

Frontiers of Innovation (FOI) – GA

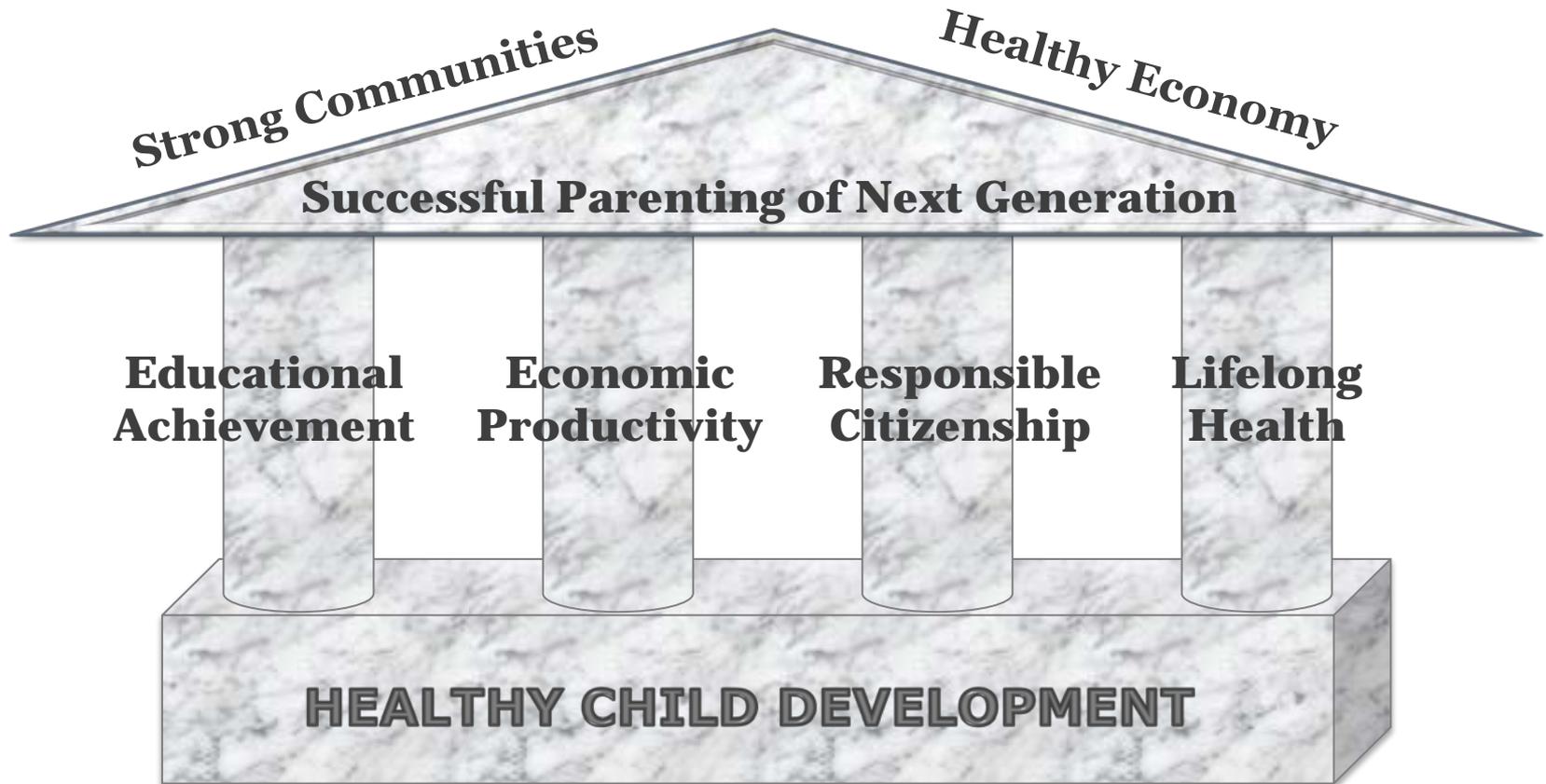
Understanding the Science and Supporting Innovation in Georgia

Ellyn Cochran

**GEEARS: the Georgia Early Education Alliance
for Ready Students**



The Foundation of a Successful Society is Built in Early Childhood



Slide courtesy of the Center on the Developing Child at Harvard University.

Three Core Concepts of Development

1

Brain Architecture Is Established Early in Life and Supports Lifelong Learning, Behavior, and Health

2

Stable, Caring Relationships and “Serve and Return” Interaction Shape Brain Architecture

3

Toxic Stress in the Early Years of Life Can Derail Healthy Development



Slide courtesy of the Center on the Developing Child at Harvard University.

Three Core Concepts in Early Development

1 Experiences Build Brain Architecture

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD

Center on the Developing Child  HARVARD UNIVERSITY

[Play Video:](http://developingchild.harvard.edu/resources/multimedia/videos/three_core_concepts/brain_architecture/)

http://developingchild.harvard.edu/resources/multimedia/videos/three_core_concepts/brain_architecture/



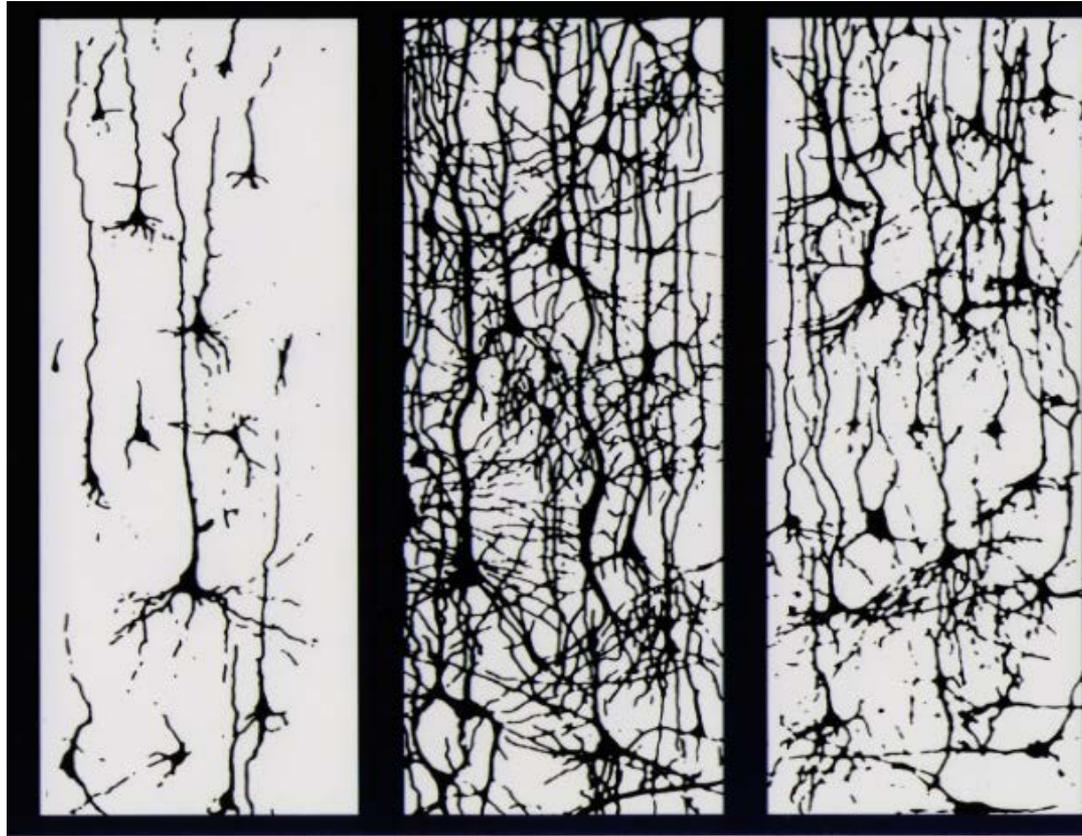
Brain Architecture Supports Lifelong Learning, Behavior, and Health

- Early experiences shape brain architecture.
- Simple skills come first; more complex skills build on top of them.
- A strong foundation in the early years improves the odds for positive outcomes and a weak foundation increases the odds of problems later in life.



Experiences Shape Brain Architecture

700 neural connections per second in the early years



Birth

6 years

14 years

Image source: Conel, JL.

Three Core Concepts in Early Development

2 Serve & Return Interaction Shapes Brain Circuitry

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD

Center on the Developing Child  HARVARD UNIVERSITY

Play Video:

http://developingchild.harvard.edu/resources/multimedia/videos/three_core_concepts/serve_and_return/

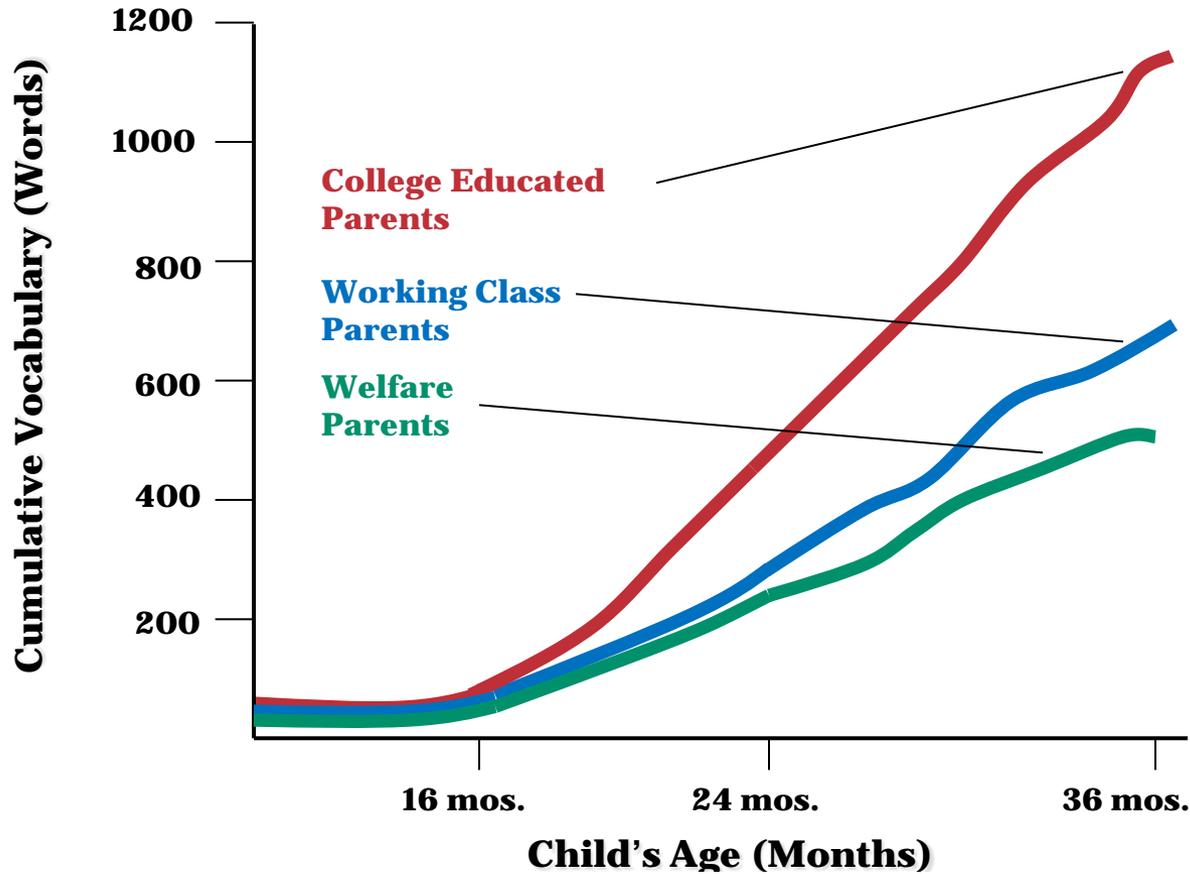


Serve & Return Builds Brains and Skills

- Ongoing, reliable interaction with trusted adults is essential for the development of healthy brain circuits.
- Systems that support the quality of relationships in early care settings, communities, and homes help build brain architecture.



Barriers to Educational Achievement Emerge at a Very Young Age



Graph Courtesy: Center on the Developing Child at Harvard University Data Source: Hart & Risley (1995)

Three Core Concepts in Early Development

3 Toxic Stress Derails Healthy Development

NATIONAL SCIENTIFIC COUNCIL ON THE DEVELOPING CHILD

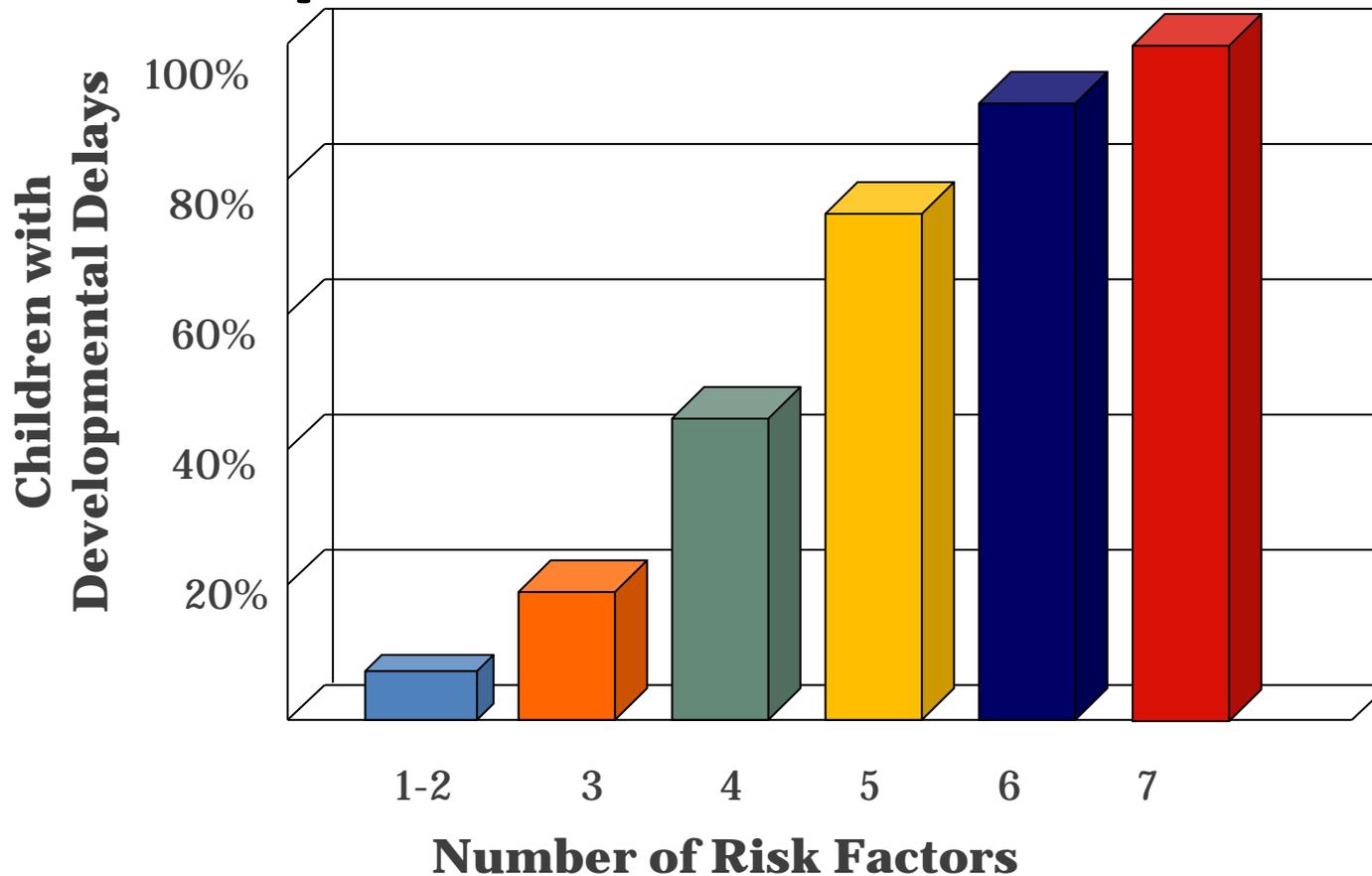
Center on the Developing Child  HARVARD UNIVERSITY

Relationships Buffer Toxic Stress

- Learning how to cope with moderate, short-lived stress can build a healthy stress response system.
- Toxic stress—when the body’s stress response system is activated excessively—can weaken brain architecture.
- Without caring adults to buffer children, toxic stress can have long-term consequences for learning, behavior, and both physical and mental health.



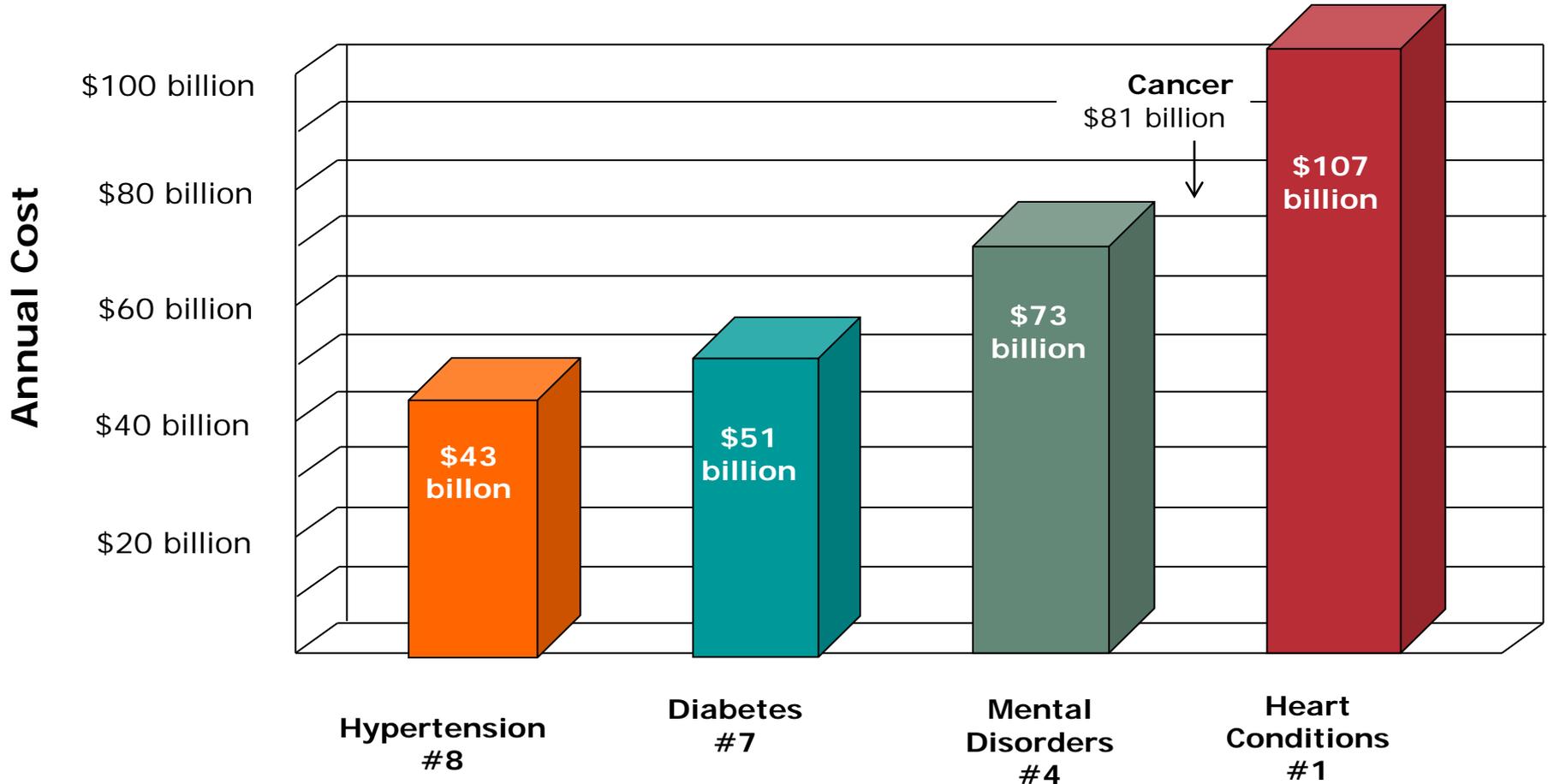
Significant Adversity Impairs Development in the First Three Years



Graph Courtesy: Center on the Developing Child at Harvard University Data Source: Barth, et al. (2008)

Chronic Diseases Associated With Childhood Adversity Dominate U.S. Health Care Costs

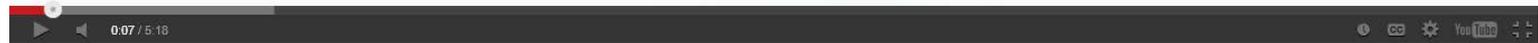
Four of Top Ten Most Costly Diagnoses = \$274 billion



Slide courtesy of the Center on the Developing Child. Source: Agency for Healthcare Research and Quality (2010)

Applying the Science to Our Policies The FOI Approach

Build Adult Capabilities
Improve Child Outcomes
A THEORY OF CHANGE

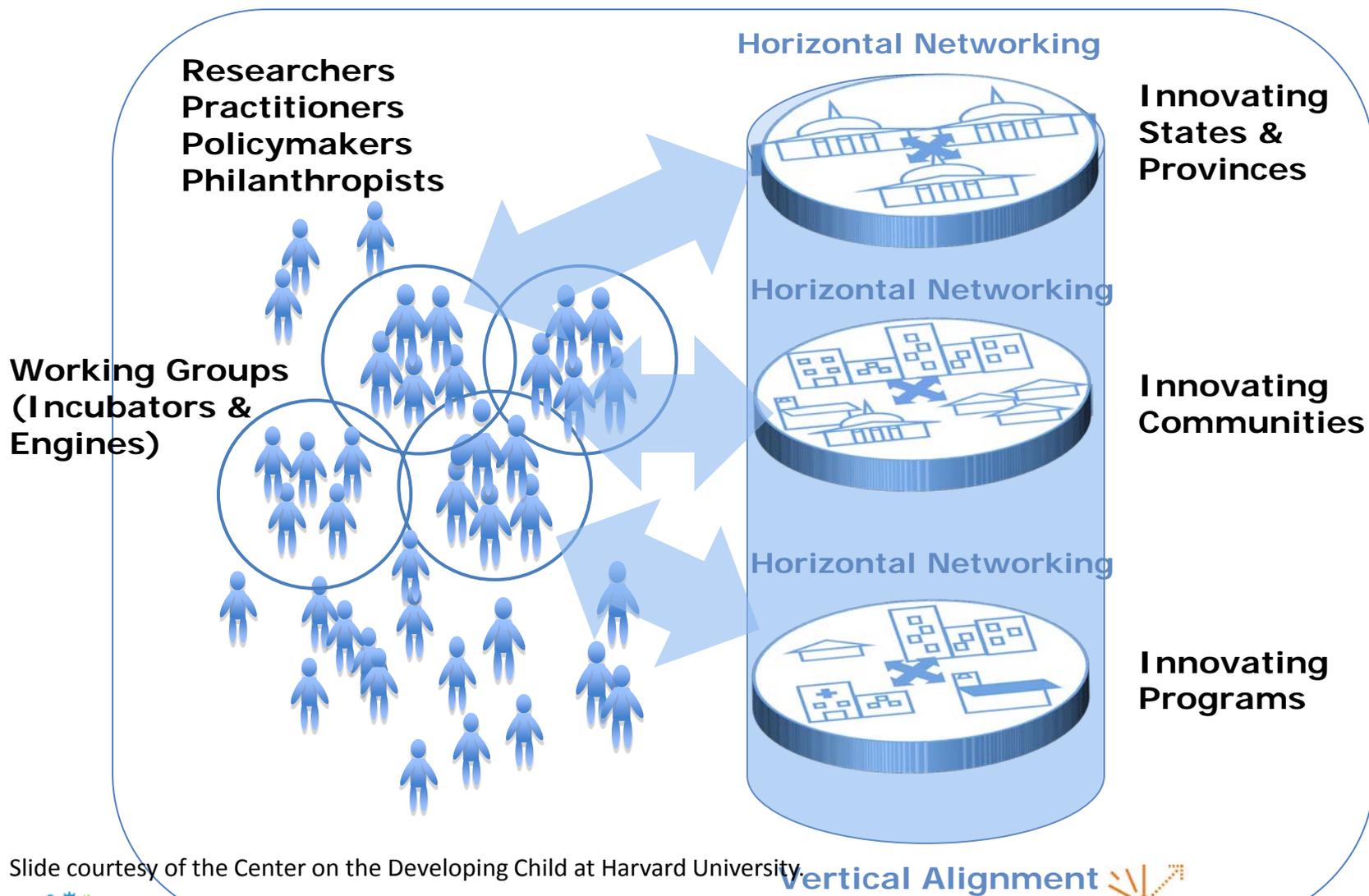


[Play Video:](http://developingchild.harvard.edu/resources/multimedia/videos/theory_of_change)

http://developingchild.harvard.edu/resources/multimedia/videos/theory_of_change



Building a Learning Community to Design, Test, Refine, and Scale New Ideas



Slide courtesy of the Center on the Developing Child at Harvard University.

Georgia as 'Innovation by Design' State

Desired Outcome:

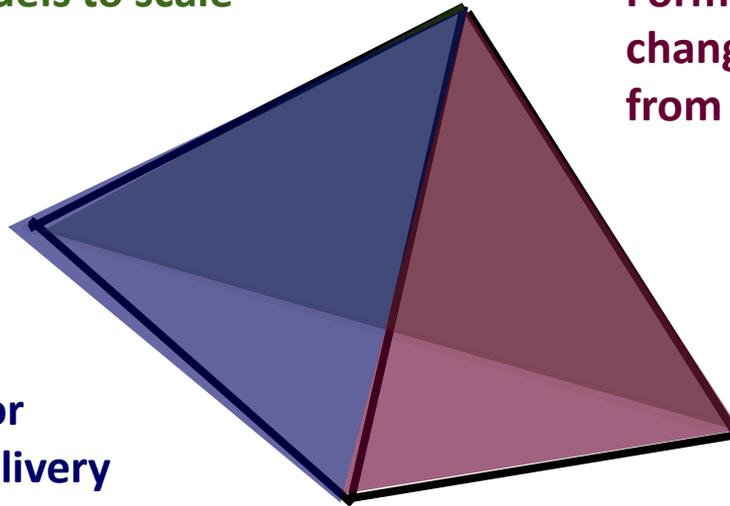
Georgia as a thriving science-based innovation system that is:

- Achieving breakthroughs in early childhood outcomes in Georgia
- A major contributor – through its ideas, people, capabilities and experience – to advancing science-based innovation in the early childhood field more broadly
- A compelling example for other states of what a thriving science-based innovation system can look like and the potential pathways to get there

Increasing the Impact of Current Investments in Georgia Requires Three Strategies (Campaign for Grade Level Reading)

Enhance quality and take effective models to scale

Science-base innovation:
Formulate enhanced theories of change, test new ideas, and learn from interventions that don't work

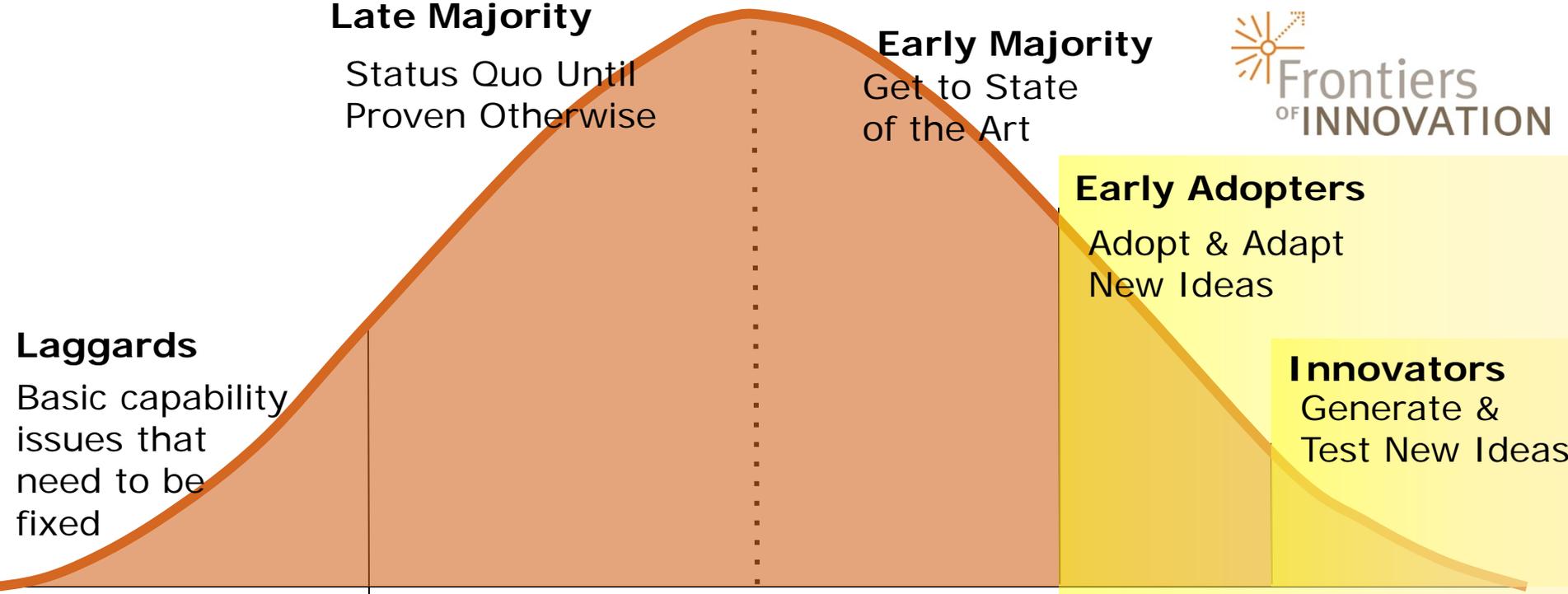


Build strong systems for coordinated service delivery and data management

FOI Process in Georgia Systems Scan

- Currently in Charter Development Process
- Charter Development Team Members
 - three state agencies (Governor's Office, Early Care and Learning, and Public Health)
 - Child development advocacy group (Center contact – facilitator)
 - Representative from site-based FOI partnership in state
- End Result Identified: All students in Georgia reading at grade-level in third grade
- Group is identifying a target issue – Problem to solve
 - Development of social-emotional (SE) skills and early identification of social-emotional challenges in early childhood

Planting the Seeds of Innovation



Adapted from Everett Rogers,
Diffusion of Innovations (2003)



Next Steps

Design Workshop

- Include local and FOI national researchers with state agencies, practitioners, and philanthropists
- Craft initial set of strategies to achieve desired results, grounded in science, able to be implemented.

Solution Collaboration

- Translate strategy to practice using rapid-cycle learning while holding fast to intended results
- Will be setting innovations partners inside Early Education Empowerment Zones (E³Zs)

Assistance from Other Agencies

