



# Nurturing Care *during* First 1000 Days

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October 17, 2017

*“If we want to shape the future, to truly improve the world, we have 1,000 days to do it, mother by mother, child by child, for what happens in those 1,000 days through pregnancy to the second birthday determines, to a large extent, the course of a child’s life, his or her ability to grow, learn, work, succeed and by extension, the long term health, stability and prosperity of the society in which that child lives.”*

**Roger Thurow, author of *The First 1,000 Days: A Crucial Time for Mothers and Children – and the World.***

The first 1,000 days of a child's life are a critical window for development. Exposure to adverse childhood experiences (ACEs) dramatically increases the potential for life-long negative health and social outcomes.

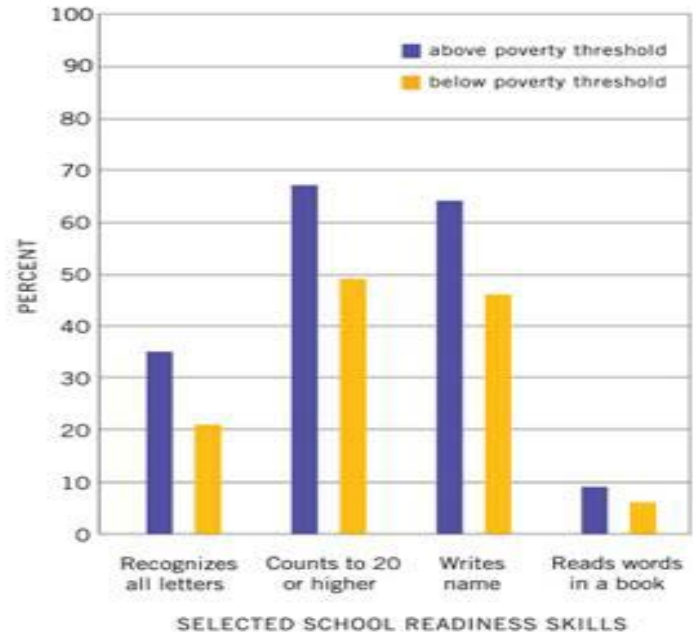


*Reference: Center for Health Care Strategies, Inc.*

- Early experiences' effects on the brain and body partially explain significant disparities in health and learning by school entry –especially for children living in poverty.

*Ref: NYSDOH First 1000 Days on Medicaid*

Percentage of Children Ages 3–6 With Selected School Readiness Skills, by Poverty Status



Source: O'Donnell, Kevin. Parents' Reports of the School Readiness of Young Children from the National Household Education Surveys Program of 2007, Table 2. National Center for Education Statistics. August 2008. [www.childtrendsdatabank.org/?q=node/291](http://www.childtrendsdatabank.org/?q=node/291)

And it's our collective responsibility to fix this!

Ref: NYSDOH First 1000 Days on Medicaid



# Nurturing Care



- 43 authors, 29 additional experts contributed technical information
- From disciplines as diverse as Biology, Epidemiology, Economics, Education, Developmental Psychology, Genetics, Paediatrics, Public Health, Political Science, Nursing, Neuroscience, Statistics, Sociology, Nutrition, Global Health



# Nurturing Care

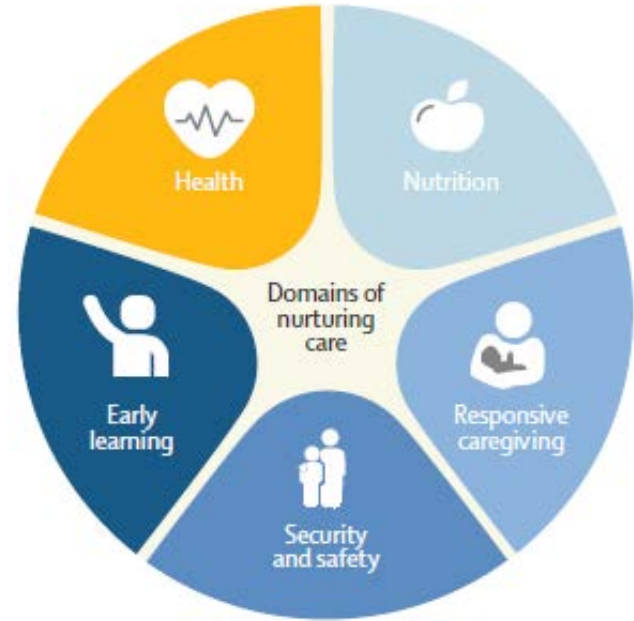
## Definition:

“a stable environment that is sensitive to children’s health and nutritional needs, with protection from threats, opportunities for early learning, and interactions that are responsive, emotionally supportive, and developmentally stimulating”

*The Lancet Series - Advancing Early Childhood Development from Science to Scale, October 2016*

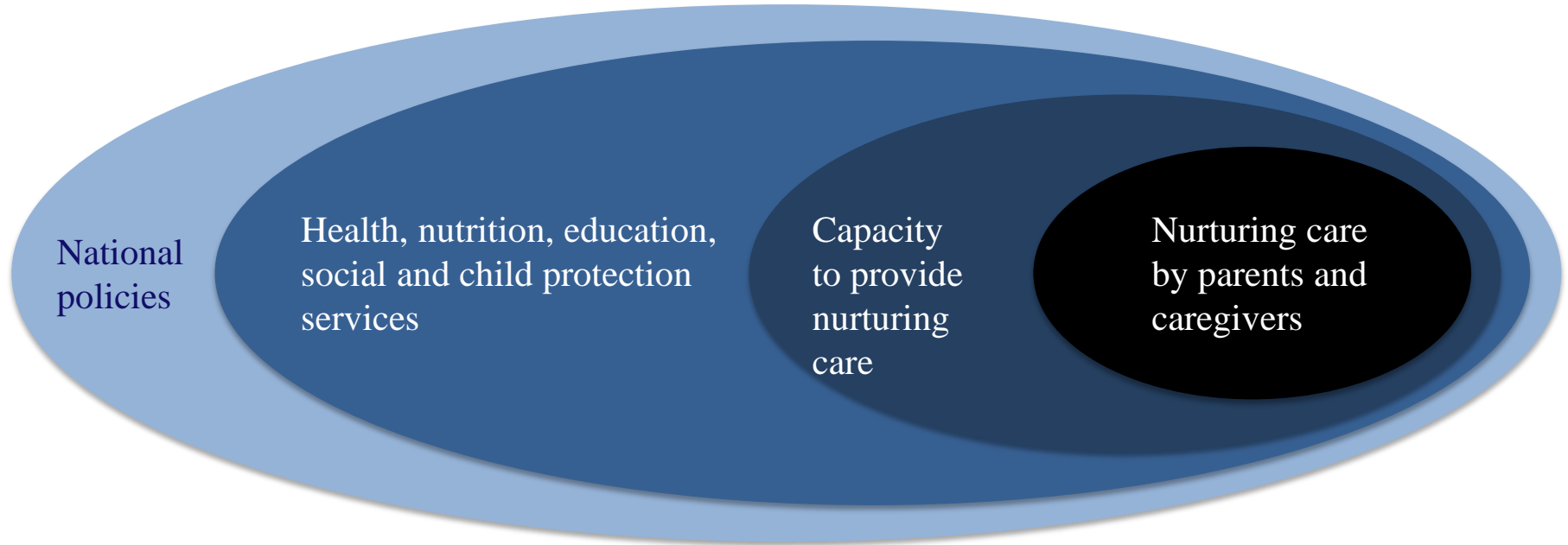
# Nurturing Care

- Nurturing care comprises all essential elements for a child to grow physically, mentally and socially:
  - Nutrition
  - Health care
  - Responsive caregiving
  - Security & safety
  - Early learning





# Nurturing care is fostered by a supportive environment – the ecological model



*The Lancet Series - Advancing Early Childhood Development from Science to Scale, October 2016*



# Importance of First 1000 Days Early Brain Development

# The amazing journey of human development

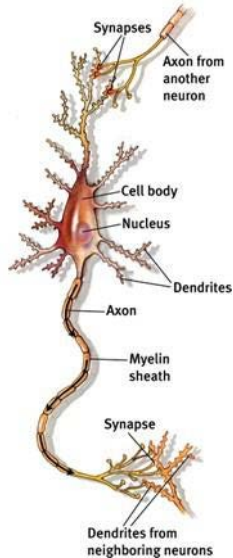


A genetic blueprint in the embryo/fetus establishes the broad strokes of development

Environment modifies this blueprint during critical periods of development

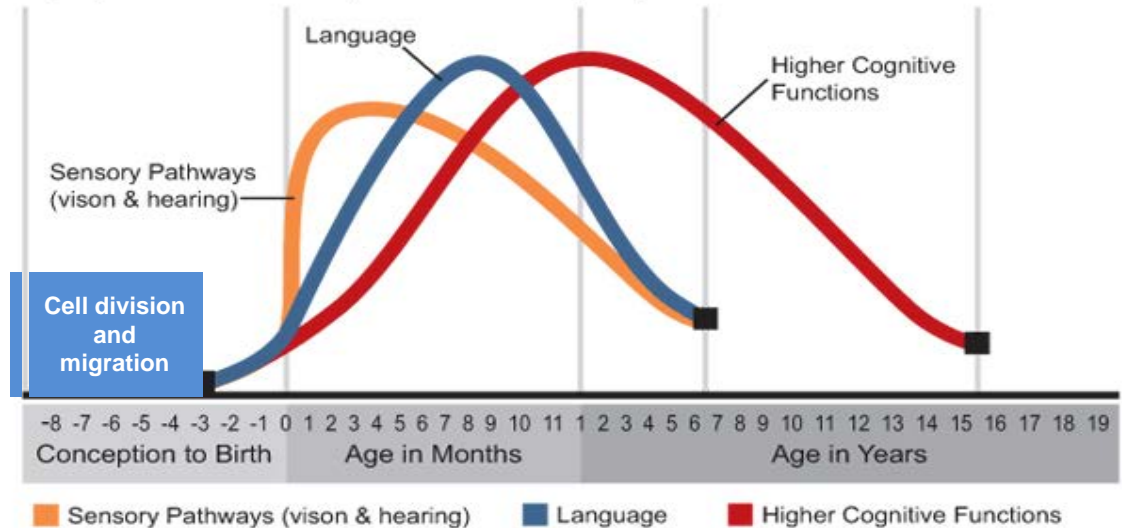


# Sensitive periods and the developing brain

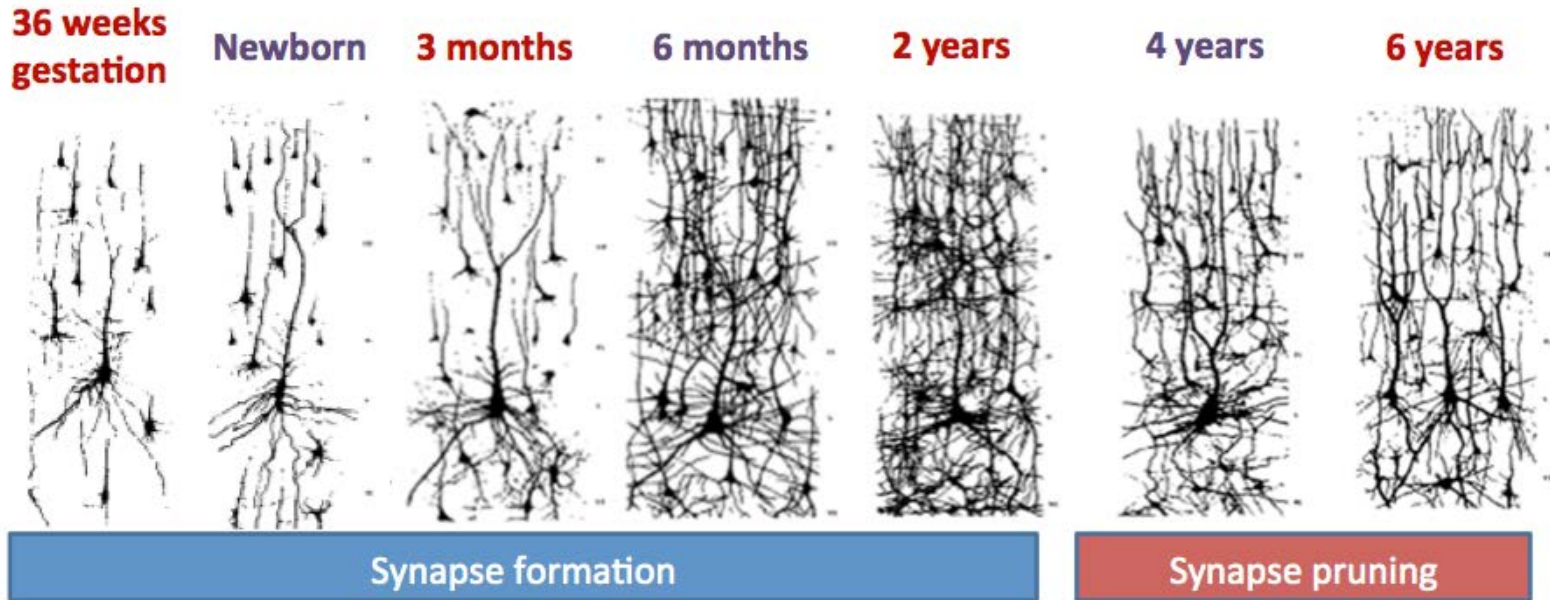


## Human Brain Development

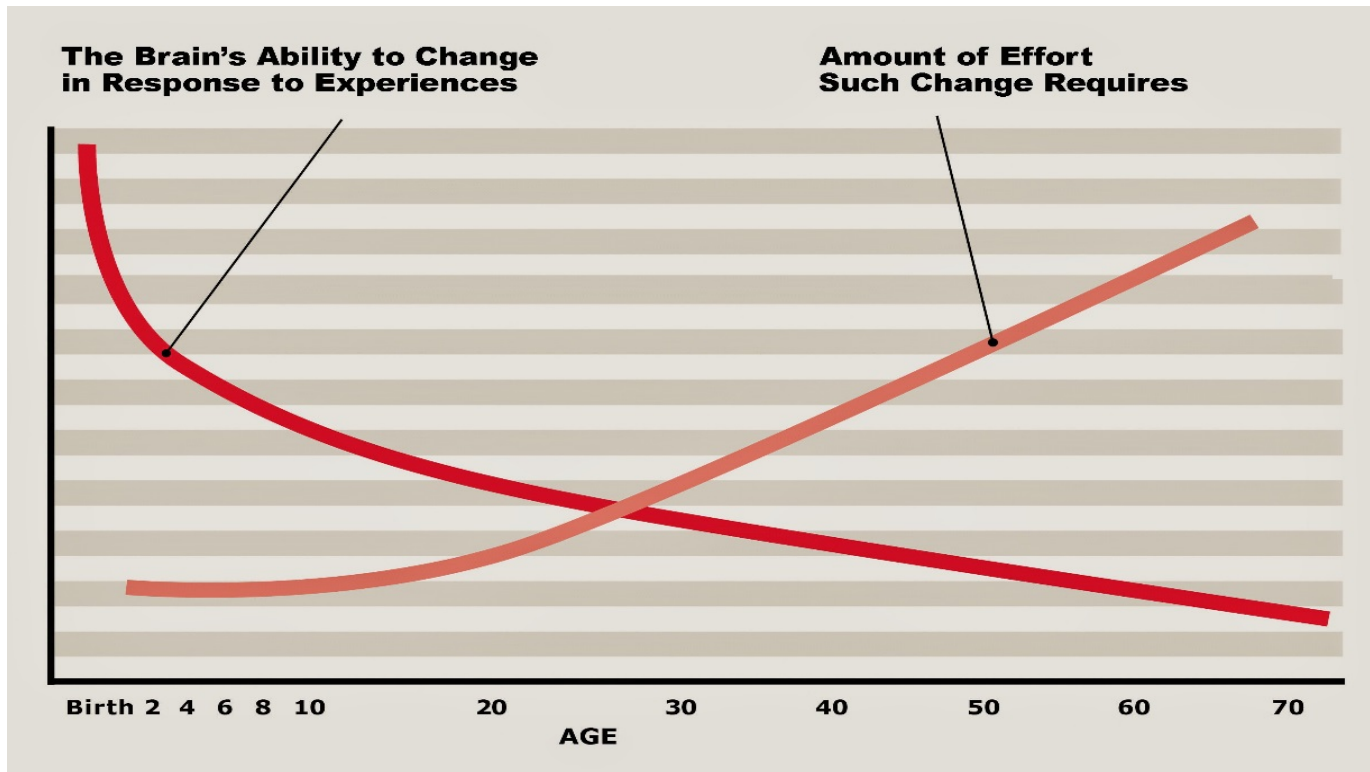
Synapse formation dependent on early experiences



# The experience-expectant, experience-dependent human brain

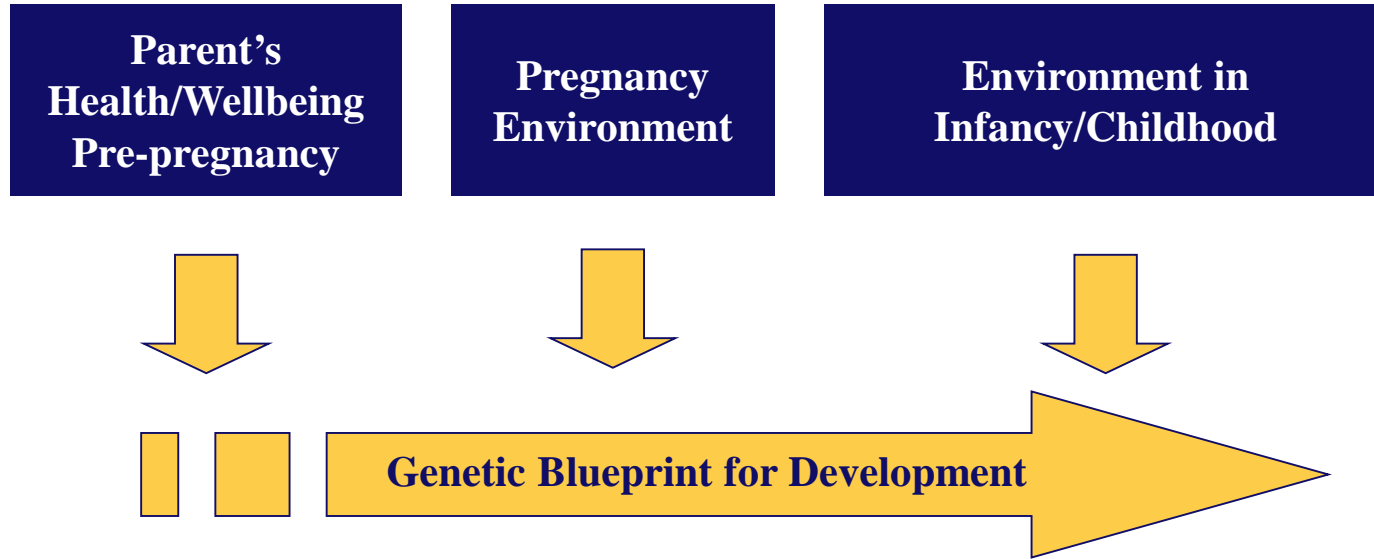


<http://america.pink.com>



It is easier, less costly, and more impactful to intervene early in the development of a child's brain than it is to do so later.

# Environments across the life-course



Health



Learning



Behavior

Quality and timing of early environments shape a child's future potential



# Nurturing Care



# Nurturing Care

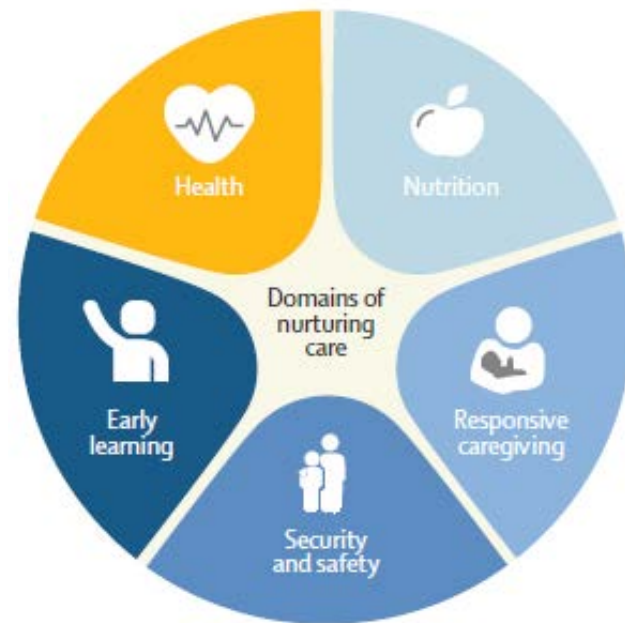
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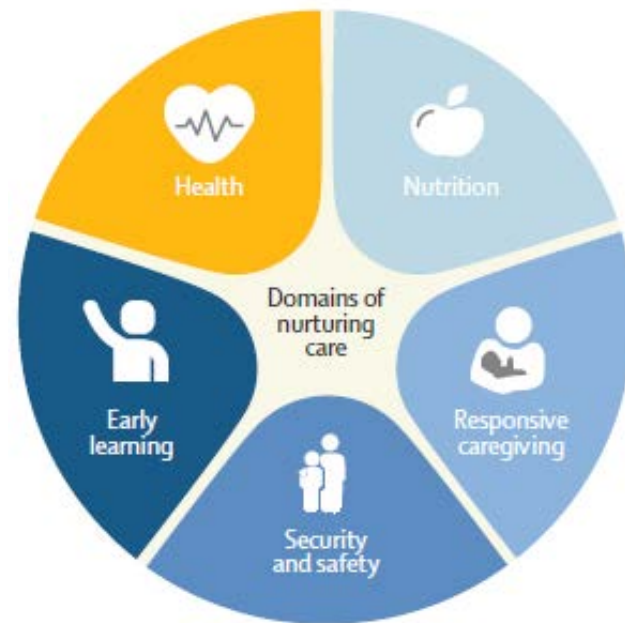
# Nurturing Care

- Domains of Nurturing Care
  - Nutrition
  - Health care
  - Responsive caregiving
  - Security & safety
  - Early learning



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# Nurturing Care - Nutrition

- Optimal nutrition during pregnancy and early infancy is essential for the well-being of the mother and the baby
- Intrauterine growth restriction can influence the architecture of the developing brain and may contribute to reduced school performance and increase in behavioral problems

# Nutrition – “A snapshot of First 1000 Days in America”

- Nearly half of women gain excess weight during pregnancy
- Only 22% of infants are exclusively breastfed
- 1 in 4 toddlers are not receiving adequate Iron in their diets – a key ingredient for optimal brain growth
- 1 in 5 children under the age of 6 live in families that struggle to put nutritious food on the table
- More than 25% of infants and toddlers live in poverty

*Reference: “The First 1,000 Days: Nourishing America's Future”*

# Nutrition: Interventions

## Promotion of Breast Feeding:

- Breastmilk has all the nutrition a baby needs in the first 4-6 months of life
- Breastfeeding has powerful short-term and long-term health benefits for both moms and babies
- New evidence presents evidence that optimal breastfeeding supports improved IQ in childhood and adolescence
- Suggested interventions:
  - Expand access to “Baby-Friendly” birthing centers & hospitals
  - Increase % of women receiving paid maternity leave

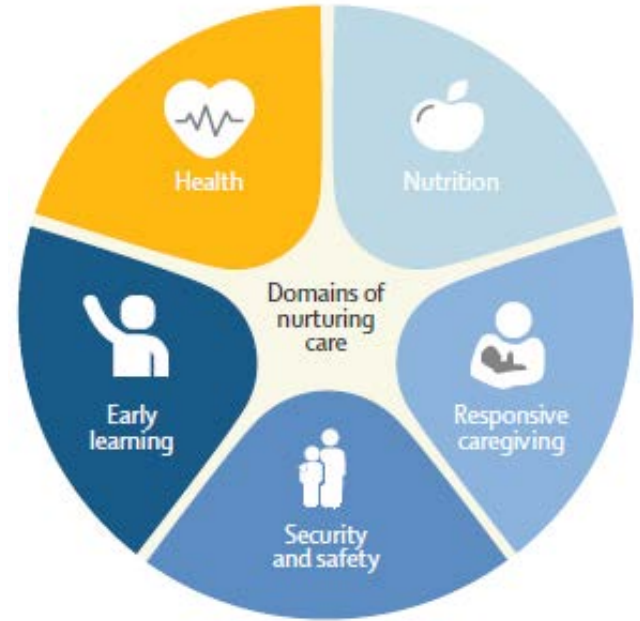
# Nutrition: Interventions

## WIC Program:

- Participation in WIC reduces LBW and improves infant nutrition
- Participation rates vary, overall underutilized
- Use of technology to increase access – current initiatives
- Collaboration with community partners to improve utilization

# Nurturing Care

- Domains of Nurturing Care
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# Nurturing Care - Healthcare

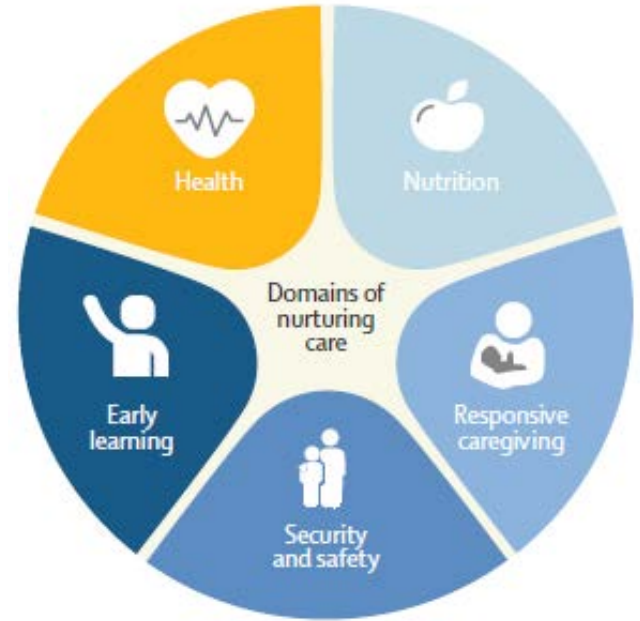
- Enhance access to and utilization of prenatal & post-natal care
- Promote screening for and access to services to address maternal depression
- Transform preventive-oriented child health systems to assure regular screenings for developmental delays, referrals to community-based services, promotion of early reading, and promotion of positive parent-child interactions

# Nurturing Care - Healthcare

- Promote development of integrated health delivery systems to provide timely access to medical, behavioral health, and early intervention services with linkages to community-based nutrition services, early educational programs, and child welfare systems

# Nurturing Care

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  - Early learning

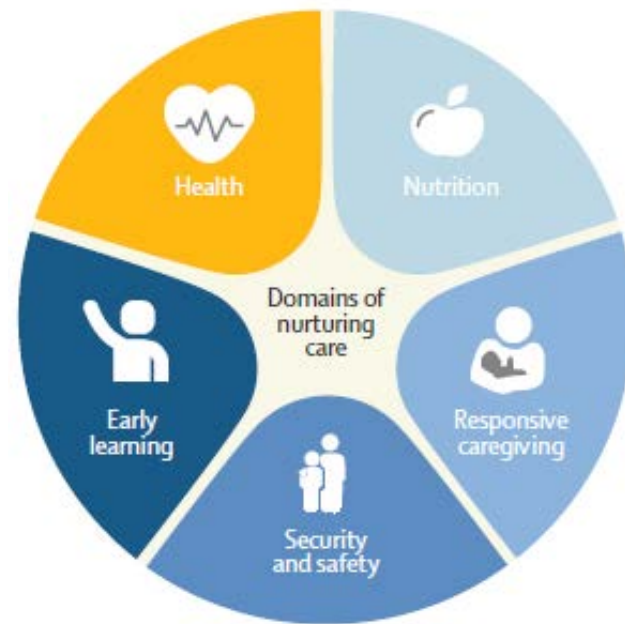


# Nurturing Care – Responsive Caregiving

- Support and strengthen skills of adults who care for children – parents, grandparents, family members, staff in early childhood programs, etc.
- Home visiting services – “Nurse-Family Partnership”
- Parent engagement in center-based services
- Professional Development for teachers and caregivers

# Nurturing Care

- Domains of Nurturing Care
  - Nutrition
  - Health care
  - Responsive caregiving
  - **Security & safety**
  - Early learning



# Nurturing Care – Security & Safety

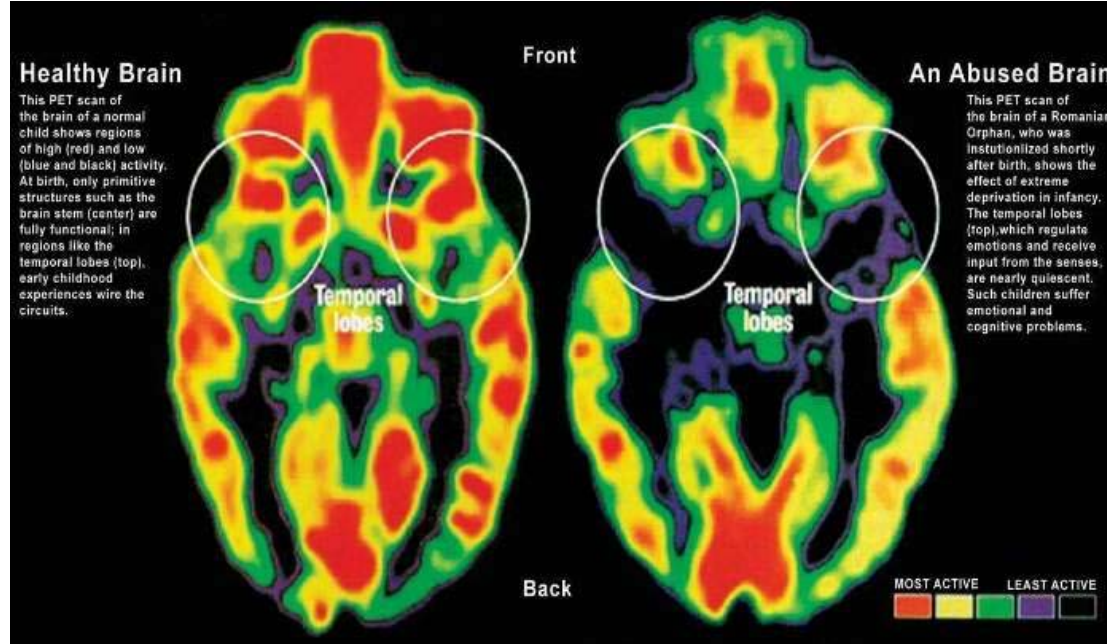
- Reduction of “Adverse Childhood Experiences” (ACEs) & related “Toxic Stress”
- Strengthening of “Protective Factors” to promote resilience
- Provision of safe and secure physical environment without exposure to toxic chemicals

# Nurturing Care – Adverse Childhood Experiences

- ACEs can contribute significantly to negative adult physical and mental health outcomes and affect more than 60% of adults – *1998 study from CDC and Kaiser Permanente*
- Adults who have experienced ACEs as children can exhibit inadequate parenting capacity and are more likely to perpetuate a cycle of adverse care giving across generations
- ACEs resulting in toxic stress may affect the brain architecture through the epigenetic modifications

*Reference: ACEs and the Lifelong Consequences of Trauma – American Academy of Pediatrics 2014*

# The developing brain needs nutrition, stimulation and protection





# Adverse Childhood Experiences

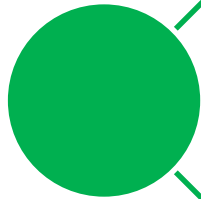
ACEs include

- Emotional abuse, Physical abuse, Sexual abuse
- Emotional neglect, Physical neglect
- Domestic violence
- Household mental illness
- Household substance abuse
- Parental separation or divorce
- Incarcerated household member

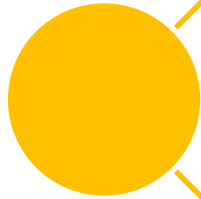
# ACEs - Role of Stress

- Some stress is normal and necessary
- There is no such thing as absence of stress
- Broadly categorized into 3 types based on the perception and reaction
  - Positive stress response
  - Tolerable stress response
  - Toxic stress response

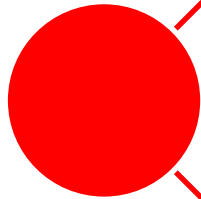
# Three Levels of Stressful Responses



**Positive:** Brief increases in heart rate, mild elevations in stress hormone levels



**Tolerable:** Serious, temporary stress responses, buffered by supportive relationships



**Toxic:** Prolonged activation of stress response systems in the absence of protective relationships

# ACEs – Toxic Stress Response

- Can occur when a child experiences strong, frequent, or prolonged adversity in the absence of adequate adult support
- Prolonged activation of toxic stress response systems can disrupt the brain architecture and other organ systems.
- Can increase the risk of stress related disease and cognitive impairment

# Toxic Stress – Potential Consequences

- Stress-induced, potentially permanent changes to developing brain architecture
- Increase in wide range of health-threatening behaviors – obesity, tobacco and illicit drug use, and promiscuity
- Poor health outcomes – cardiovascular disease, viral hepatitis, liver cancer, asthma, diabetes, depression and other mental health issues, etc.
- Decreased life expectancy

# ACEs and Toxic Stress – Interventions

- Primary and secondary prevention – Clinical, community, and home settings
- Building “resilience” by strengthening protective factors such as enhancing cognitive capacity, healthy attachment relationships, supportive environmental systems, etc.
- Evidence-based treatment modalities

# The Bucharest Early Intervention Project

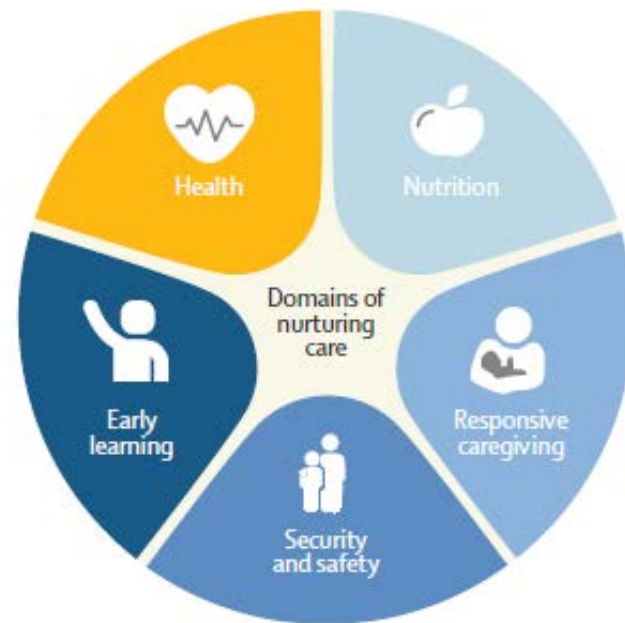
- A randomized controlled trial of foster care as an intervention for children abandoned at or around the time of birth and placed in one of six institutions for young children in Bucharest, Romania
- Early institutionalization leads to profound deficits in many domains examined to date, including cognitive (i.e., IQ) and socio-emotional behaviors (i.e., attachment)
- Foster care intervention, **before age 2**, was broadly effective in enhancing children's development, and for specific domains, including brain activity (EEG), attachment, language, and cognition
- Earlier a child was placed in foster care, the better their recovery





# Nurturing Care

- Elements of Nurturing Care
  - Nutrition
  - Health care
  - Responsive caregiving
  - Security & safety
  - Early learning



# Nurturing Care – Early Learning

- Enrollment of children from low-income families in very “high-quality” early education centers can enhance academic achievement, and social and emotional adjustment
- “High-quality” refers to provision of language-rich environment that provides warm and responsive care in a physical setting

Reference: A science-based framework for early childhood policy – Center on the Developing Child at Harvard

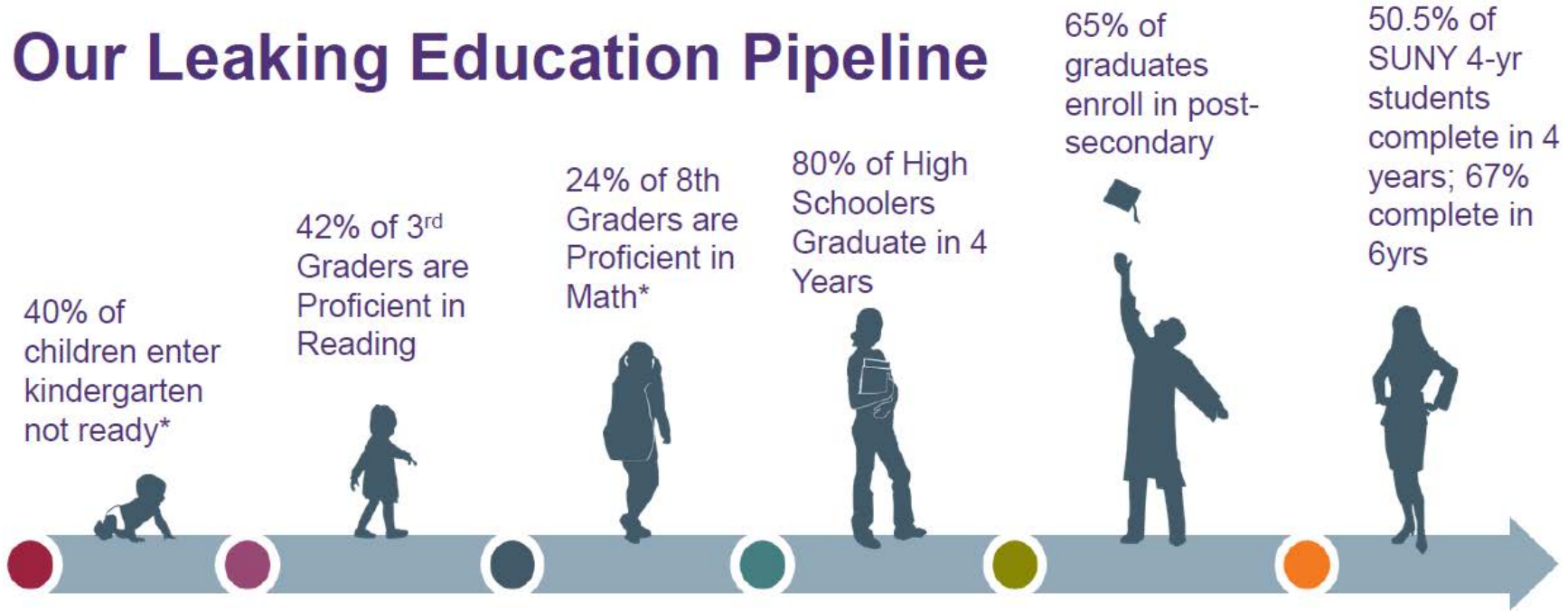


# Connections

A value-driven project to build strong brains



# Our Leaking Education Pipeline

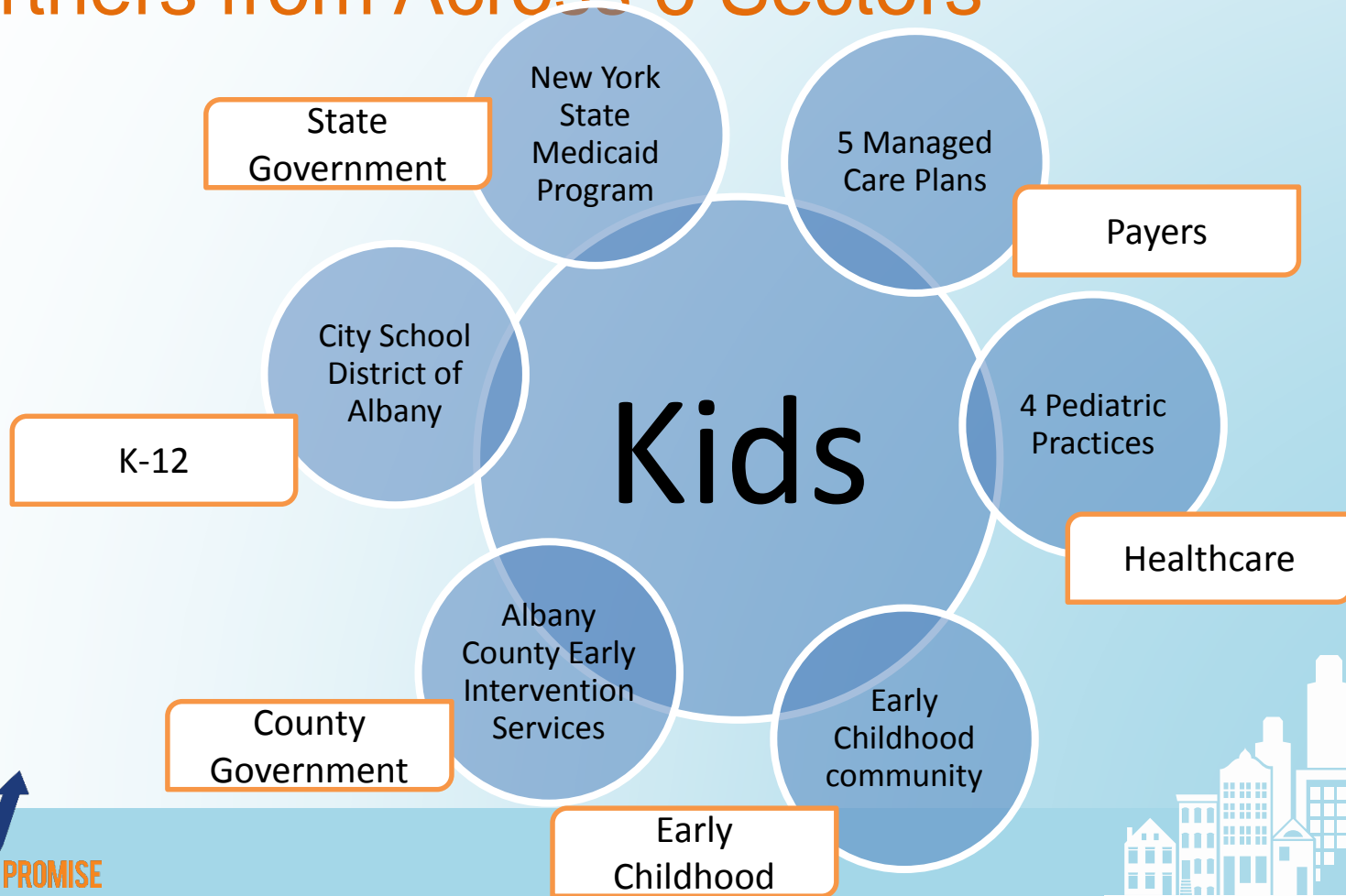


## Every Child, Cradle to Career.

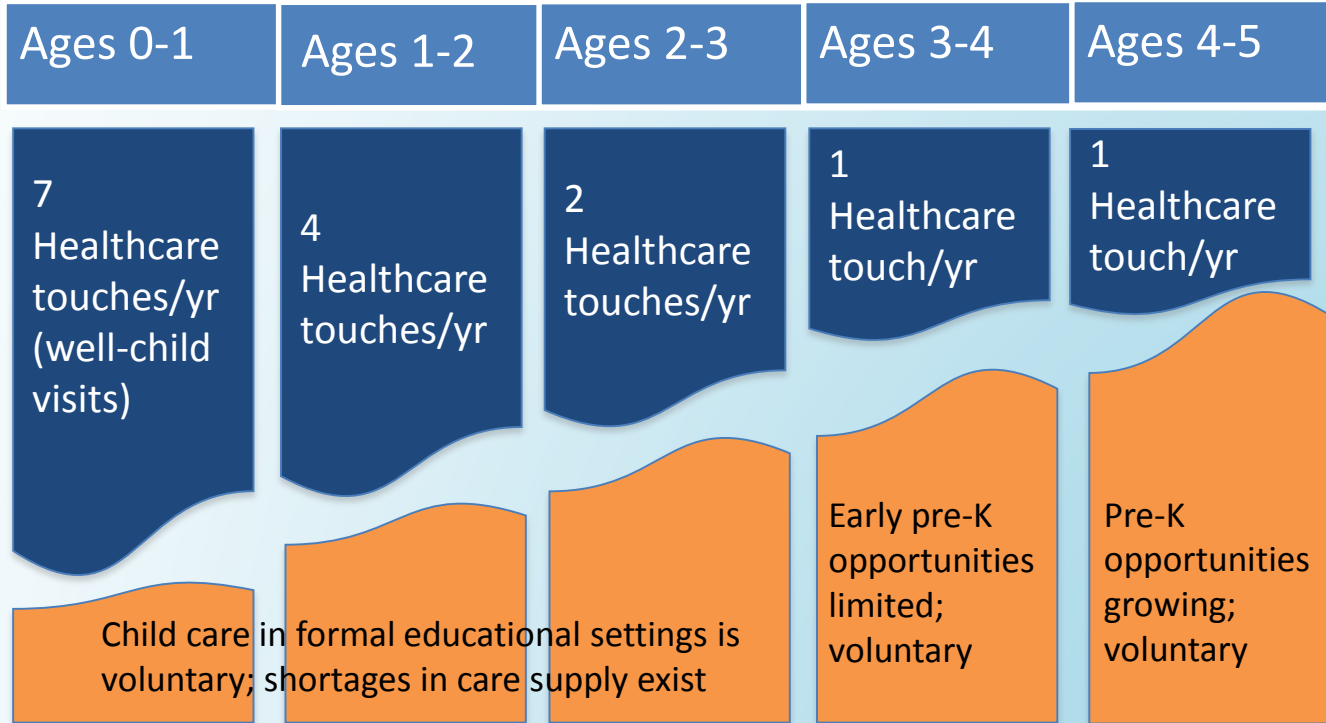
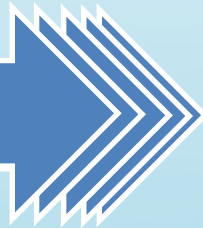
# “Connections”

- A Value-Driven Pilot to Build Strong Brains
- Part of NY VBP Initiatives
- Cross-sector collaboration between NYS Medicaid, healthcare providers, All Albany Promise, County Government, MCOs, and Education Services
- Goal is to increase the number of students who are kindergarten-ready when entering school

# Partners from Across 6 Sectors



# Healthcare Uniquely Positioned for Impact



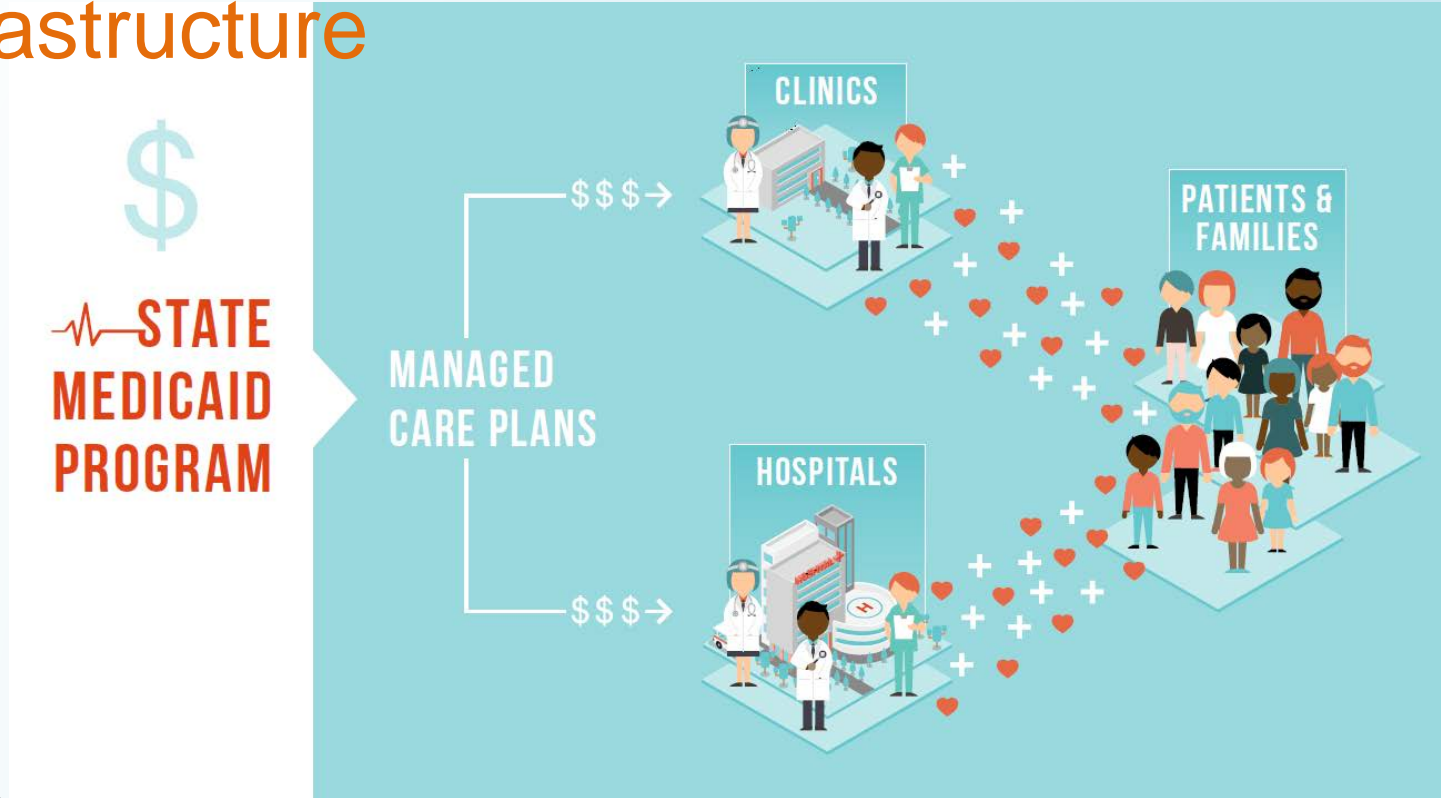
# Improving Identification of At-Risk Children

- American Academy of Pediatrics (AAP) 2006 guidelines were issued to improve the early identification of developmental delays, including developmental screening at the 9-, 18-, and 30-month visits
- However, gaps in assessment remain
  - Only 23% of pediatricians in a national survey reported using a standardized screening tool <sup>(8)</sup>
  - In a New York State study, only 16% of children who had a documented developmental screen were screened using a CHIPRA approved, comprehensive, standardized screening tool. <sup>(9)</sup>
- Racial disparities have been identified in receipt of EI services, even in absence of qualifying condition <sup>(10)</sup>





# Leveraging Medicaid via Cradle to Career Infrastructure



# Metrics



# Metrics

- **Population-level outcome: Increase the number of students who are kindergarten-ready when entering school**
- **Project-specific measures:**
  - # of children 0-3 completing their 9, 18, 24, 30 month visit
  - # of children 0-3 completing the ASQ-3 at their 9, 18, 24, 30 month visit
  - # of children who are screened by the ASQ-3 as above the cutoff, close to the cutoff, or below the cutoff in the 5 developmental domains
  - # of children who are referred to SPOE
  - # of children who are screened for Early Intervention; meet the eligibility requirement; enroll in EI services



# Nurturing Care – Key Points

- Impact of experiences during the First 1000 days, positive and negative, on child development and life-long health is strongly supported by science
- Nurturing care, which ensures *health, nutrition, responsive care giving, safety and security, and early learning*, is essential for young children’s healthy development
- Nurturing care offers the protective mechanism to counteract the negative effects of stress and adversity