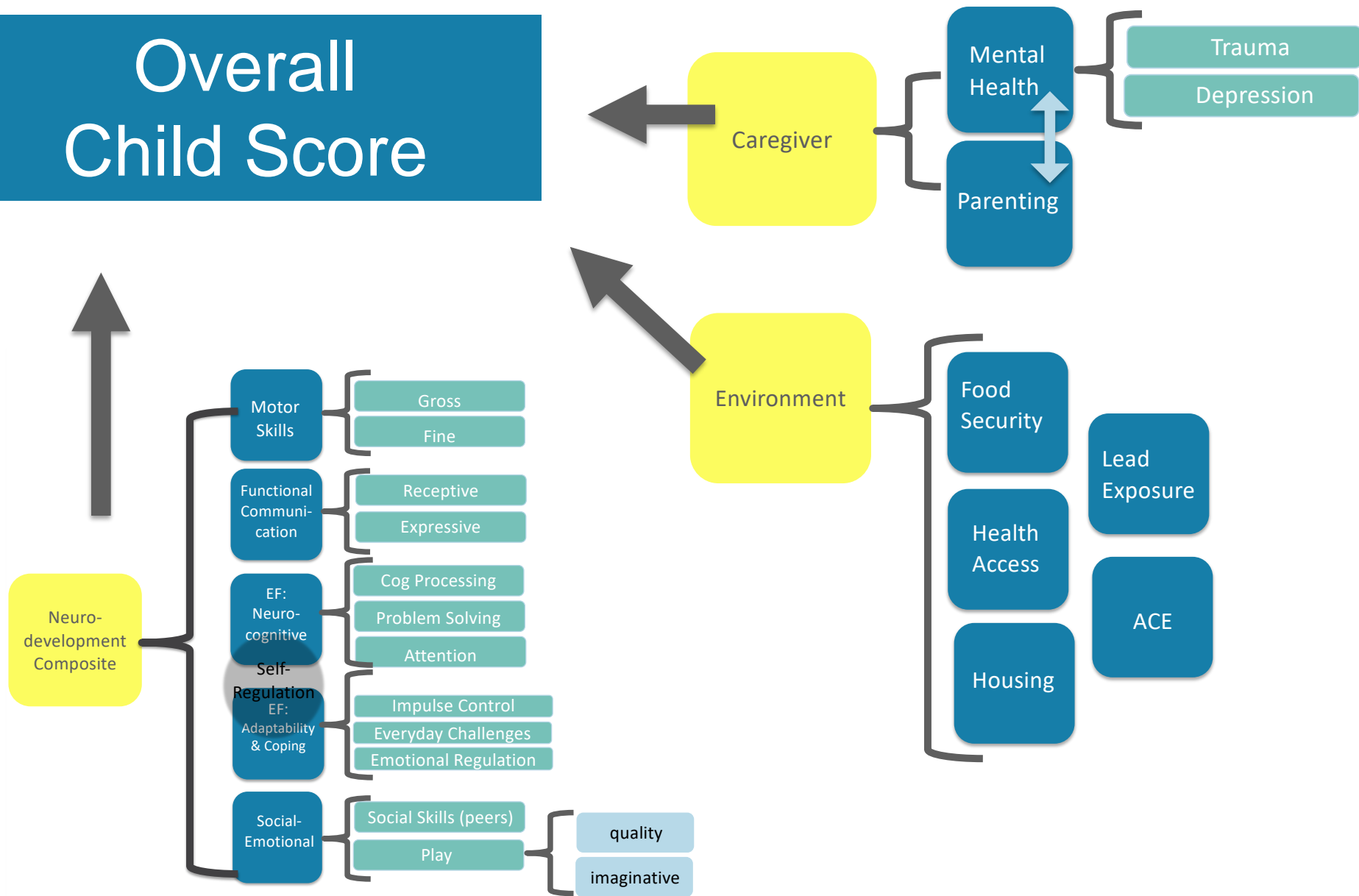
- Play scale
  - Refocus on Imaginative & Social
- Parenting Scale
  - Refocus on Overreactive Parenting Behaviors
- Environment Scale
  - Add Health Care Access, Lead, Nutrition

# NEST SITES (PHASE II Field Testing)

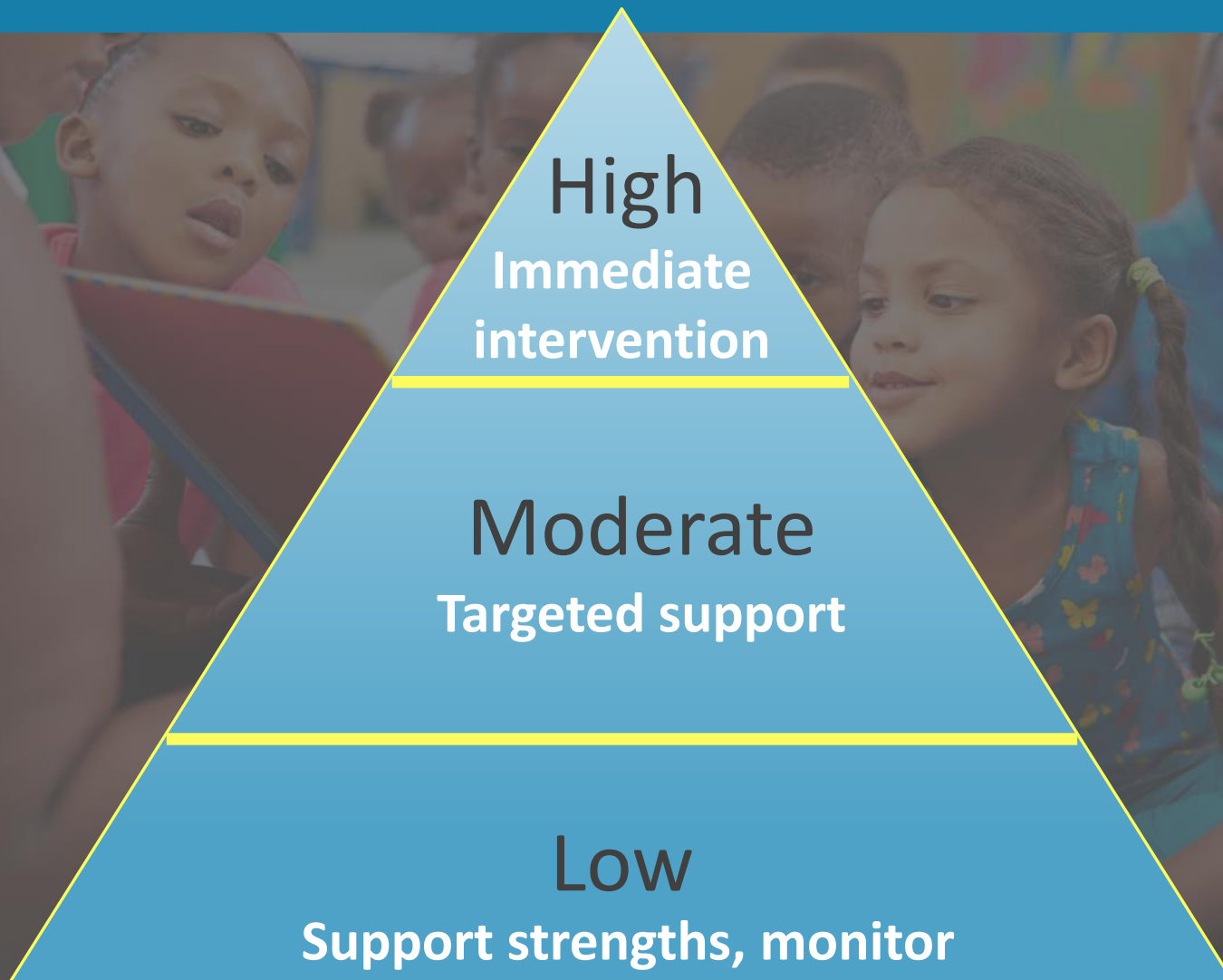
- 9 sites nationwide Fall 2017-Spring 2018
- Trained case managers to use NEST
- Sample size n=230
- Gold standards n=48



# Overall Child Score

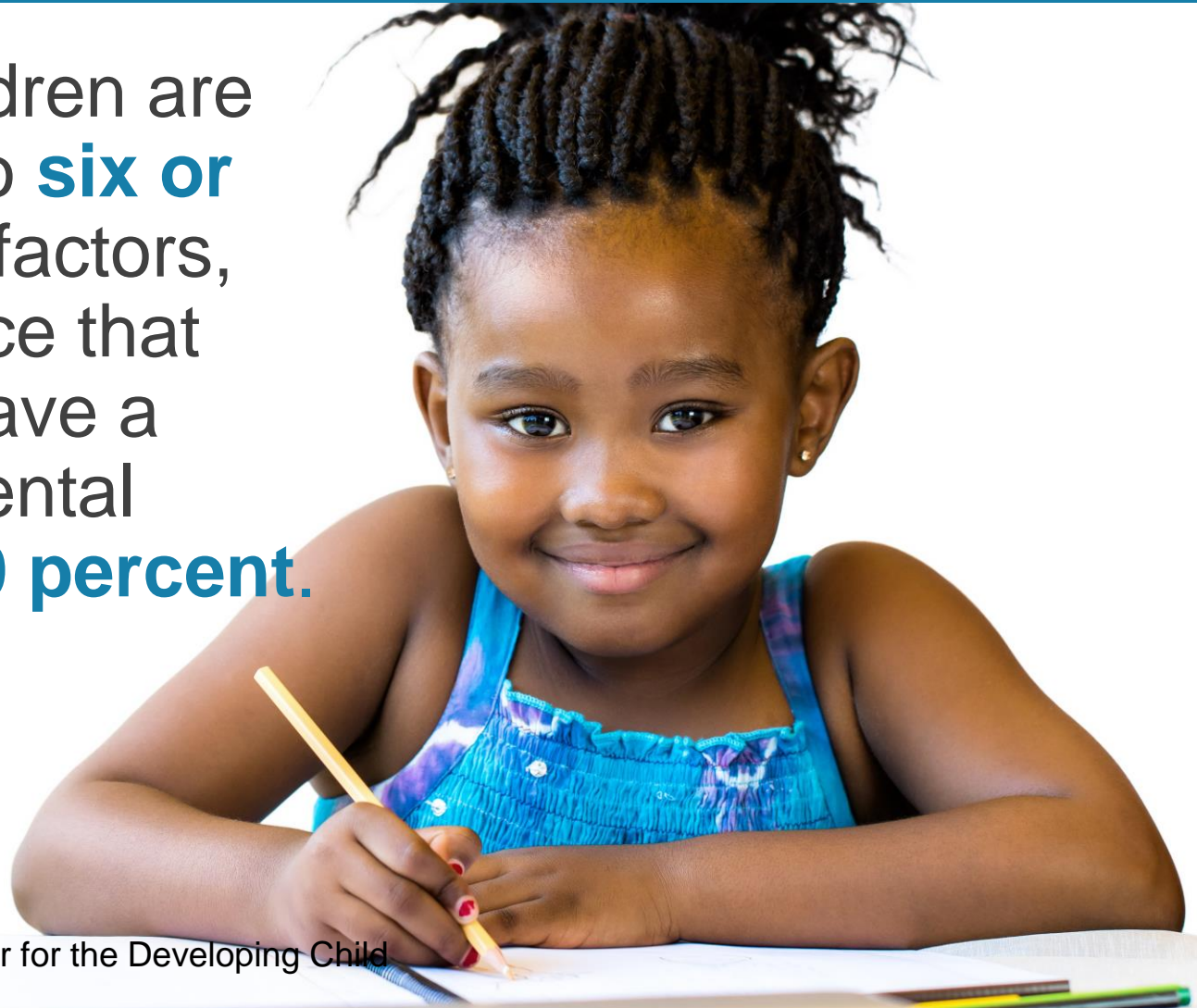


# Scoring \* Recommendations



# Why NEST?

When children are exposed to **six or more** risk factors, their chance that they will have a developmental delay is **90 percent**.



Use of standardized screening **reduces bias, improves accuracy**, and helps us to make better informed decisions. Providers serving children need **the right tools** to best support children.



Providers serving children  
need the **right tools** to  
best support children.



# Final Thoughts

*The most potent solutions to pressing social issues often come from a combination of on-the-ground clinical experience and a robust literature base.*

*NEST was designed to put the right tools in the hands of the people working with low-income children and families.*

(DeCandia et al., 2020)

