



# Early Brain Development and Language Nutrition

## BHCC Planning Meeting

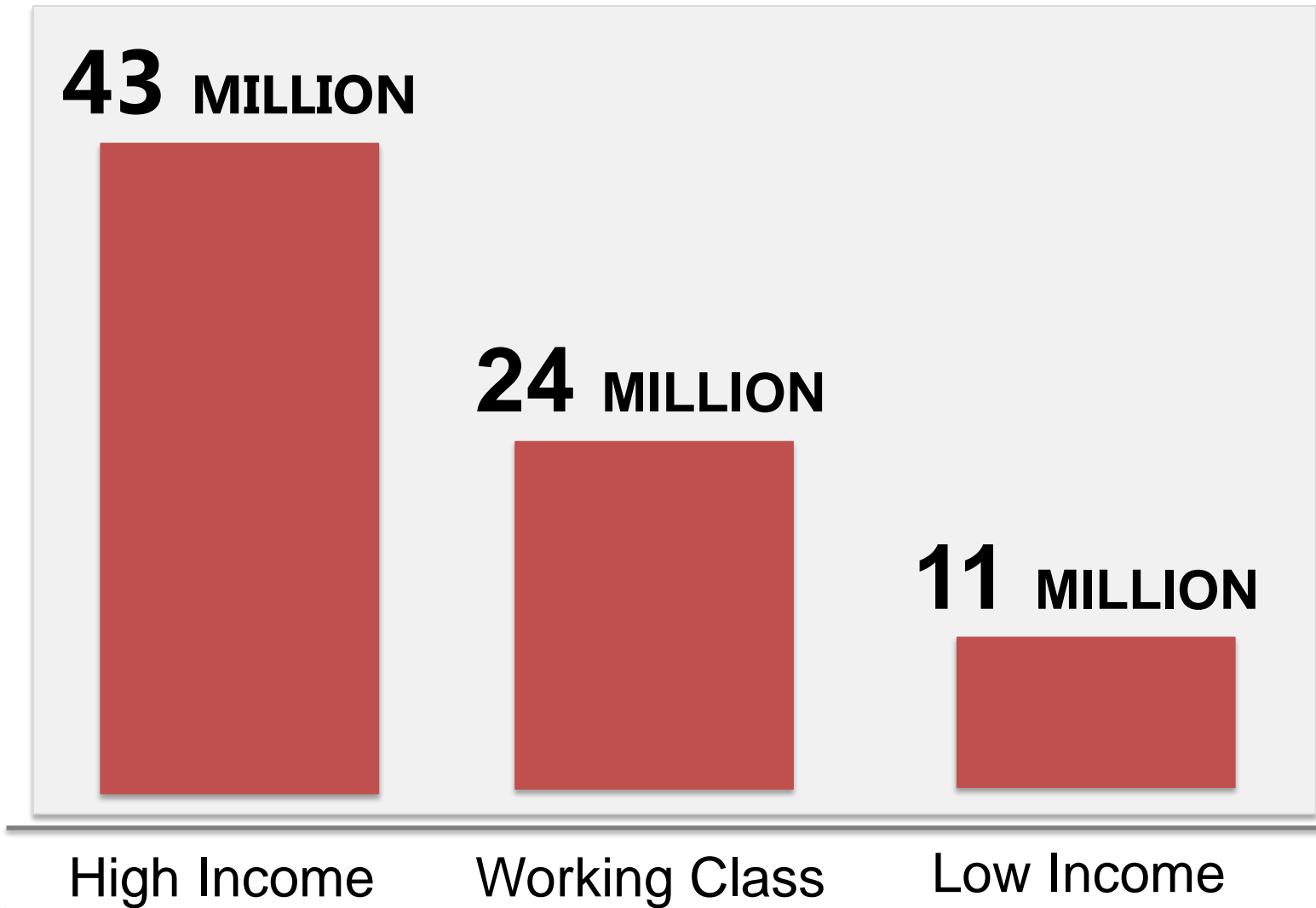
Feb. 15, 2017

Brenda Fitzgerald, M.D.  
Commissioner and State Health Officer  
Georgia Department of Public Health



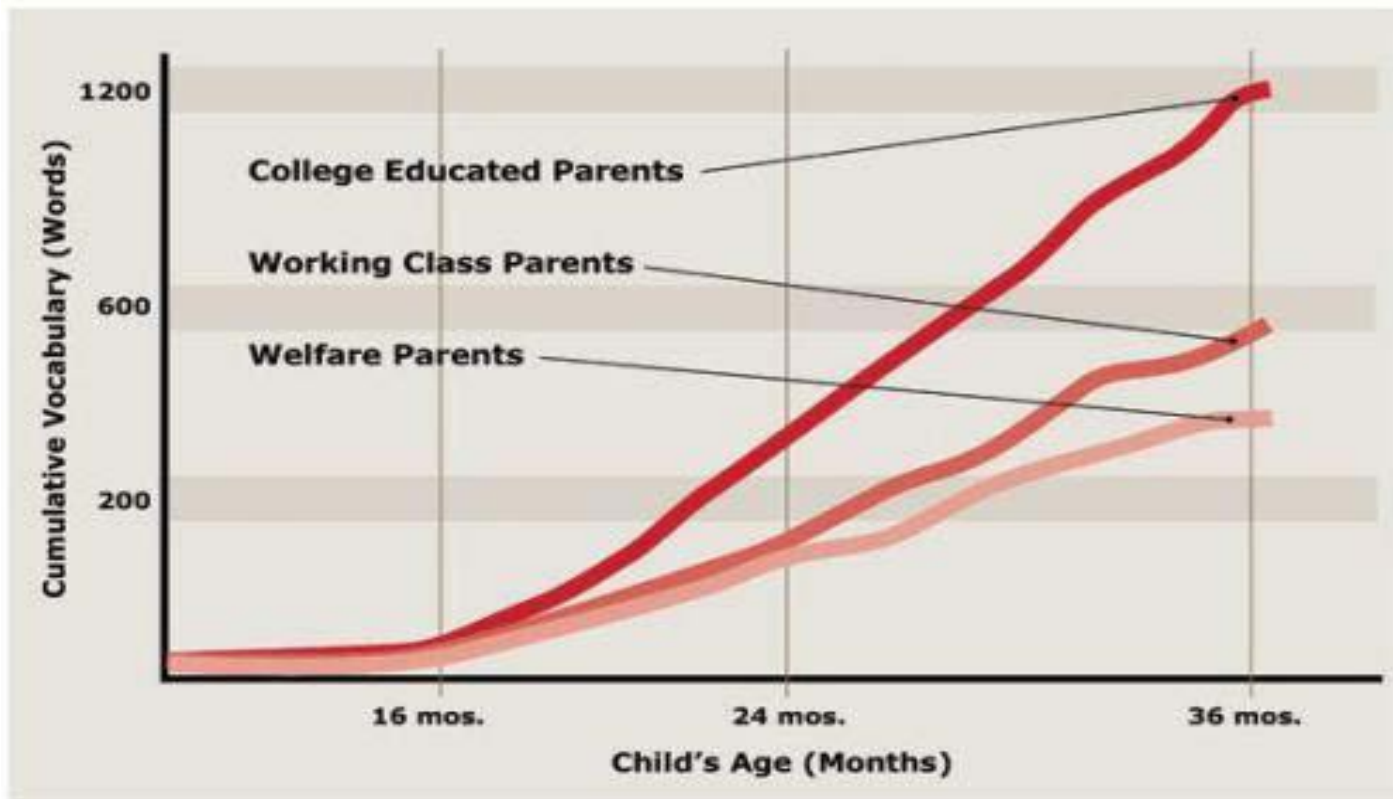
*We Protect Lives.*

# 30 Million Word Gap



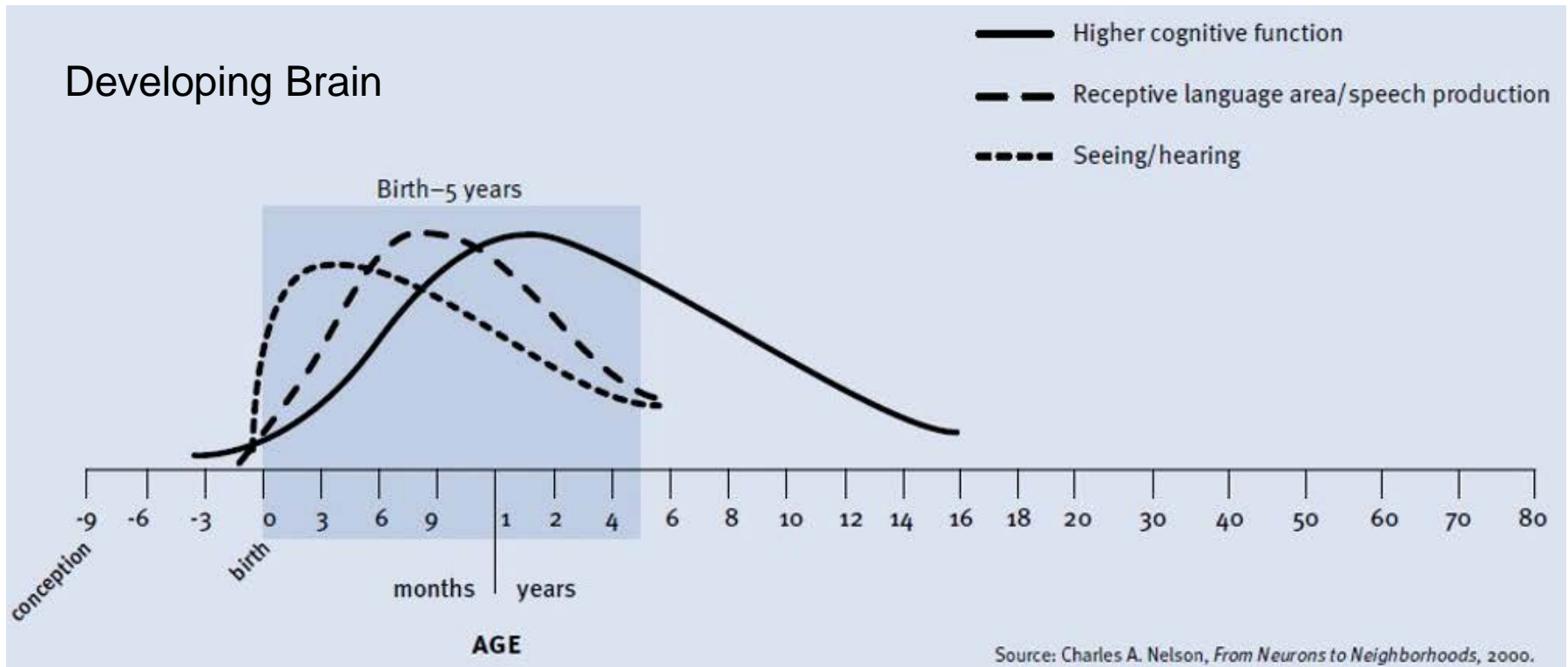
# Window of Opportunity

**18** 18 MONTHS: AGE AT WHICH DISPARITIES IN VOCABULARY BEGIN TO APPEAR

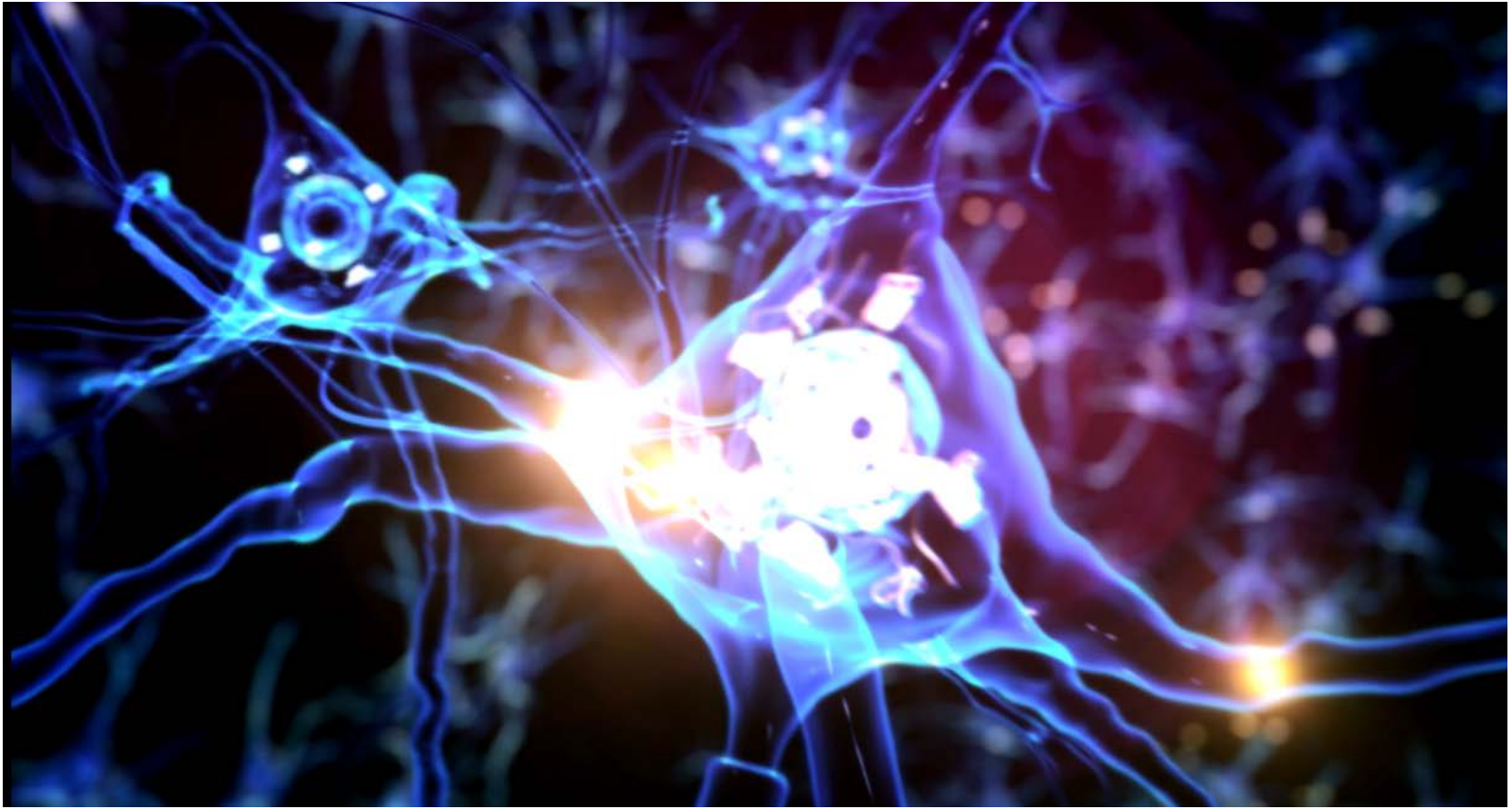


# Synapse Formation

## Developing Brain



# Brain Architecture: Neurons

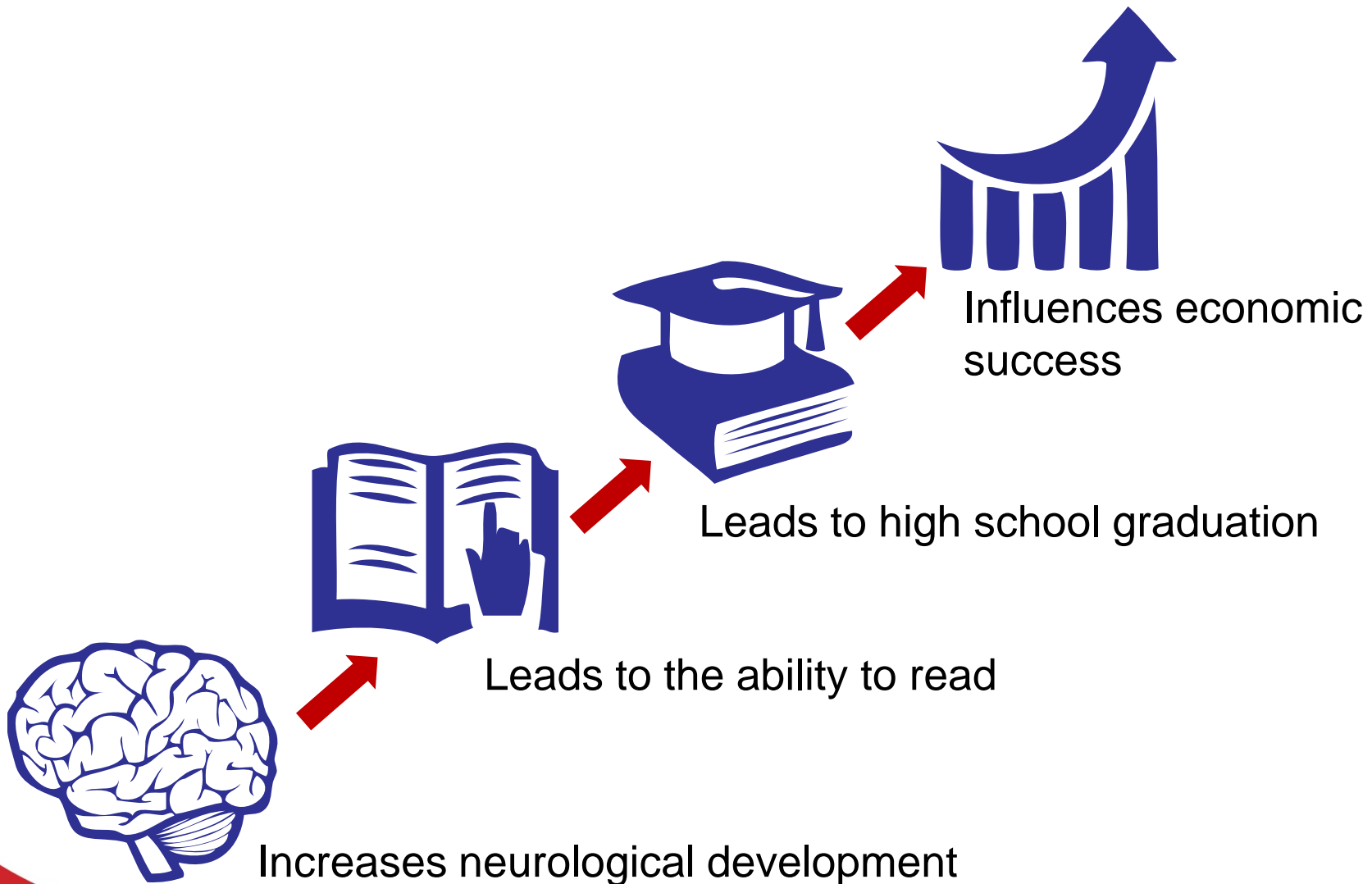




# Brain Architecture: Pruning



# Language Nutrition



# Still Face Experiment Video

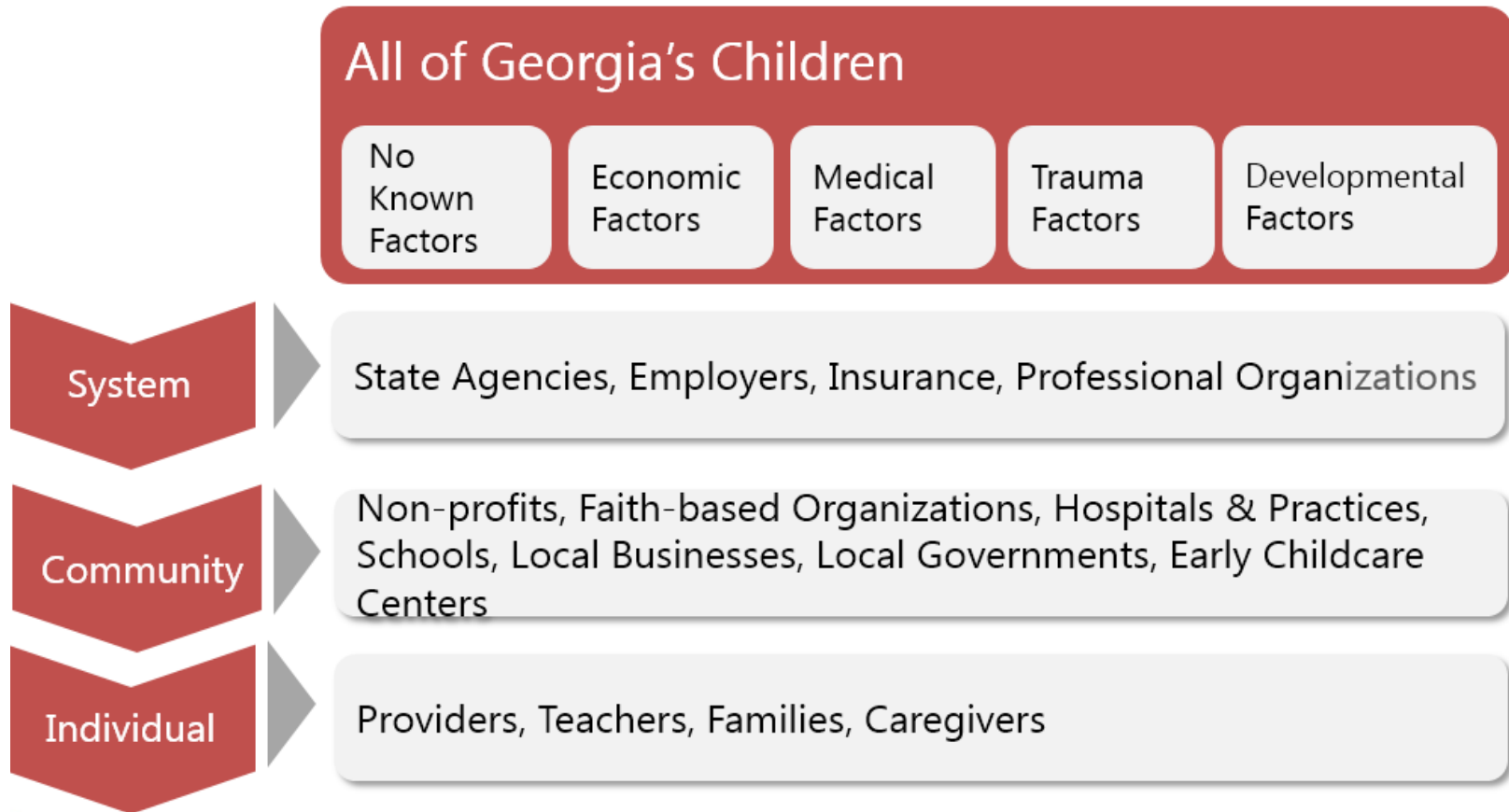


# Brain Trust for Babies Mission

Redefine infant and toddler wellness to include language acquisition and social-emotional health, so that by 2020, all children in Georgia will enter school thriving and ready to succeed.

# Population Based Approach

From Universal Design to Targeted Interventions



# GA WIC - Talk With Me Baby

- Random sample of children (18-24 months) assessed for language, speech, and communication patterns
- 900 Georgia WIC staff trained on language nutrition
- 199 WIC centers integrated language nutrition messages into their centers
- Nutritionists discuss modeling behaviors with clients, encouraging parents to talk with their
- DVDs play in waiting rooms
- Educational materials provided to clients



Are You Talking to Me?

Talk with your baby.

The more words you speak, sing or read to your baby the faster they will learn to talk and read. Learn more at [dph.georgia.gov/talkwithmebaby](http://dph.georgia.gov/talkwithmebaby).



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We Protect Lives.

# Language Development



## Infants who are deaf and hard of hearing

- identified in the first six months of life
- provided with appropriate intervention services

**80%** of these infants/children are able to maintain age-appropriate language development in the first five years of life

Christine Yoshinaga-Itano, PhD

Professor • Speech, Language, and Hearing Sciences

The Institute of Cognitive Science

University of Colorado Boulder



# 100 Babies Program Goals

## One month

- All infants receive newborn hearing screening



## Three months

- Infants not passing screen receive a diagnostic evaluation



## Six months

- Infants diagnosed as deaf or hard of hearing are enrolled in intervention



# Adverse Childhood Events



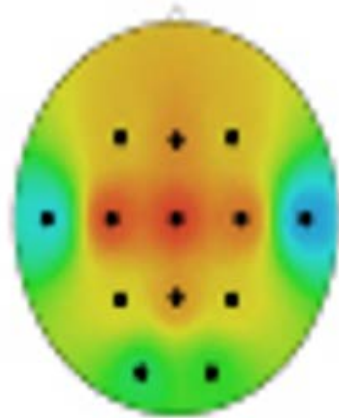
"The active ingredient in the environment that's having an influence on development is the quality of the relationships that children have with the important people in their lives. That's what it's all about."

**Jack P. Shonkoff, M.D.**

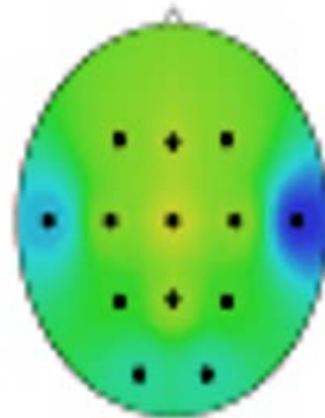


# Brain Activity 8 Year Old Children

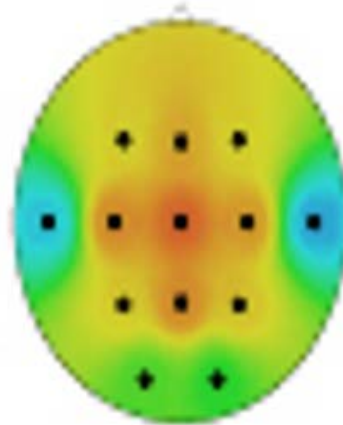
EEG of children  
never  
institutionalized



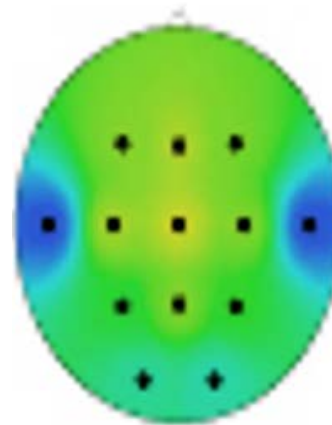
Brain activity at  
8 years old  
among children  
in institutional  
care



EEG of  
children in  
foster care  
before 24  
months of age



Brain activity of  
children in  
foster care after  
24 months of  
age



# Autism Screening and Early Detection



- The Marcus Autism Center, under the direction of Ami Klin is using eye-tracking research that detects signs of autism as early as infancy
- Earlier interventions when the brain is still able to adapt and change, we believe we can raise the prospects of significantly altering the natural course of ASD

# Parental Involvement



# Early Care and Learning Involvement



Cox Campus

The Cox Campus Online Learning Platform of the Atlanta Speech School will roll out two digitally-state-of-the-art courses for teachers of infants and toddlers.

- Roll out November 14
- Coalition of public and private partners including Governor Nathan Deal and First Lady Sandra Deal, Harvard University, DPH and the Georgia Department of Early Care and Learning
- Courses
  - Talk With Me Baby
  - Build My Brain

QUESTIONS?