

Family and Community Math: An Essential Part of an Early Learning Strategy

Funder to Funder Conversation

July 21, 2020





Family and Community Math: An Essential Part of an Early Learning Strategy

Housekeeping Tips

- ✓ Introduce yourself in the Chat box
- ✓ All attendees are participating in Listen Only mode
- ✓ Post your questions in the Q&A box
- ✓ Webinar is being recorded & will be made available
- ✓ Please take the brief evaluation survey posted during Q&A



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#GLReading

#Funder2Funder

Announcing! New Funder to Funder Webinar Series

FUNDER TO FUNDER With the J.B. and M.K. Pritzker Family Foundation

Supporting Children and Families in Earliest Years

Tuesday, July 14, 12:30 p.m. ET/9:30 a.m. PT

**Part of GLR Week 2020*

FUNDER TO FUNDER With the Heising-Simons Foundation

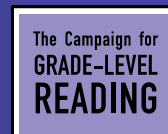
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Presenters



Liz Simons
Board Chair
Heising-Simons Foundation



Kimberly Brenneman, Ph.D.
Education Program Officer
Heising-Simons Foundation

Discussants



Omowale Moses
Founder & CEO
MathTalk



Geeta Pradhan
President
Cambridge Community Foundation

Discussants



David Parker, Ph.D.
Vice President of Research
and Development
ServeMinnesota



Kate Kelly
President & EVP – Minnesota
PNC Bank

Discussants



Nikki Shearman, Ph.D.
Chief Strategic Officer
Reach Out and Read

Opening Remarks and Personal Reflections



Liz Simons
Board Chair
Heising-Simons Foundation

What is Early Math?

Before children go to school

Relevant, critical, and fun for *every* child

Connected to language, literacy, and social-emotional development

A language to be developed from birth



Why Does Early Math Matter?

Unlocks long-term school and life success

School does not fix early disparities

Equitable math learning benefits society



What is Family Math?

FAMILY - the parents, extended family members, friends, and community members who care for children and participate in the development of their early math skills and thinking both at home and their community

FAMILY MATH - activities that happen outside of the classroom and within the context of family relationships, the community, and everyday life that support young children and families to:

- Strengthen their math awareness and math concepts
- Feel enthusiastic and confident about their math abilities and develop strong math identities
- Understand and use resources to help improve understanding of math concepts



Why Family Math?

No one cares more for a child's success, and no one spends more time with children than their families.

Families are a largely untapped resource.

Family math talk and math activities contribute to positive learning and attitudes.

Leveraging family and community expertise can address early math disparities before they form.



Building the Field of Family Math

To meet this challenge:

Family math lacks the unity and coherence to lift mathematical proficiency for every child, provide opportunities for families to support children's math learning, and address systemic challenges facing families with low incomes and families of color in particular

We will work to ensure that:

Families will increase understanding and use of home and community practices that support family math

Researchers will co-construct a culturally responsive research agenda, measures, and methodologies

Policymakers and advocates will promote parent leadership and engagement, provide funding, and link to other early learning efforts

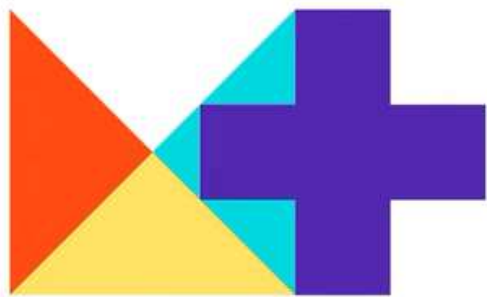
The family math field will have the infrastructure, resources, and capabilities in place to support the coherence and coordination of local, regional, and national efforts

To achieve this ultimate impact

All children and families, regardless of background, have access to culturally responsive math opportunities and every child achieves the mathematical proficiency that they deserve



The Family Business



MathTalk



Gigantic NUMBER LINE

▶ Wow! Look at this colorful line.
What do you notice about the colors
and patterns?

▶ How about a game of Simon Says?

- Simon says, "Run on the blue lines."
- Simon says, "Hop on the green lines."
- Simon says, "Stomp on 2 different colored lines."
- Simon says, "Take 3 small hops forward and 1 big hop backward."

▶ What else can Simon say?

mathtalkpbc.com





MathTalk

WHAT WE DO



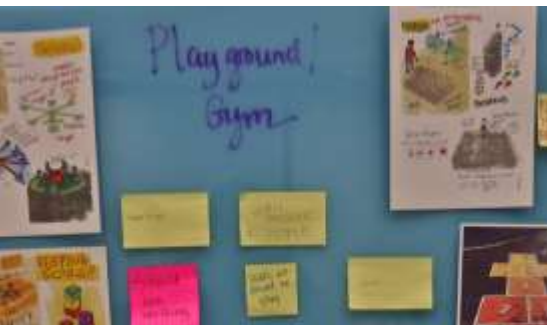
Mission

MathTalk creates unique opportunities for young children and their families, particularly those in economically distressed communities, to discover and enjoy math anywhere.

Vision

We want to inspire a world in which all young children believe that math is for everyone.







What If



our neighborhoods were saturated with touchpoints for positive early (math) learning?





4



Let's Dance

and Move!

math talk

Start at a shape
finish at the star



and patterns with
our hands.



Aha. See Math Everywhere!

[LINK TO VIDEO](#)
(password "mathtalk")



• BE •

IMPACTFUL

MINNESOTA



SERVE
MINNESOTA

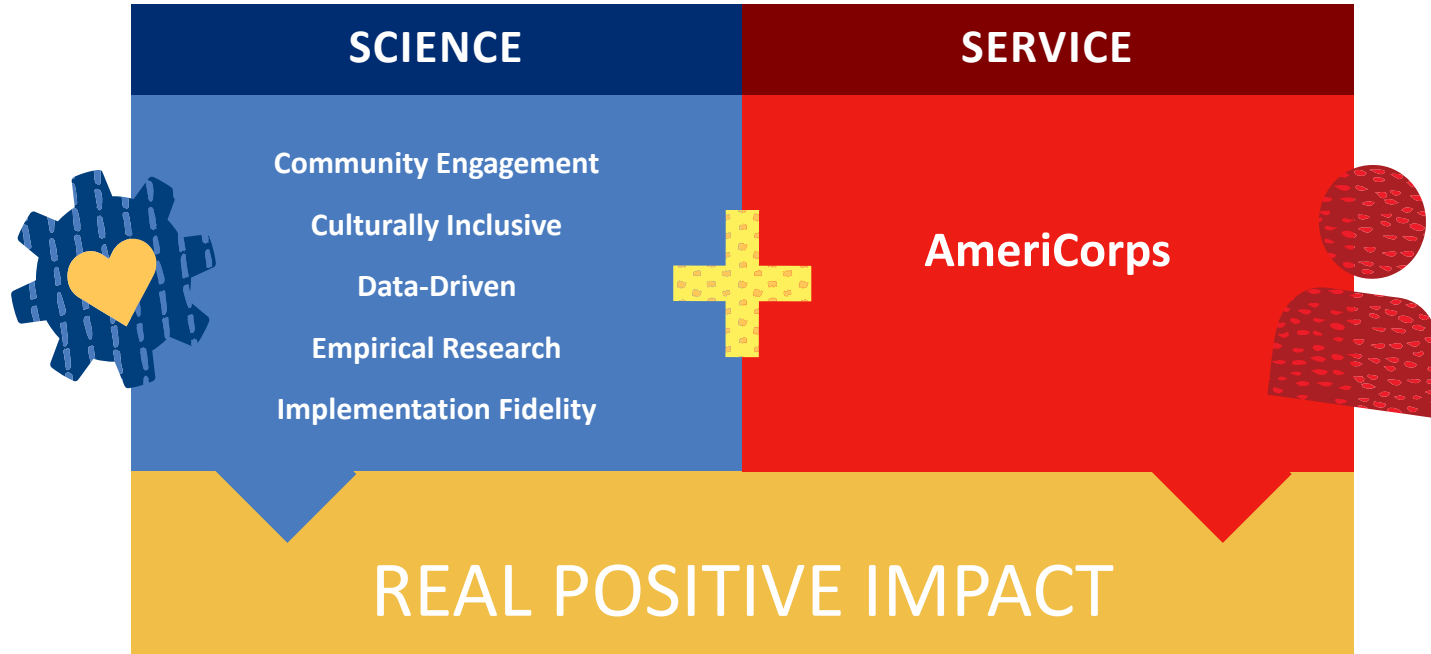
The power of AmeriCorps. The power of you.





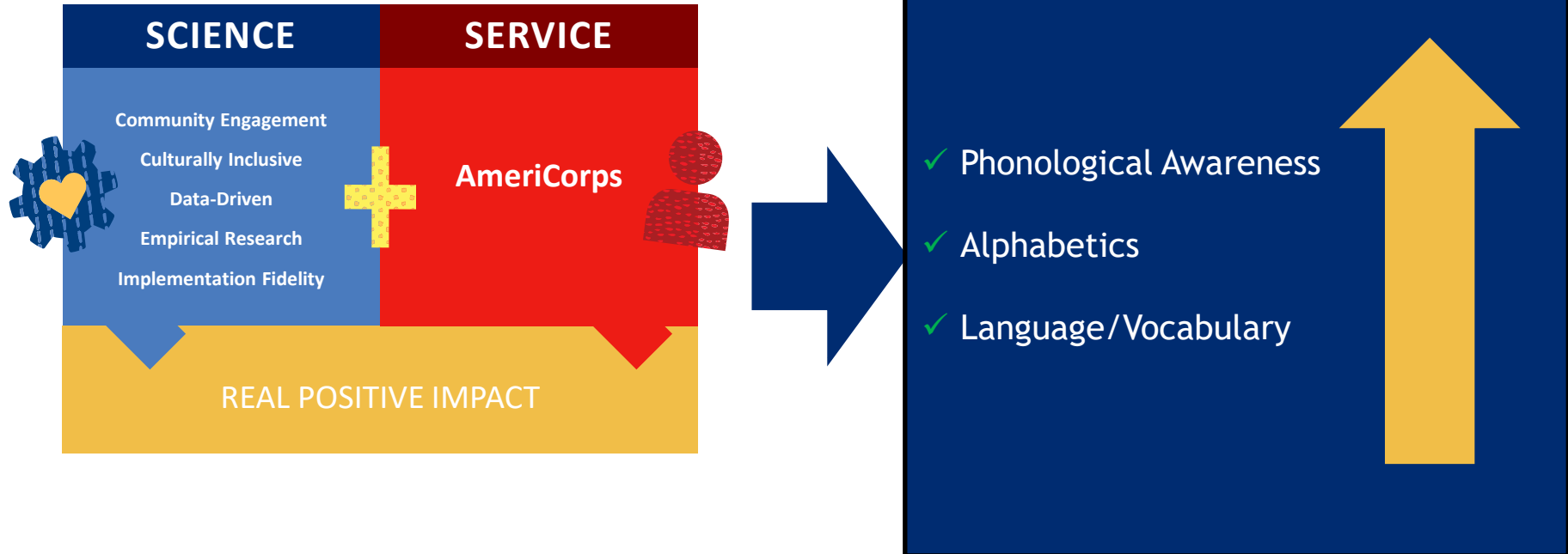
Our Approach

BLEND THE PEOPLE POWER OF AMERICORPS WITH THE SCIENCE OF WHAT WORKS



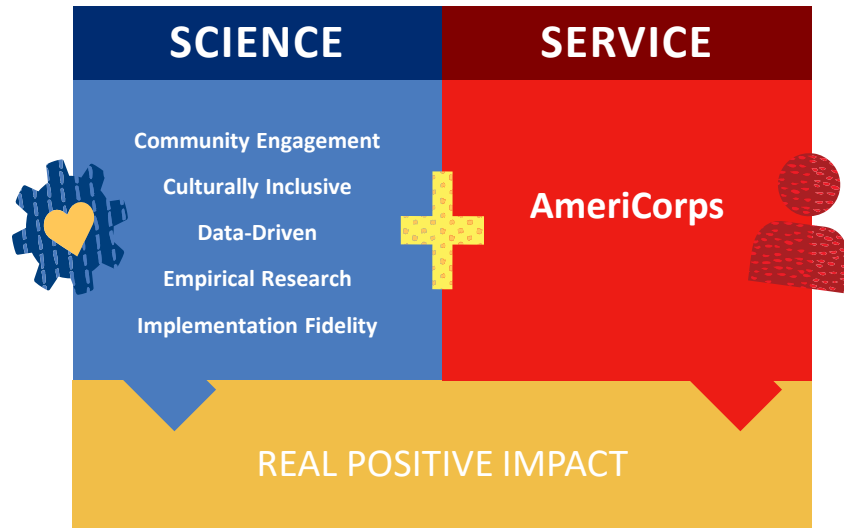
Impact on Early Literacy

BLENDING THE PEOPLE POWER OF AMERICORPS WITH THE SCIENCE OF WHAT WORKS



Adding Math

BLENDING THE PEOPLE POWER OF AMERICORPS WITH THE SCIENCE OF WHAT WORKS



- ✓ Phonological Awareness
- ✓ Alphabetics
- ✓ Language/Vocabulary

+ Math



Why Early Math?

State Test Performance as Students Age (MN)

3rd Grade

66%

6th Grade

54%

11th Grade

48%

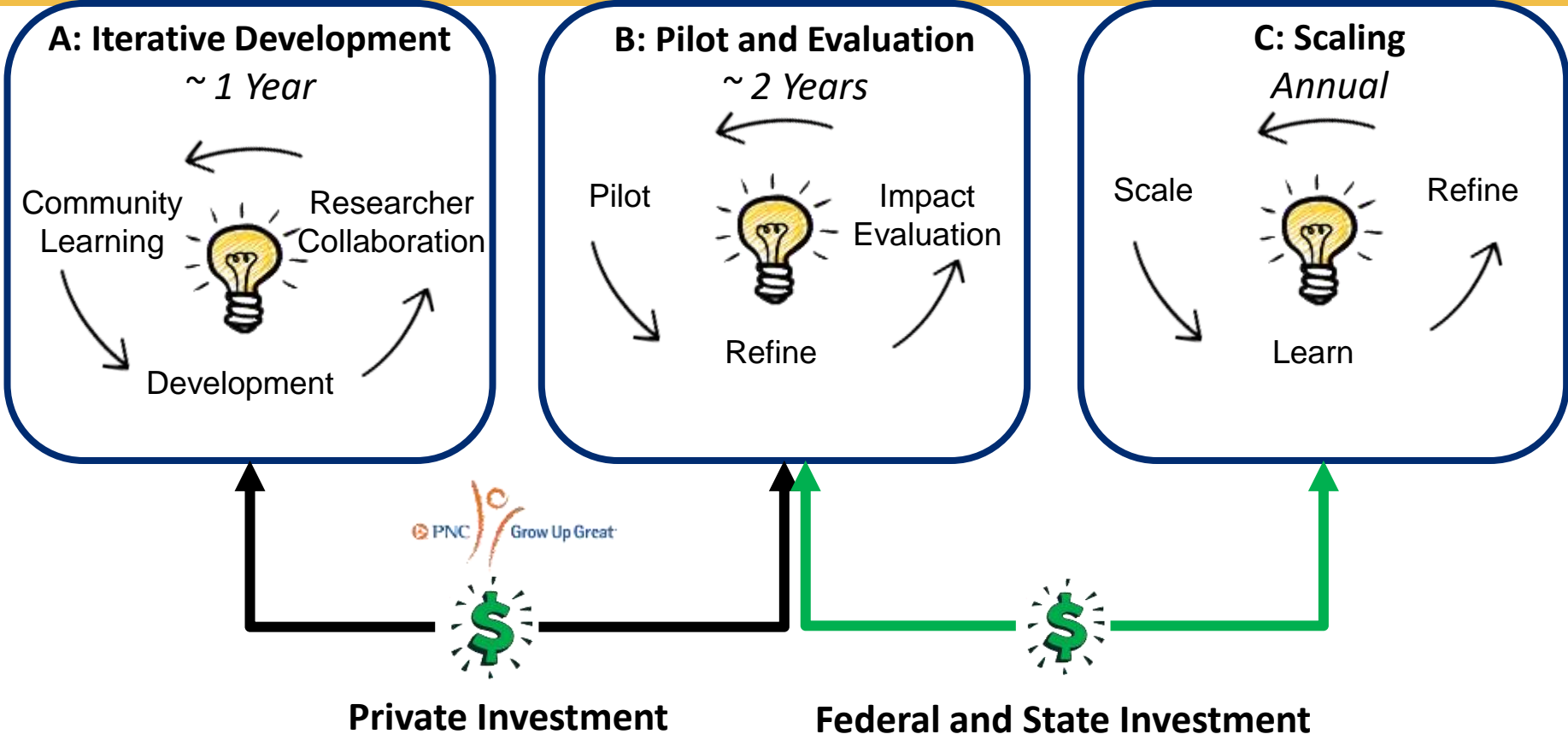
Qualify for free or reduced price lunch

48%

31%

26%

Private and Federal Investments Work Together to Bridge Research and Sustainable Programming

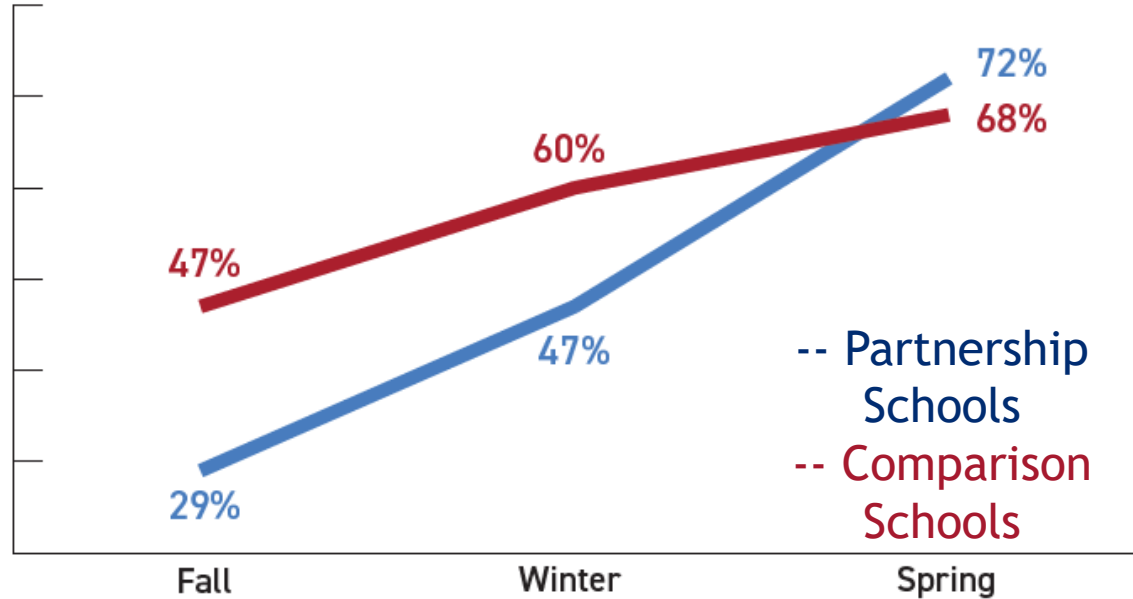


Equitable Results

- Strong positive feedback on the instructional experience
- Participants started lower and finished higher than comparison group

CLOSING THE GAP

Percentage Meeting Age-level Math Benchmark





Reach Out and Read Counts – an early math initiative

Defining the Trajectory of Children's Lives



**Positive childhood experiences
define the trajectory of a young child's life**



Pediatric primary care:

- Population-level access to children in the critical early years
- A trusted relationship between clinicians and families with young children

Reach Out and Read:



- A simple model of promotion of positive, language-rich parent/caregiver-child interactions through early literacy
- Foundational integration into millions of routine well-child visits
- Deep connections within pediatric primary care and implementation at thousands of medical clinics
- A proven, scalable infrastructure of support for clinicians that ensures fidelity of practice and connection with the community



At routine health check ups from infancy through 5 years...

Reach Out and Read-trained doctors and nurse practitioners:

- **talk with parents** about how important it is to read aloud and engage with their young children
- **show them** how to look at books and talk about the stories with their infants, toddlers, and preschoolers



- **encourage them** to cuddle up and read together at home and build routines around books
- and then **give a new book** to the child to take home and keep

The book is given at the beginning of the visit and used as a **developmental surveillance tool**.

Extensive peer-reviewed research shows that in families served by Reach Out and Read:



For full details of our research, please visit www.reachoutandread.org/why-we-work/researchfindings



Reach Out and Read Counts

With support from the Heising-Simons Foundation, ROR National Center co-designed and piloted the integration of an early math initiative into the ROR model.

The aim was to:

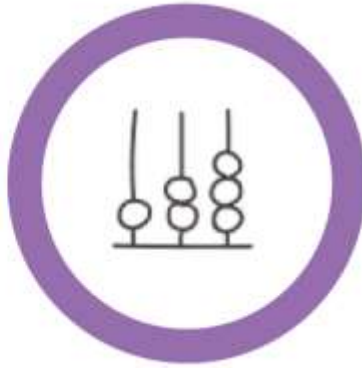
- Introduce math talk into shared reading to encourage joyful interactions between parents and children
- Give parents another avenue to explore when sharing books with their children – linking early literacy and early math
- Reduce parental math anxiety



Project areas of focus



12-18 MONTHS
Counting and
pointing



18-24 MONTHS
Quantity



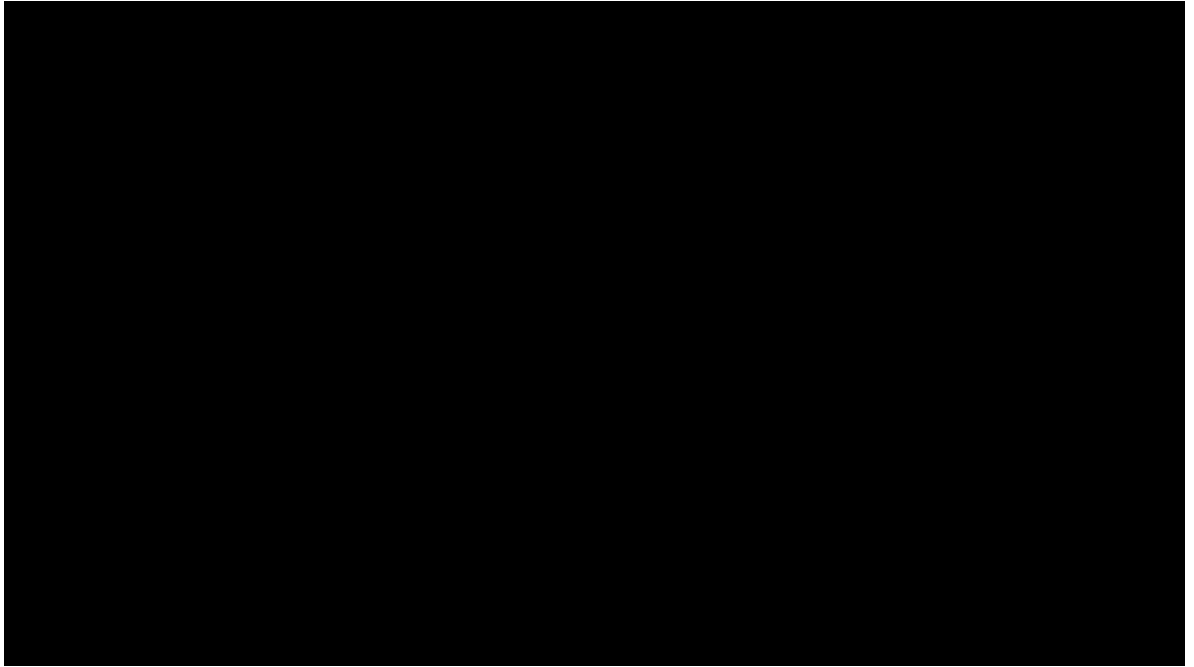
24-36 MONTHS
Comparison



3-5 YEARS
Prediction

Created an online training for ROR providers

- What is math talk?
- Why introduce Math Talk to families?
- Math starts early
- Math Talk in Reach Out and Read
 - Guidance about introducing the early math concepts at different developmental stages – supported by video
 - Suggestions of books to use



Created supporting materials for parents and providers

REACH OUT AND READ COUNTY
EVERYDAY FAMILY MATH FUN

How to have fun with math throughout your day!
 Ask your child questions like these:

When you are READING TOGETHER ask:

- How many things can you find on the page?
- Point and count with me!
- What do you think will happen on the next page?

When you are at the GROCERY STORE ask:

- How many apples did we put in our cart?
- How many bananas?
- Do we have more apples, or more bananas?

When you are at the LAUNDROMAT ask:

- Can you help me sort the socks?
- Which shirt is bigger? Which is smaller?

Have fun with math every place, every day!

A DOCTOR, A FATHER, A BOOK.
 reachoutandread.org

REACH OUT AND READ COUNTY

OVERVIEW OF EARLY MATHEMATICAL DEVELOPMENT: CONCEPTS, LANGUAGE, AND SKILLS

Learning to have fun with math activities starts from the first years, before any abstract counting (comparing math concepts, naming about number, others like, and other material as they explore objects). When adults use consistent math words that are part of your life (point, name, buy, bag, shirt, shirt, to be, please, thank, it is possible to improve foundation for learning math in other activities. It is OK. Being vague needs to stop at every occasion and practice counting items, sorting groceries, etc. when they talk, sing, play, and read, it is another way to have fun together.

0 - 24 months	2 to 3 years	3 to 4 years	4 to 5 years
<p>RECEPTS</p> <ul style="list-style-type: none"> Follows along in picture books and songs. Responds to picture or objects. May provide common words without understanding. 	<ul style="list-style-type: none"> Repeats numbers, but always in continuous 1, 2, 3, 4, 5. Repeats numbers while handling or pointing at objects. May use the word "one" to describe their own activities. May recognize an object by the number of items in a small group (2-5), without counting (pointing) (e.g., one banana, two apples and chocolate, some pretzels) (but does not ask "how many"). Follows patterns in familiar activities (left or right, back, front, up, down, being by above). Repeats or sings simple songs, hearing rhymes, words, and letters. Can combine words and count like compare (point, this, gone, more). Should naturally obtain by counting real objects as you say the number. Knows words for objects. Knows words for shapes. Knows words, play games, and play songs that have counting patterns, understand your singing you say. 	<ul style="list-style-type: none"> Repeats numbers in sequences up to 5 or 10 (count) 4-5 objects (up to 10). Displays an understanding that numbers represent specific quantities. Recognizes like terms (socks, shoes, and hats) for understanding 1-5-5. Classifies understanding that two like numbers in a sequence represent the same number in the group (e.g., 1000000). Classifies objects, groups, and by counting. Uses comparison words (more, less, same, biggest, smallest). Recognizes, understands, repeats, and performs a pattern. Classifies objects (socks, shoes, hats, pants) by counting. Compares quantities (comparing, same number), for object differences (one more, one less). Prints and produces of objects, activities, and order. 	<ul style="list-style-type: none"> Repeats numbers in sequences up to 10 (count) 10-20 (or 20). Compares and classifies objects by counting. Understands that two like numbers in a sequence represent the same number in the group (e.g., 1000000). Classifies objects, groups, and by counting. Uses comparison words (more, less, same, biggest, smallest). Recognizes, understands, repeats, and performs a pattern. Classifies objects (socks, shoes, hats, pants) by counting. Compares quantities (comparing, same number), for object differences (one more, one less). Prints and produces of objects, activities, and order.

REACH OUT AND READ COUNTS

Let's Point And Count

How Many?

Which is bigger?

What's Next?

REACH OUT AND READ

reachoutandread.org

Reach Out & Read Counts

Remember to point and count!

REACHOUTANDREAD.ORG

REACH OUT & READ

What we learned

Provider focus groups (14% pilot participating providers)

- Providers were uniformly enthusiastic about the project
- Providers believed in the benefits for children and families
- ROR Counts was integrated smoothly into the clinic flow

Counting facilitates engagement with parents with low language or English skills

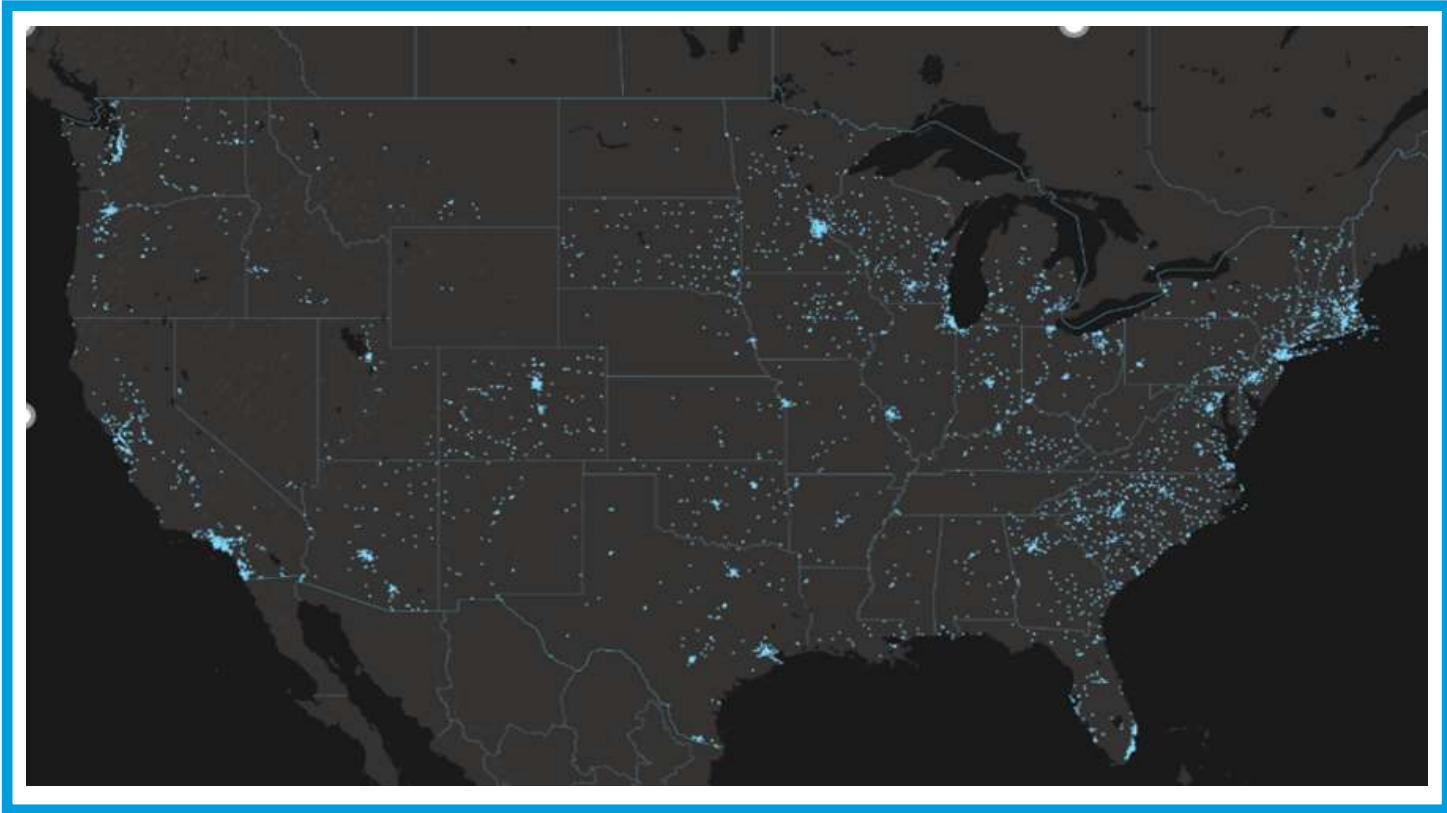
Our patient population isn't getting these skills until school age so it's helpful for us to be proactive

Pre-/Post-Parent Survey (813 pre-surveys; 445 post-surveys)

Families did early math when sharing books, such as counting, comparing and predicting, more after exposure to ROR Counts



Scaling Up for Local Implementation - We're all over the map



OUR NATIONAL IMPACT



We serve **4.8 million** children each year.



Over **34 thousand** medical providers participate in our program.



We give out **7.4 million** books annually.



We have **6,400** program sites nationwide.

Questions & Discussion

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