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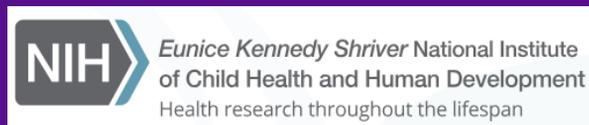


Innovative Models for Preventing School Readiness Disparities in Pediatric Primary Care

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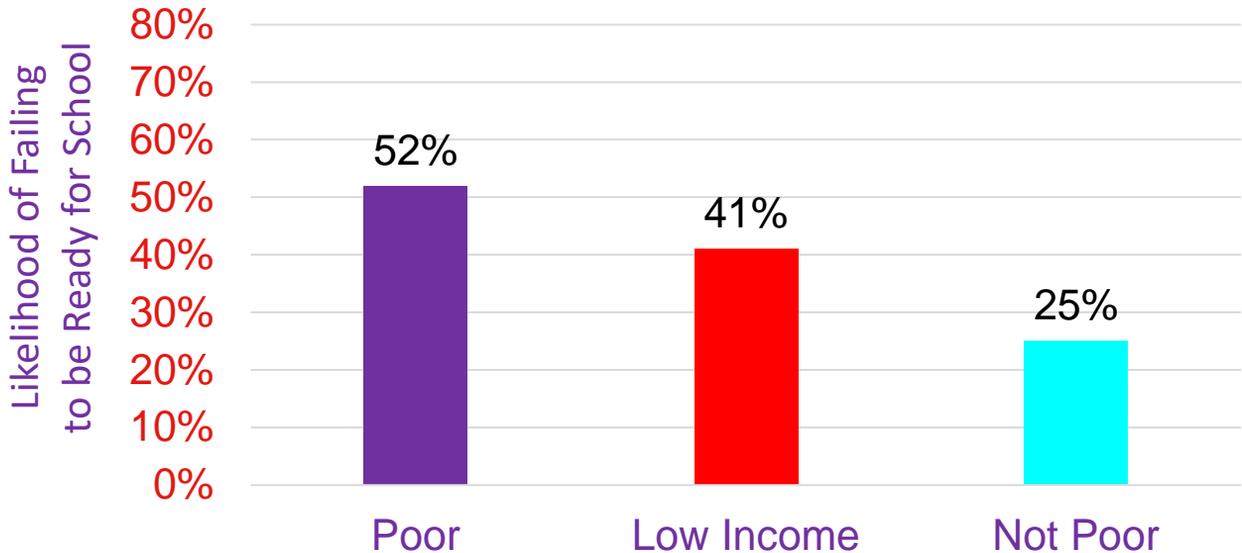
The problem:

Poverty-related disparities
across developmental domains begin in
early childhood and impact educational,
economic and health outcomes
throughout life

Guiding Principles

- Need for *primary prevention* beginning in *early childhood*, prior to emergence of problems
- *Positive parenting activities* are an important target for intervention given cross-domain impacts
- *Pediatric primary care* represents a low-cost, universal, population-scalable platform for promotion of parenting and school readiness

More than 50% of Children in Poverty Fail to be Ready for School: *Major Public Health Crisis*



Brookings Institution, 2012
Analysis of ECLS-B

Early disparities become persistent gaps that *widen over time*

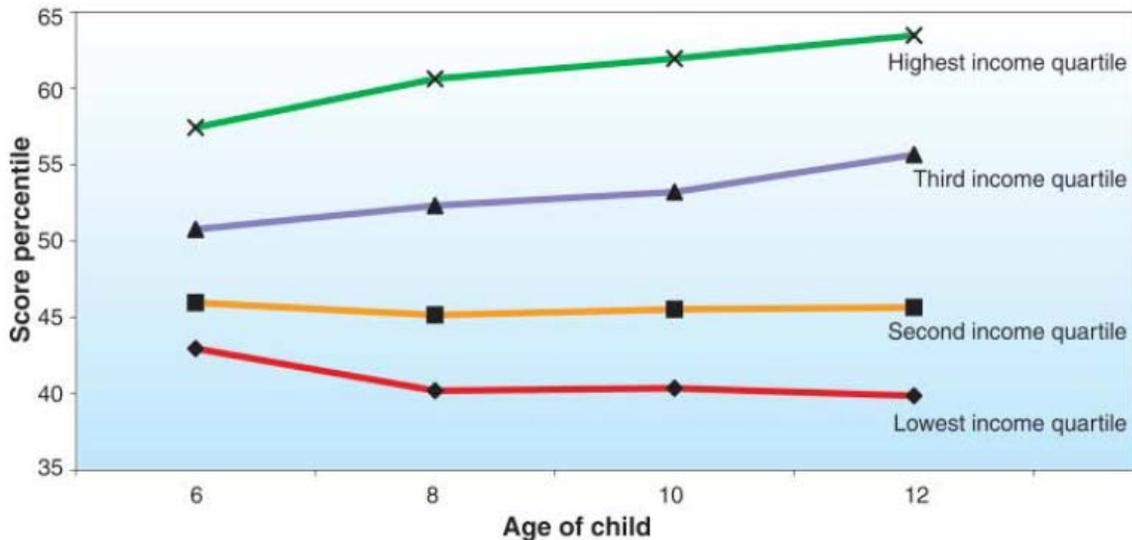
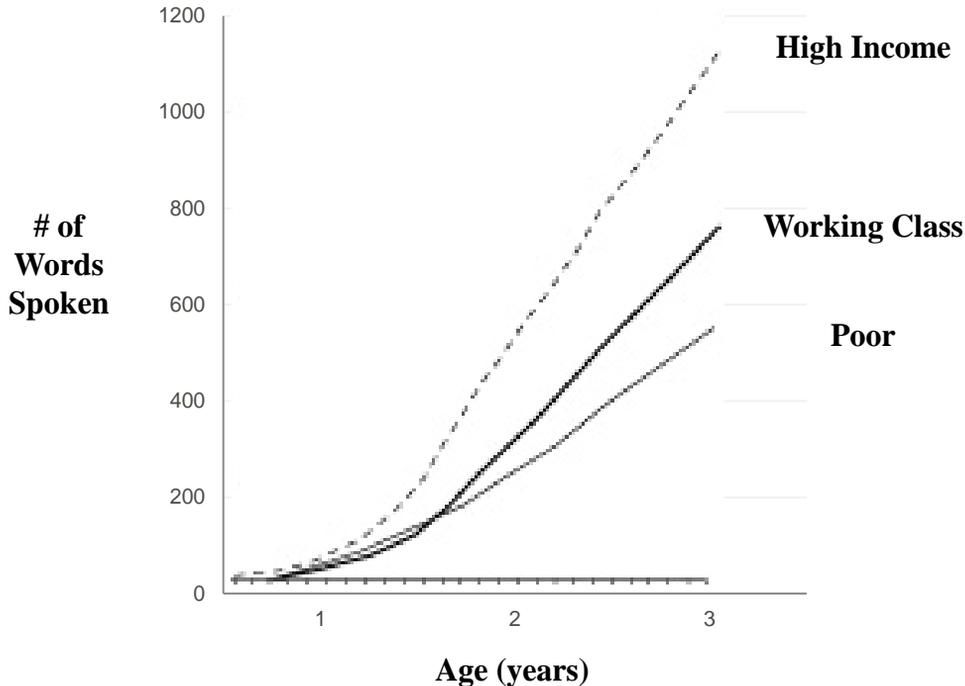


Fig. 1. Average percentile rank on Peabody Individual Achievement Test–Math score by age and income quartile. Income quartiles are computed from average family income between the ages of 6 and 10. Adapted from (3) with permission from MIT Press.

Heckman JJ. Skill formation and the economics of investing in disadvantaged children. *Science*. 2006;312:1900

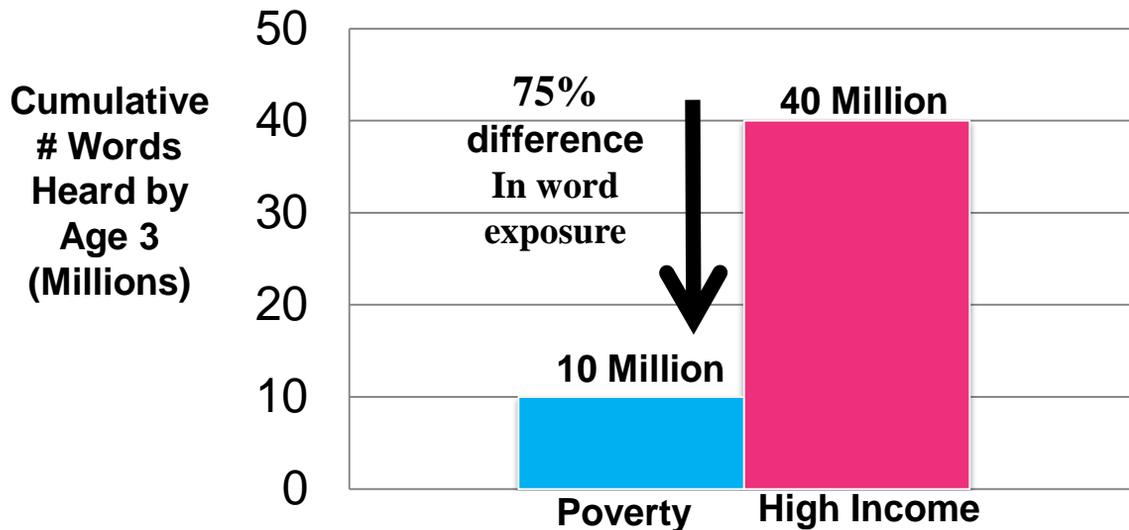
Carneiro P, Heckman JJ. In *Inequality in America: What Role for Human Capital Policies?* Heckman jj, Krueger AB, MIT Press 2003, chapter 2, pp 77-237.

Disparities begin in *very early childhood* & *across developmental domains*



Hart & Risley, 1995

Parent-Child Interactions: Account for 50% of disparities “The 30 million word gap”



Hart & Risley, 1995
Brooks-Gunn & Markman, 2005



Positive Parenting Behaviors that Facilitate Parent-Child Interactions are Important Targets for Intervention

Shared
bookreading



Adult-supported play

Pediatric Primary Care: Universal Platform for Promoting Parenting and School Readiness

Population-level accessibility:

- Medicaid and CHIP expansion
 - ~90% of children now covered for primary care
 - >90% children 0-5 attend well-child care each year
- 13-15 recommended visits from birth - 5 yrs

High engagement:

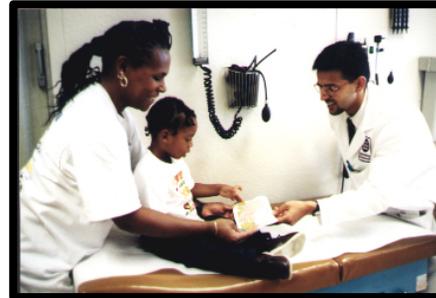
- Opportunity to build on existing relationships and parent goals
- Medical home models further promotes this relationship

**Early,
population-scalable
interventions**

Low cost:

- Builds on existing staff, infrastructure, and visits

Most studied, proven primary care intervention: *Reach Out and Read*



Waiting room volunteers & staff:

- Model reading activities

Boston City Hospital , 198

Barry Zuckerman, M.D.

Robert Needlman, M.D.

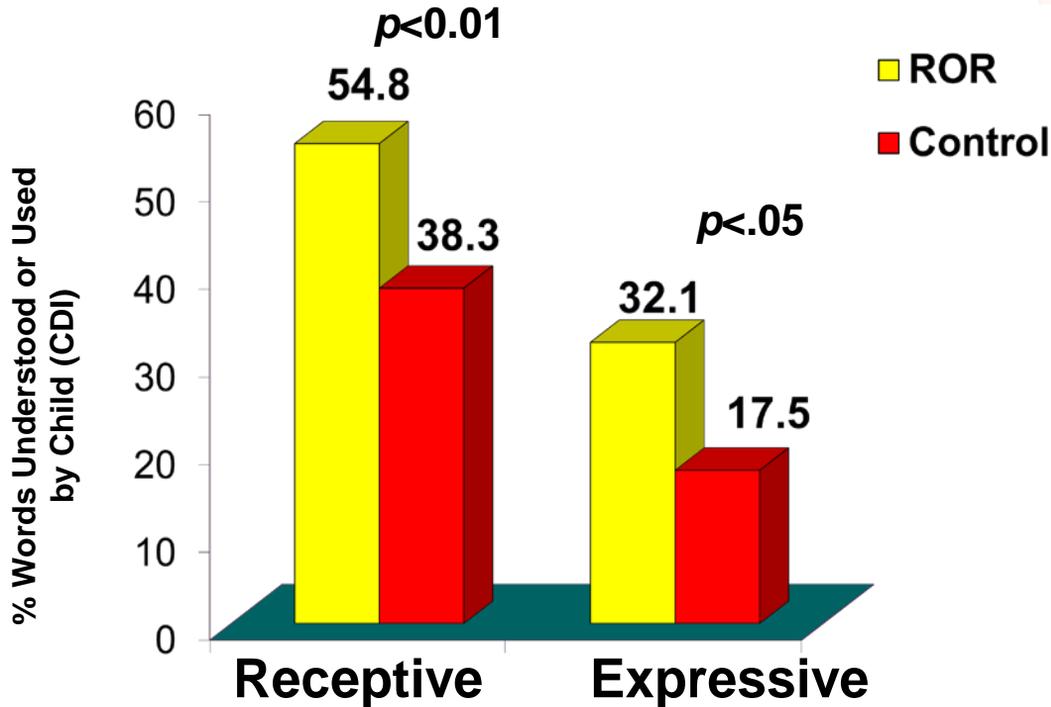
Kathleen Fitzgerald Rice, M.S.Ed

Perri Klass, M.D. (now NYU)

Health care providers:

- Counsel parents about the importance of reading
- Distribute free children's books (10-14 books over 5 years)

ROR: 50% Increase in *Toddler Vocabulary*



High, LaGasse, Becker et al, 2000, *Pediatrics*



ROR experience has *proven* that pediatric primary care can be effectively utilized as a *universal, population-scalable* platform for *low cost* prevention



- >15 studies show impacts (reading aloud, vocabulary)
- >25% of all low income US children ages 6 months to 5 years are reached by ROR: 4.7 million children
- Estimated cost: \$25/child/year
 - 1% cost of home visiting
 - Policy perspective: *rounding error*



Birth to 5 program designed as enhancement to ROR:

1. Coach working 1-on-1 with families
2. Promotion of play, reading aloud, teaching and talking
3. **Core activity:** Video-recording of parent-child interaction followed by review of video to promote self-reflection

Relatively low cost:

~\$175-\$200 / child / year



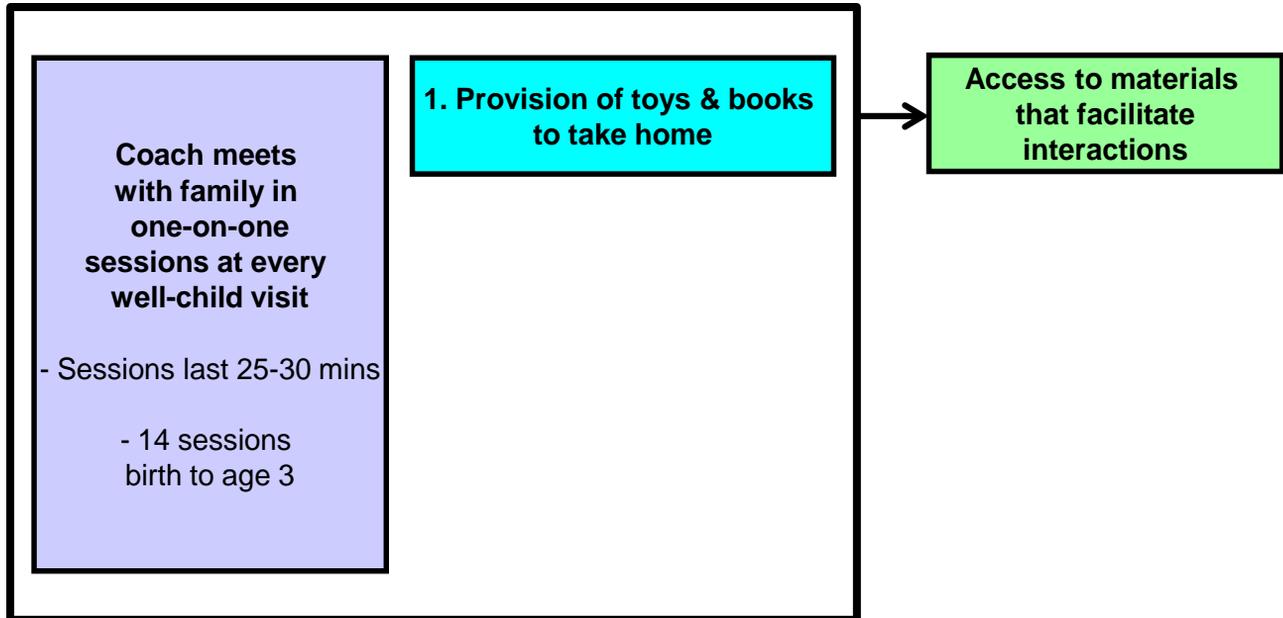
Video Interaction Project (VIP)



Program structure

Key program components

Anticipated Outcomes



Video Interaction Project (VIP) Provision of Learning Materials



Infant



Toddler



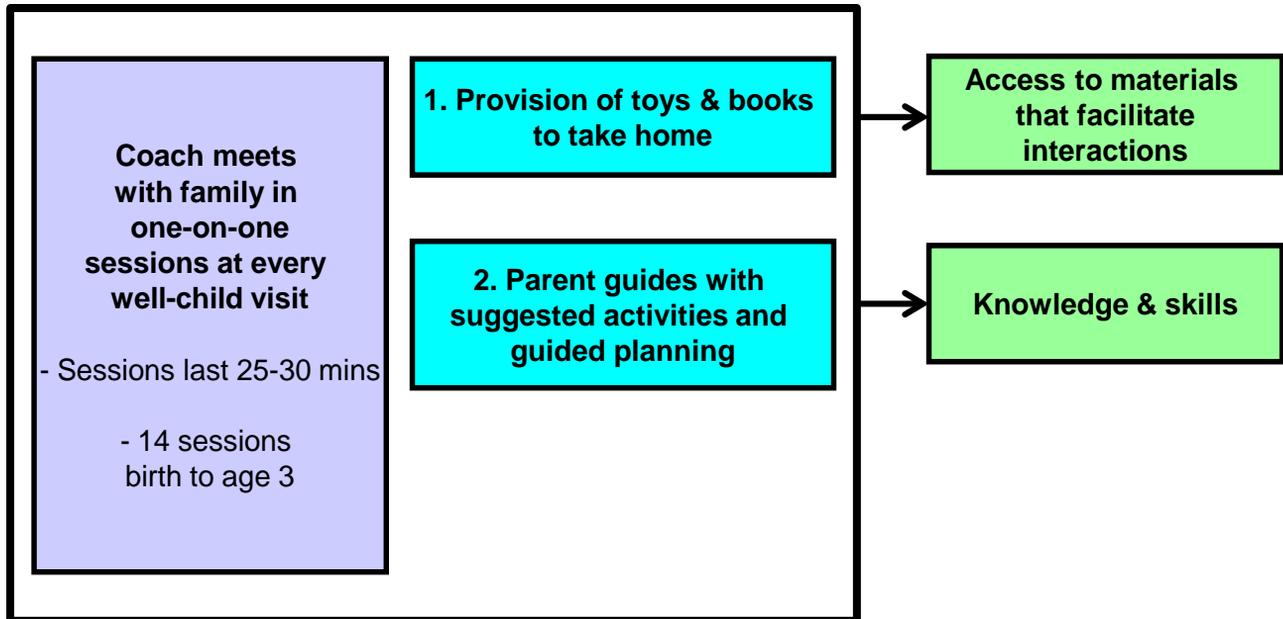
Video Interaction Project (VIP)



Program structure

Key program components

Anticipated Outcomes



Video Interaction Project (VIP)

Interactive Pamphlets Build on Parent's Goals

VIP Guide

Caregiver's Name: _____

Date: _____

My Baby Today	<p>_____ is __ months old!</p> 	<p>What I've noticed:</p>	
		<p>What to look for:</p> <ul style="list-style-type: none"> • Coos and squeals. • Imitates your smiles. • Lifts her head to look during tummy time. 	<p>Tips:</p> <ul style="list-style-type: none"> • When your baby smiles or makes a sound, you smile too or can make the same sound back. • Talk about things you are doing while feeding, bathing, dressing. • Talk as your baby lifts his head. • Say a word that describes what she's looking at.
Reading, Playing, and Talking Together	<p>My favorite moments:</p>	<p>My Video</p> <ul style="list-style-type: none"> • My goals: • What I liked: 	
	<p>Ideas for today's toy:</p> <ul style="list-style-type: none"> • See if your baby watches as you move the toy. • Label parts and colors on the toy. • Place the toy near the baby so he can feel the texture. 		

Toy: Mindshapes Blocks or Bug Jug

Interventionist: _____

2m

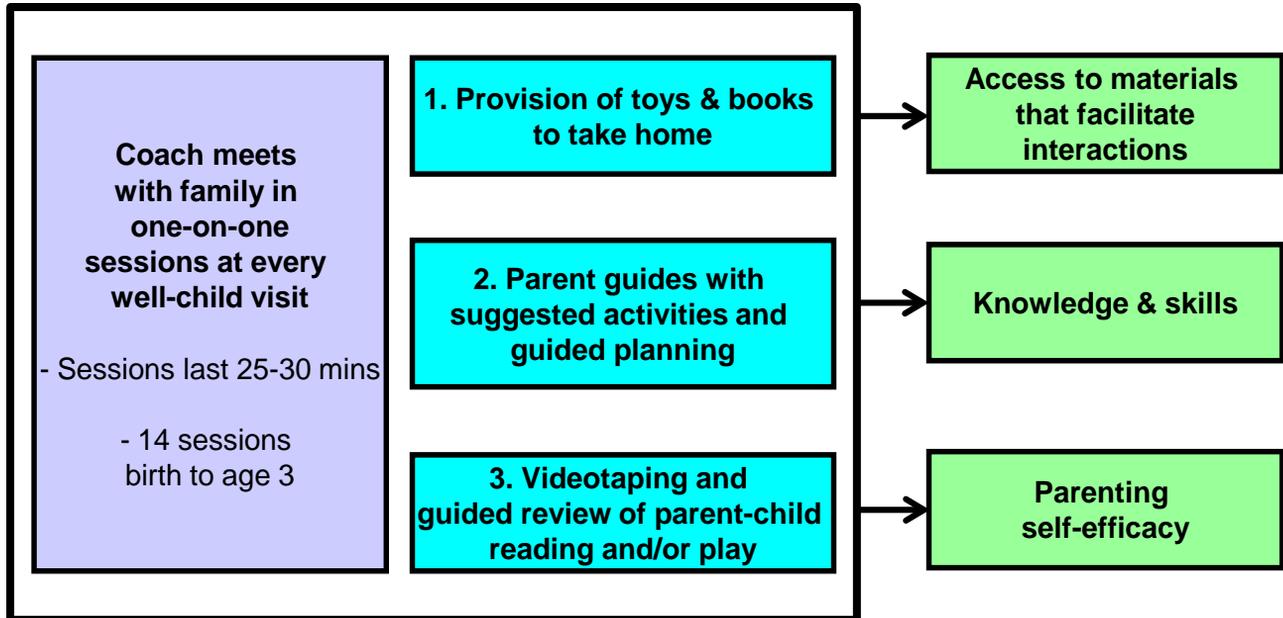
Video Interaction Project (VIP)



Program structure

Key program components

Anticipated Outcomes



Video Interaction Project (VIP)

Making of the Video recording



Watched together by parent-child specialist and parent

- Positive interactions observed and reinforced
- Additional opportunities for interactions identified
- DVD/video given to parent to take home to share with family

Video Interaction Project

Video Interaction Project Research

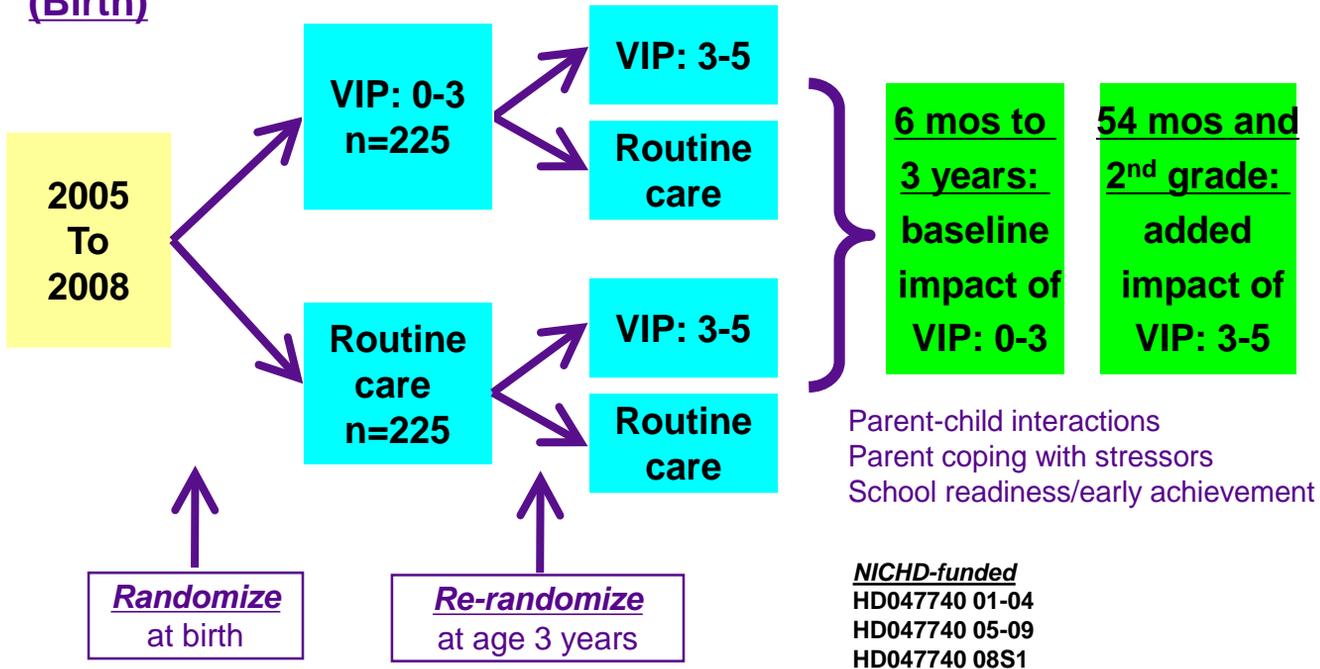
BELLE Project: *Factorial* RCT

Enrollment
(Birth)

0-3 years

3-5 years

Study Impact



Eunice Kennedy Shriver National Institute
of Child Health and Human Development
Health research throughout the lifespan

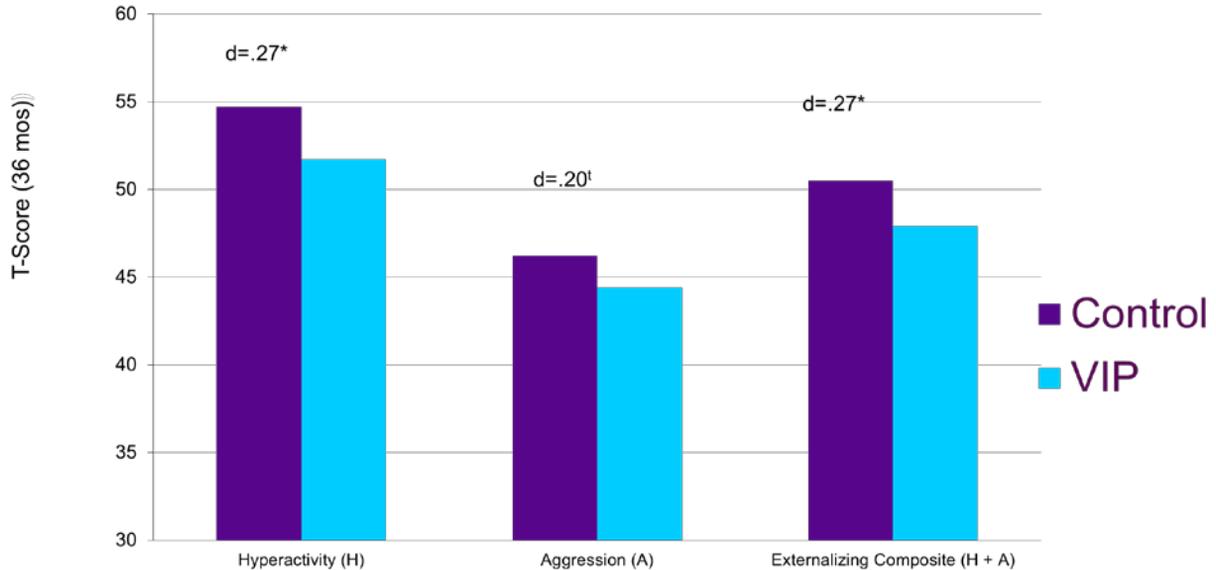


VIP Research: Published findings



- Increased parent-child interactions
 - Enhanced reading, play, talking, teaching (Mendelsohn, 2011a; Cates, in press)
 - Reduced screen time (Mendelsohn, 2011b)
 - Reduced physical punishment (Canfield, 2015)
- Enhanced psychosocial functioning
 - Reduced maternal depressive symptoms (Berkule, 2014)
 - Reduced parenting stress (Cates, 2015)
- Improved child development
 - Enhanced language, cognition (Mendelsohn, 2005, 2007, 2013)
 - Enhanced social-emotional development (Weisleder, 2016; Mendelsohn, 2018)

VIP 0-3 impacts on Social-emotional Development: Large Reductions in Behavior Problems at 3 years



d: Cohen's d

**p<.05, †p<.10

Weisleder et al, *Pediatrics*, 2016

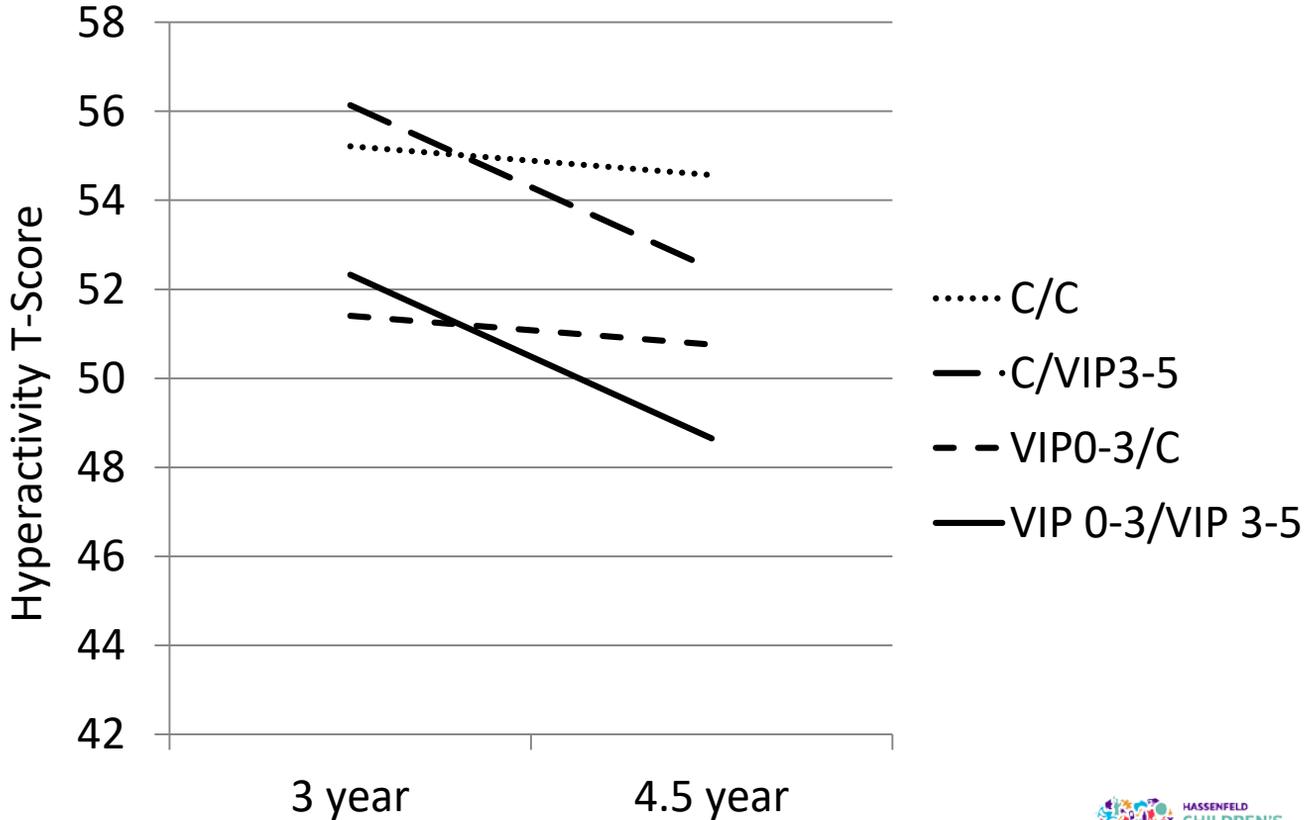
BASC Subscale



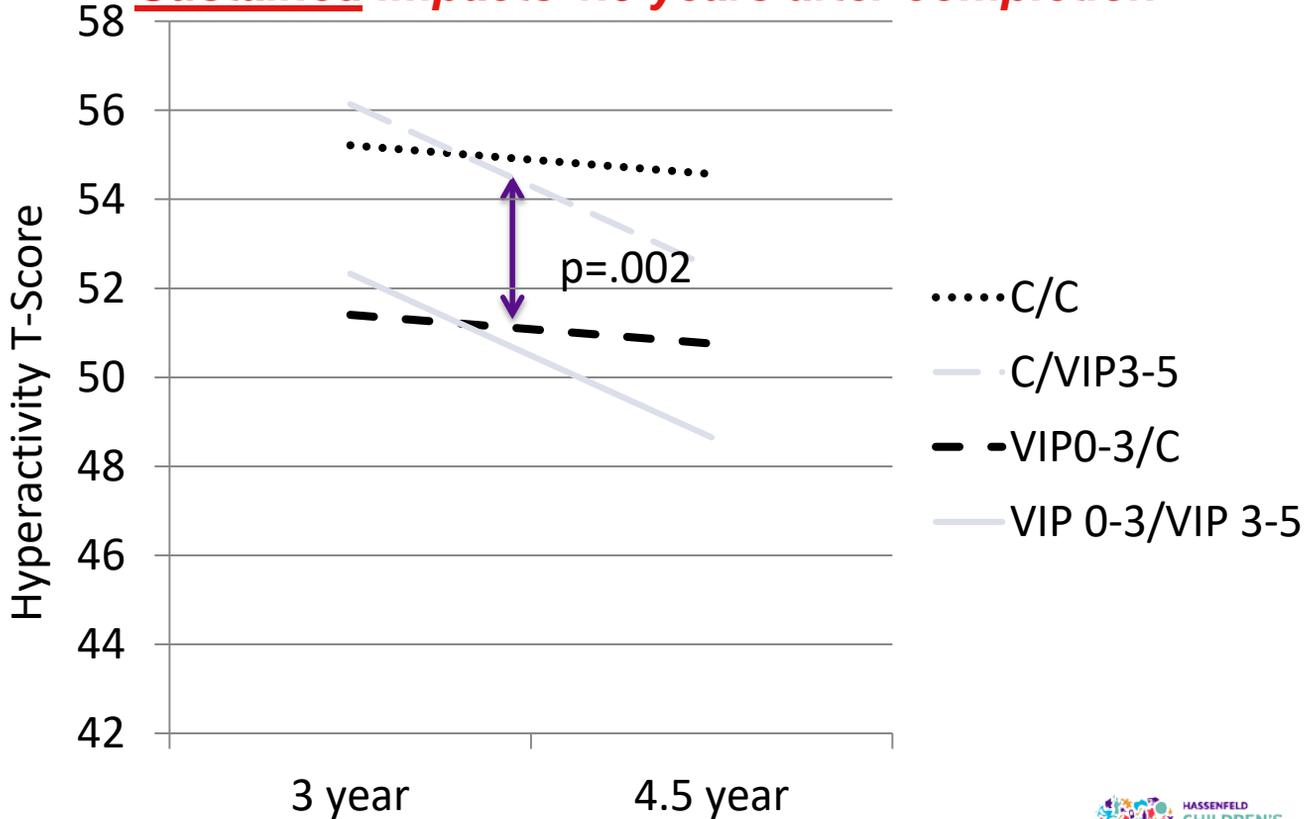
Eunice Kennedy Shriver National Institute
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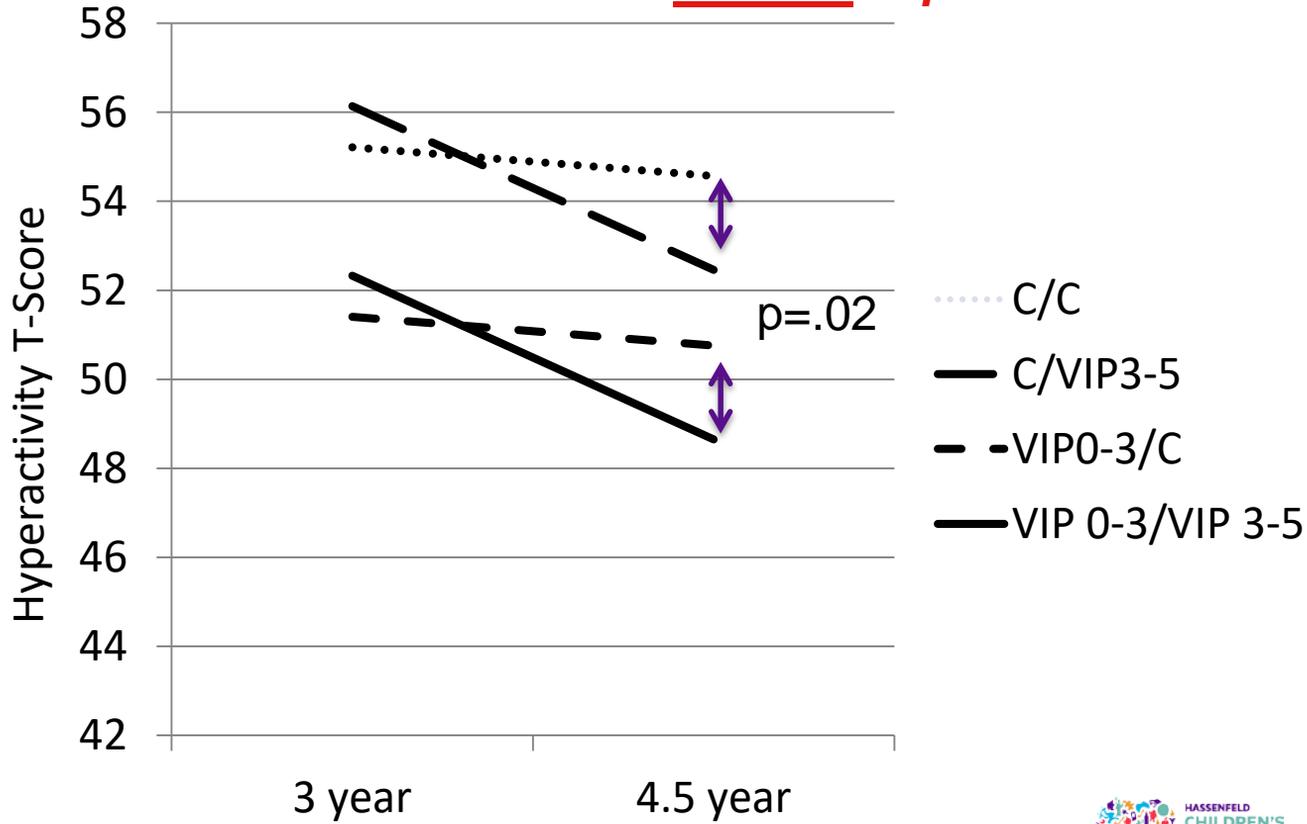
Trajectories (MLM) of VIP 0-3 and 3-5 - impacts on behavior: Age 3 to 4.5 years



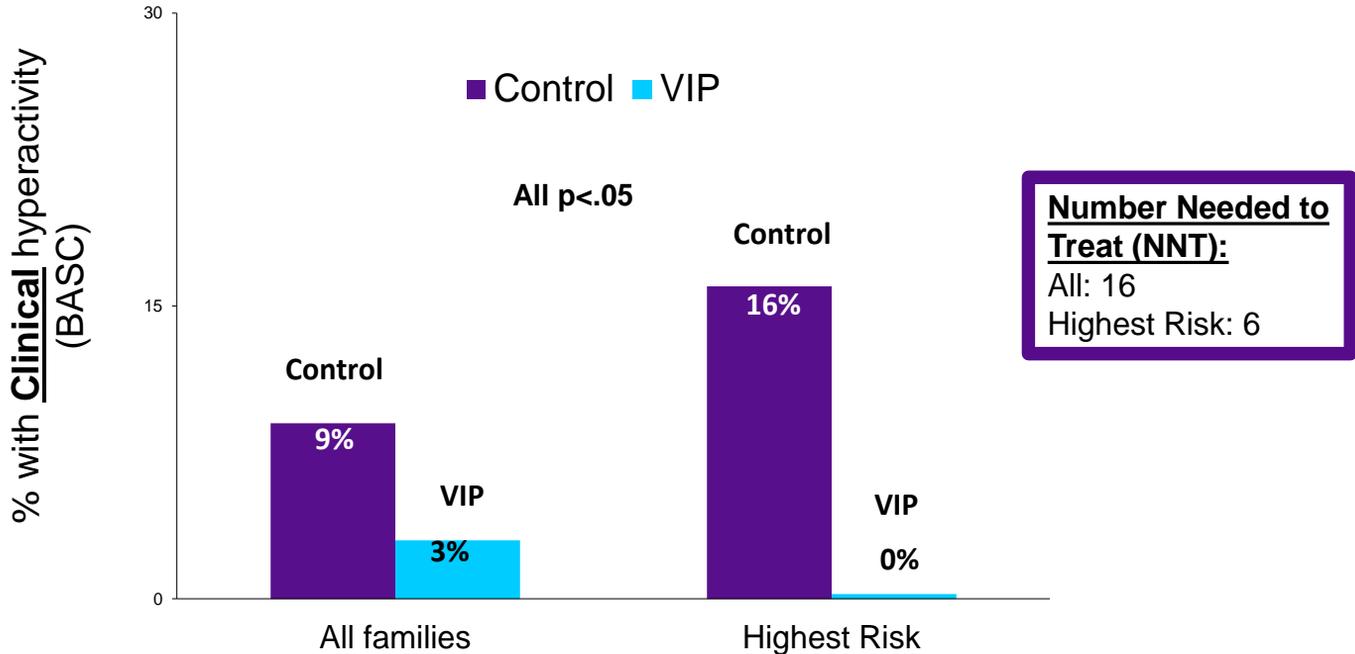
Trajectory (MLM): **Main effect of VIP 0-3**
Sustained impacts 1.5 years after completion



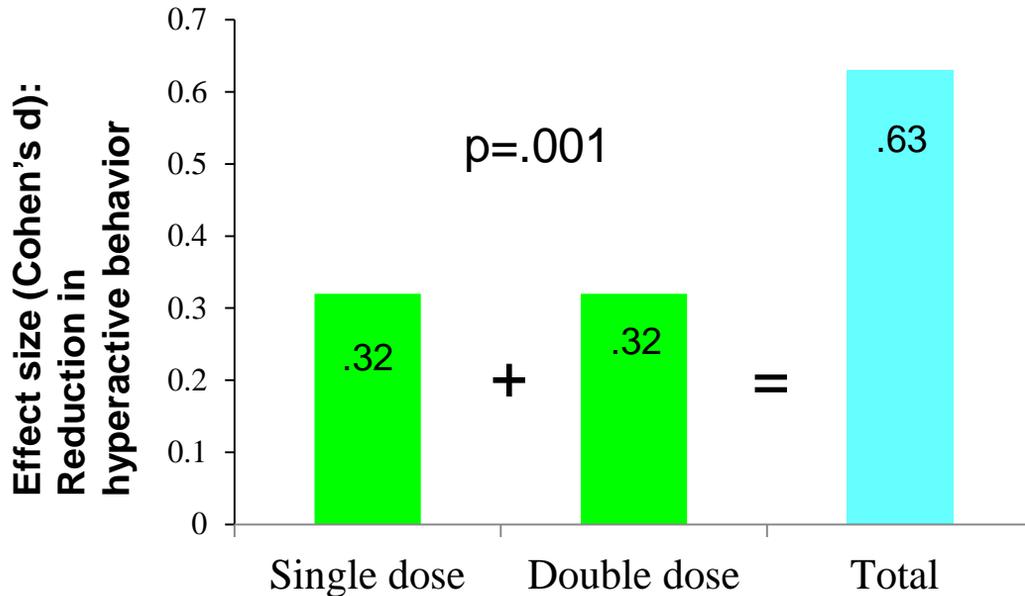
Trajectory (MLM): **Group by age interaction showing VIP 3-5 additive impacts**



VIP 0-3 impacts on Behavior Problems: Impacts on Clinical Level Hyperactivity at 4.5 years



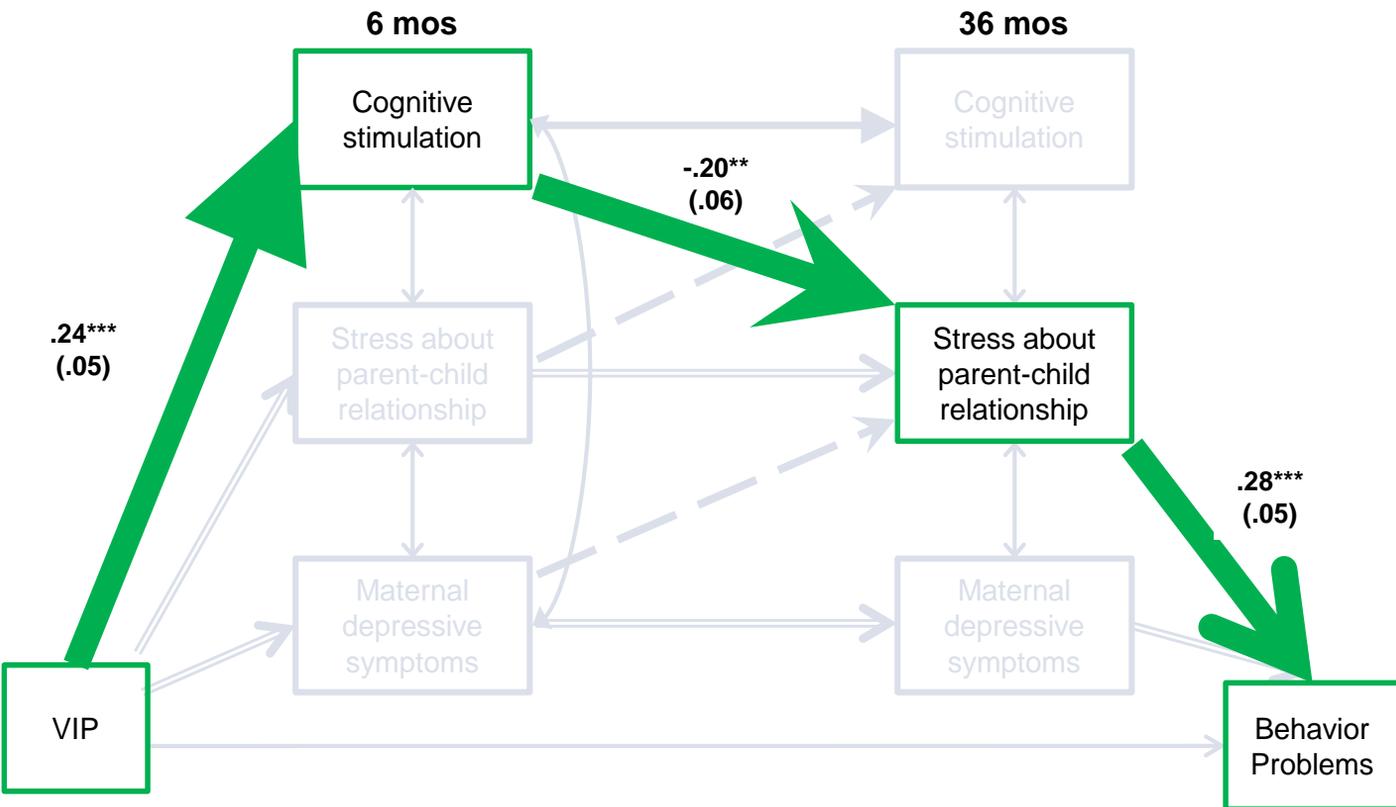
Dose impact: *Extending* VIP to 5 years *doubled* reductions in behavior problems



Mendelsohn et al, *Pediatrics*, 2018



Pathways of Impact: VIP → Parent Child Interactions → Psychosocial functioning → Behavior



VIP: Work in Progress

VIP: Preparation for Scaling

- Full manualization of VIP 0-3
 - VIP 3-5 in progress
- 3 day training course for interventionists
- Design of materials to support fidelity
- Blueprint for VIP Center of Excellence to support implementation:
 - Nonprofit business plan, organizational structure

VIP: Scaling Presently Underway

New York City

- **New York City Council: City's First Readers (NYC)**
 - Citywide primary prevention linking health care (ROR+VIP) to community (libraries, home visiting); DHHS/HRSA Bridging the Word Gap Research Collaborative
 - Implementation sites: Bellevue Hospital Center, Woodhull Medical Center (Brooklyn), Children's Aid (Harlem; foster families)
- **NYC DOHMH early childhood initiative**
 - Elmhurst as prototype for implementation across NYC H+H (Queens, in progress)
- **NYU Community Service Plan**
 - NYU Langone Family Health
- **Public Health Solutions**
 - WIC Programs (in progress)
- **NYU Center for the Study of Asian-American Health**
 - Gouverneur (NIMHD Research COE; Chinese-American families; in progress)

National

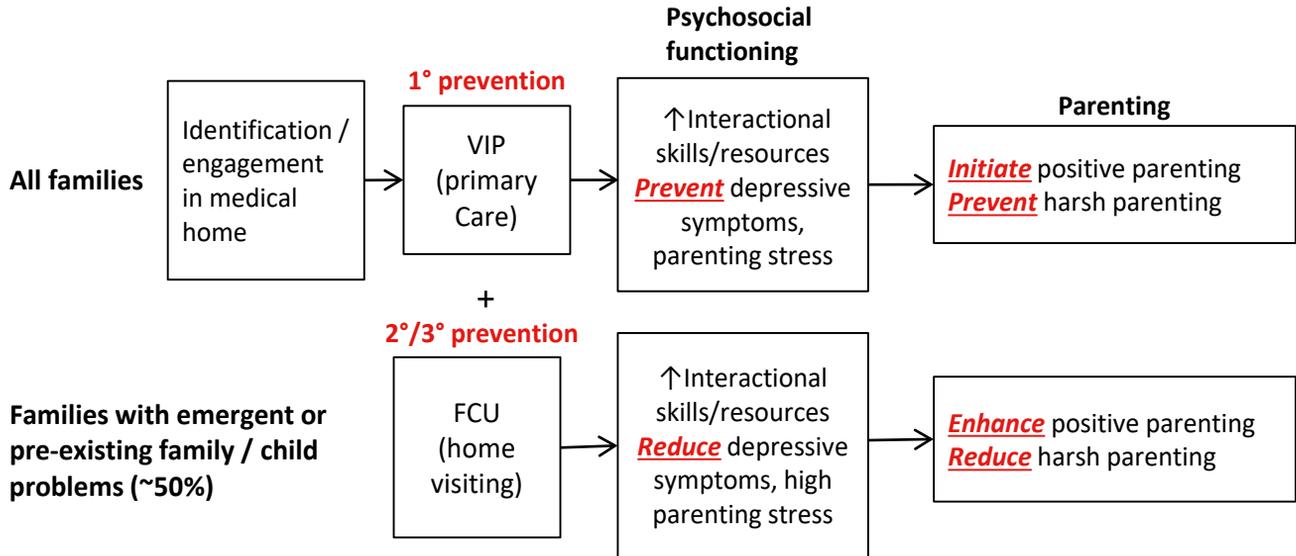
- **Pittsburgh, PA**
 - Integration within Smart Beginnings model (VIP+home visiting; NICHD-funded)
 - Allegheny County Department of Health (in progress)
- **Flint, MI**
 - Hurley Medical Center (in context of community-level trauma)



Smart Beginnings: *Integrated, tiered model* linking VIP to home visits for families at increased risk

- Universal 1^o prevention in primary care
 - ROR+VIP at every well child visit for *all* families
- Tiered 2^o/3^o prevention through home visiting
 - Family Check Up at 6, 18 and 30 months
 - Families with *identified risks* (mental health, child behavior)
- Two site RCT: NYC and Pittsburgh
 - NICHD: 1R01HD076390 (MPI Morris, Mendelsohn, Shaw)
- Progress to date
 - Enrollment of 400 parent-child dyads complete
 - Follow up through 2 years in progress (n~100)
 - Preliminary findings: large impacts on parenting and behavior

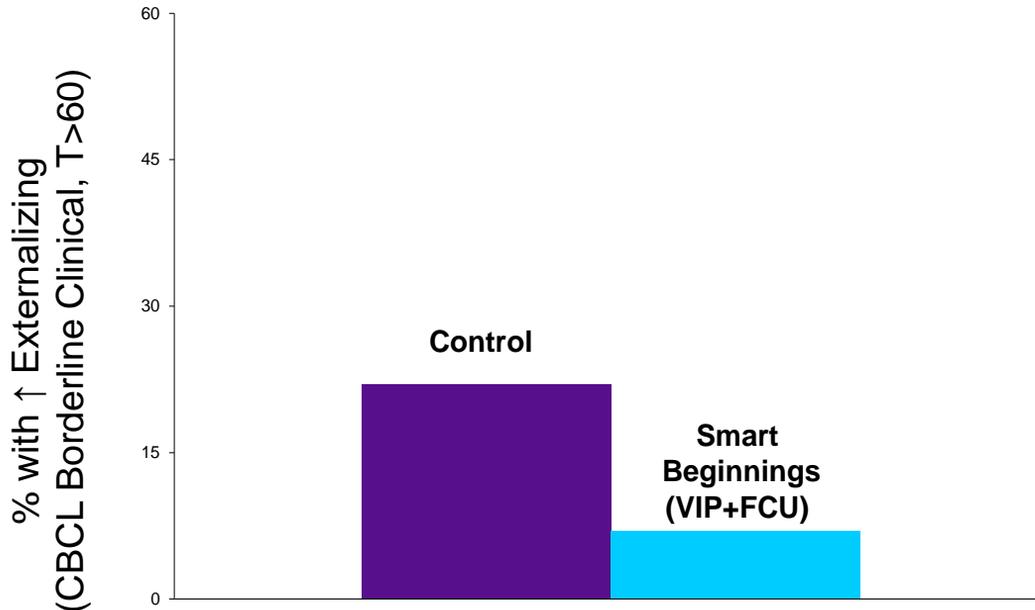
Smart Beginnings Conceptual Model



Smart Beginnings (Integrated VIP + FCU)

Reduction in Externalizing Behavior at 24 months

n=94



Morris, Mendelsohn, Shaw
R01 Preliminary Data

International adaptation of work (Boa Vista, Brazil)

- Partnership with:
 - City of Boa Vista: Mayor-led initiative
 - Instituto Alfa e Beto: Non-profit foundation
- Challenges: low literacy, severe material hardship
- Intervention modeled on:
 1. ROR: Book-lending program, anticipatory guidance
 2. VIP: Identification of strengths / self-reflection during parent groups
- Cluster RCT: 22 Centers, 500+ children
- Large impacts on reading aloud and child development

(Weisleder, Pediatrics, 2018)



**Parenting workshops
in child care (Casas Mae)**

Policy Implications of Findings

Level of prevention

- Need for *1^o prevention* for all families in poverty given broad risk
 - Low intensity *1^o prevention* programs can have large impacts
- *Integrated 1^o + 2^o/3^o* likely to have greatest population-level impact

Platform

- Pediatric primary care: potential for universal access and linkage to other platforms such as home visiting; need for increased research

Strategies

- Facilitate engagement and maximize impact through specific strategies: relationship/strengths-based, universal/non-stigmatizing, family-centered
- Enhancement of positive parenting can have cascading impacts across domains of development

Support

- NIH / NICHD:
 - HD047740 01-04; HD047740 05-09; HD047740 08S1 (Mendelsohn)
 - 1R01HD076390 (MPI Morris, Mendelsohn, Shaw)
- Foundations:
 - Tiger Foundation
 - Marks Family Foundation
 - Children of Bellevue, Inc.
 - KiDS of NYU Foundation, Inc.
- New York City Council
 - City's First Readers
 - Discretionary funding
- Academic Pediatric Association:
 - Young Investigator Programs (Reach Out and Read, MCHB/Bright Futures)

BELLE/Smart Beginnings Collaborators and Project Team

Project Directors:

- PI: Alan Mendelsohn, MD
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- Anne Seery, PhD

Co-Investigators/Collaborators

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- Samantha Berkule Johnson, PhD
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Thank you!

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www.videointeractionproject.org

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Questions?