

# Transforming the Child Health System from 2.0 to 3.0

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**Creating Integrated Child Health Systems:  
Using a Population Health Perspective  
Pew Charitable Trust**

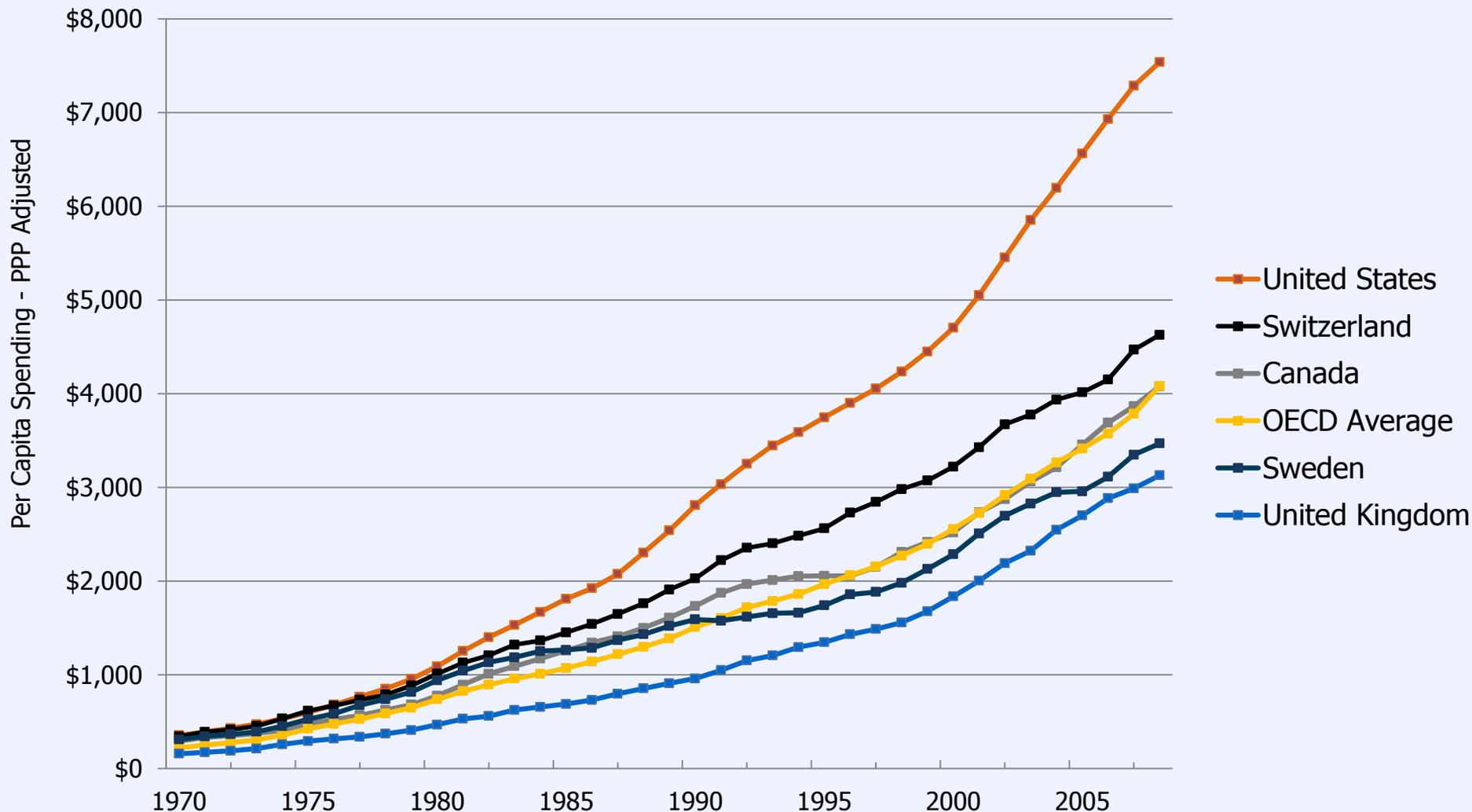
**April 29, 2014**



# Outline

- Pressing need to transform our health system
- 3.0 Transformation Framework
  - How it can be used to redesign the system
- Prototyping 3.0 Health System Change
- Child Health System Transformation Initiative

# Growth in Total Health Expenditure Per Capita, U.S. and Selected Countries, 1970-2008

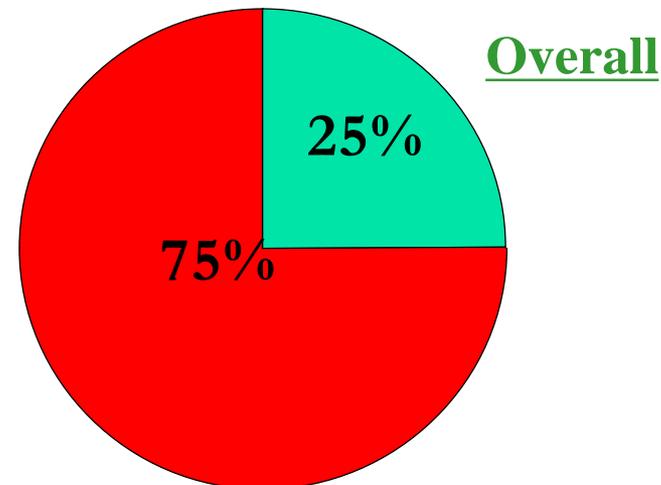


**Source:** Organisation for Economic Co-operation and Development (2010), "OECD Health Data", *OECD Health Statistics* (database). doi: 10.1787/data-00350-en (Accessed on 14 February 2011).

**Notes:** Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted. Break in series: CAN(1995); SWE(1993, 2001); SWI(1995); UK (1997). Numbers are PPP adjusted. Estimates for Canada and Switzerland in 2008.

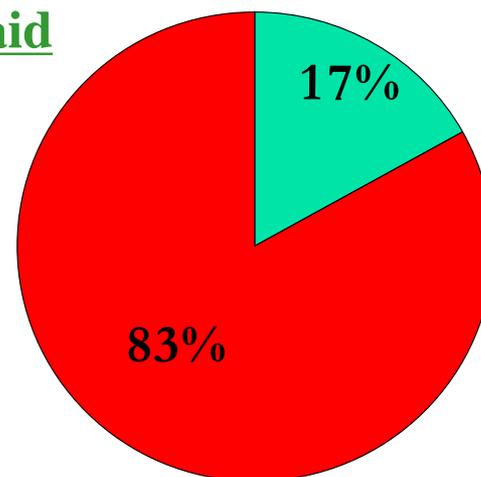
# Biggest Cost Driver is Chronic Disease

- The **10%** of patients that suffer from chronic disease account for **75%** of the nation's health care spending
- Studies show that virtually **ALL** of the spending growth in Medicare over the last 15 years resulted from increased spending on people with multiple, chronic conditions
- The number of chronically ill expected to **DOUBLE** by 2020



■ Other Treatment  
■ Chronic Care

## Medicaid



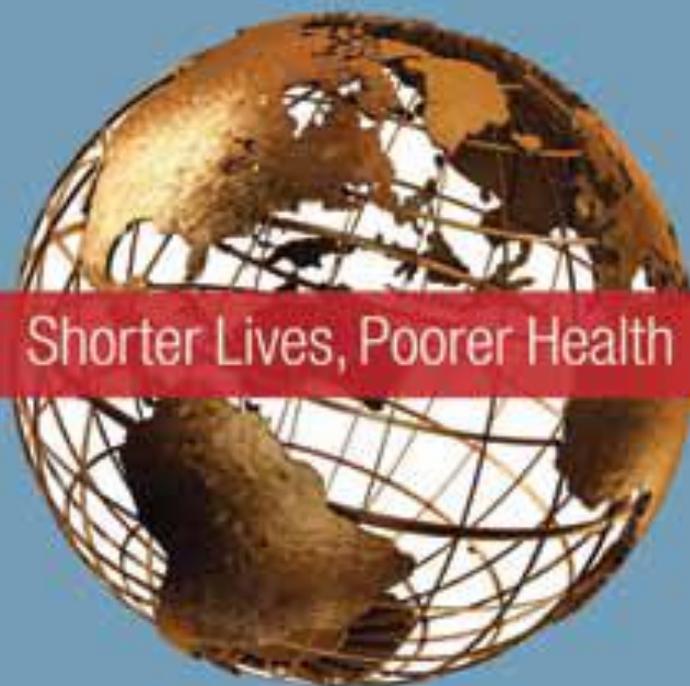
# Rapid Rise in Disease Prevalence :

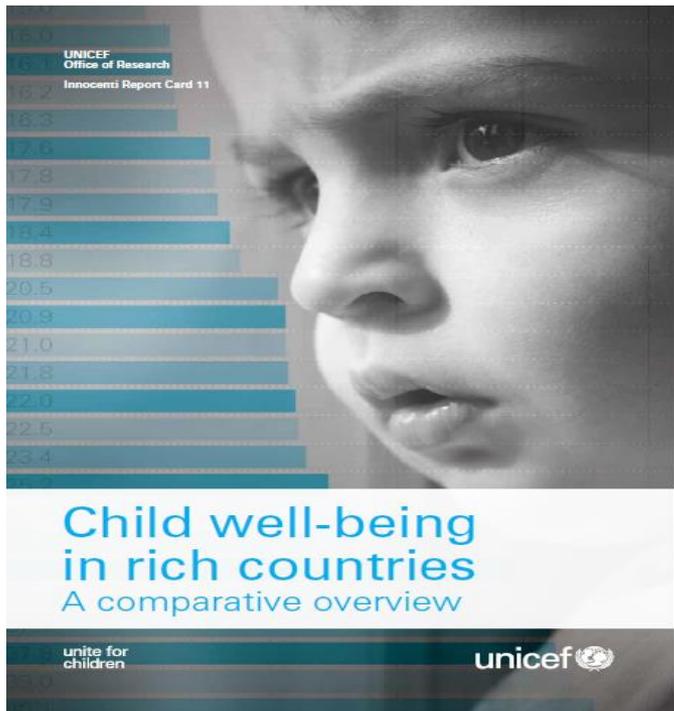
% of Adult Population Treated, By Medical Condition, 1987-2005:

Medical Condition	1987 %	2005 %
Mental Disorders	5.5%	18.8%
Hyperlipidemia	1.5%	14.4%
Hypertension	13.6%	22.0%
Diabetes	4.0%	8.0%
Pulmonary Conditions (OPD, Asthma)	9.5%	18.4%
Lupus/Other Related	4.85	6.0%
Arthritis	7.8%	13.6%
Back Problems	5.4%	13.2%
Upper GI	3.8%	10.7%
Heart Disease	8.1%	9.5%

**U.S. HEALTH**  
IN  
INTERNATIONAL PERSPECTIVE

Shorter Lives, Poorer Health





April 2013

		Overall well-being	Dimension 1	Dimension 2	Dimension 3	Dimension 4	Dimension 5
		Average rank (all 5 dimensions)	Material well-being	Health and safety	Education	Behaviours and risks	Housing and environment
			(rank)	(rank)	(rank)	(rank)	(rank)
1	Netherlands	2.4	1	5	1	1	4
2	Norway	4.6	3	7	6	4	3
3	Iceland	5	4	1	10	3	7
4	Finland	5.4	2	3	4	12	6
5	Sweden	6.2	5	2	11	5	8
6	Germany	9	11	12	3	6	13
7	Luxembourg	9.2	6	4	22	9	5
8	Switzerland	9.6	9	11	16	11	1
9	Belgium	11.2	13	13	2	14	14
10	Ireland	11.6	17	15	17	7	2
11	Denmark	11.8	12	23	7	2	15
12	Slovenia	12	8	6	5	21	20
13	France	12.8	10	10	15	13	16
14	Czech Republic	15.2	16	8	12	22	18
15	Portugal	15.6	21	14	18	8	17
16	United Kingdom	15.8	14	16	24	15	10
17	Canada	16.6	15	27	14	16	11
18	Austria	17	7	26	23	17	12
19	Spain	17.6	24	9	26	20	9
20	Hungary	18.4	18	20	8	24	22
21	Poland	18.8	22	18	9	19	26
22	Italy	19.2	23	17	25	10	21
23	Estonia	20.8	19	22	13	26	24
23	Slovakia	20.8	25	21	21	18	19
25	Greece	23.4	20	19	28	25	25
26	United States	24.8	26	25	27	23	23
27	Lithuania	25.2	27	24	19	29	27
28	Latvia	26.4	28	28	20	28	28
29	Romania	28.6	29	29	29	27	29

Lack of data on a number of indicators means that the following countries, although OECD and/or EU members, could not be included in the league table of child well-being: Australia, Bulgaria, Chile, Cyprus, Israel, Japan, Malta, Mexico, New Zealand, the Republic of Korea, and Turkey.

How are the Children?

# Trends in Child Health

- Mortality Rates Continue to Decrease
- Morbidity is decreasing for many Medical Conditions
- Disparities in Health Outcomes are increasing (societal inequality)
- Emergence of New Morbidities and Concerns (obesity, ADHD, mental health)
- Patterns of Exposure and Risk are changing (squeezed families, hurried children, toxic environments)

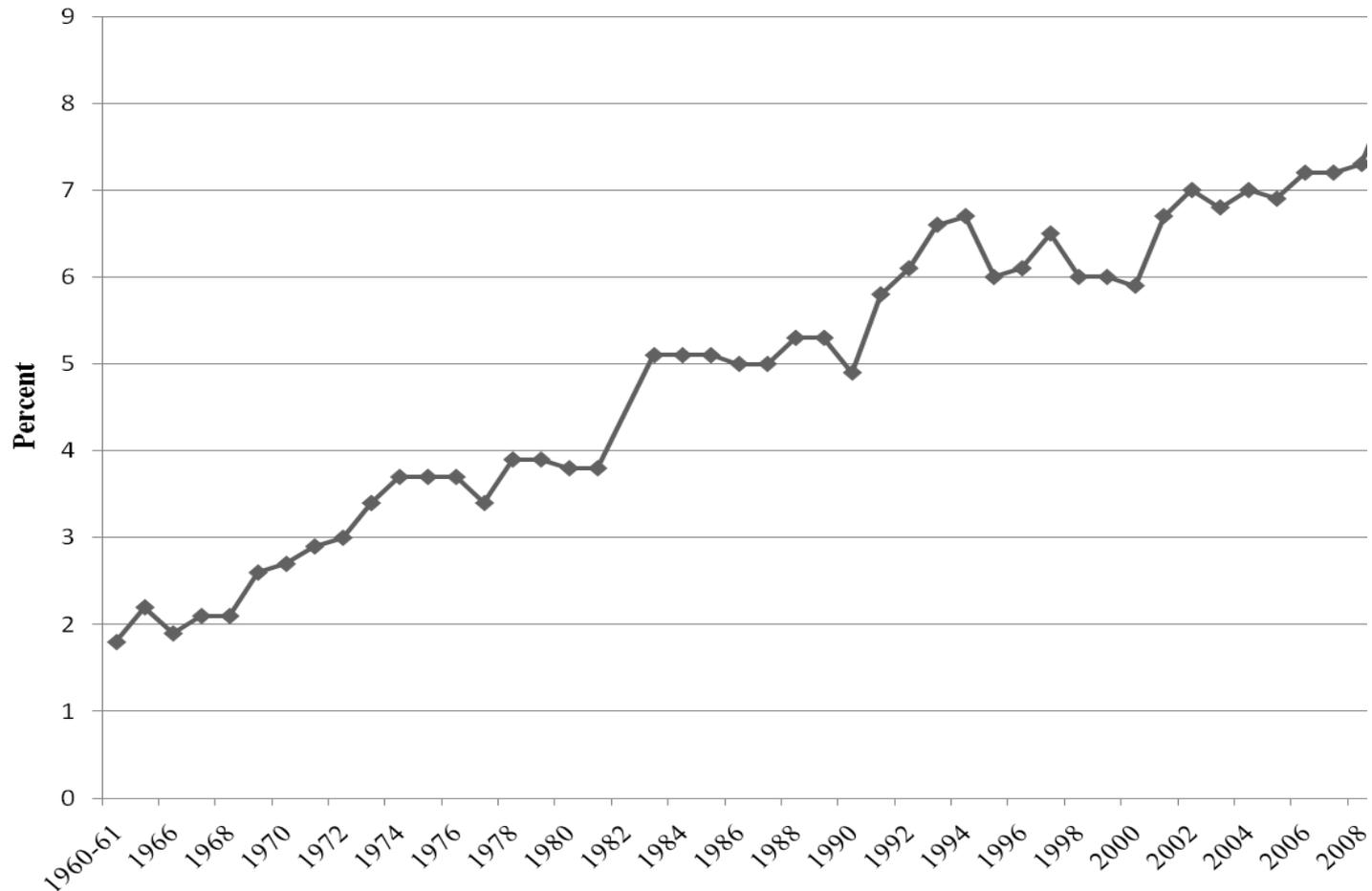


# Changing Pattern of Childhood Morbidity

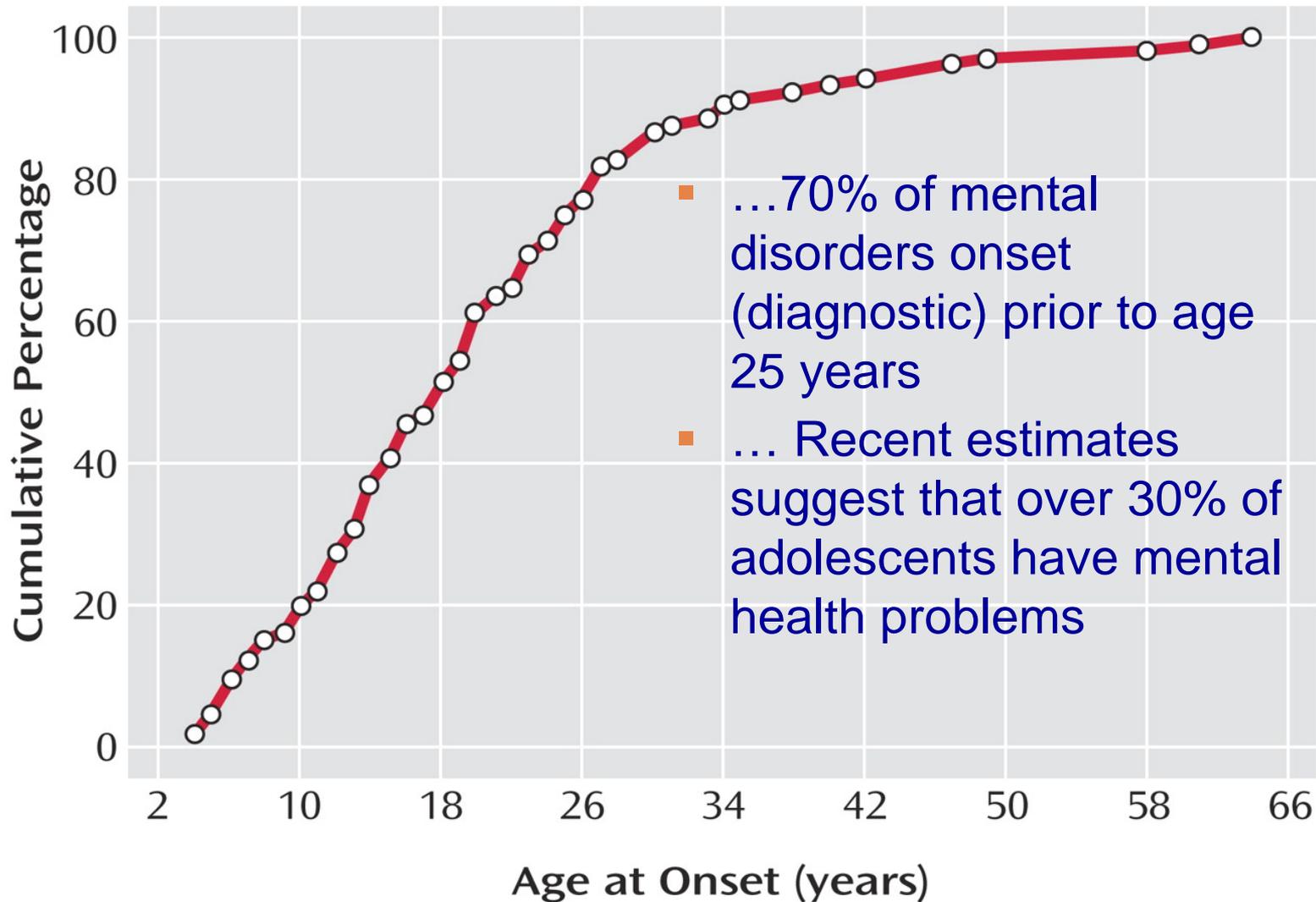
- Increase in chronic health problems (16%-33%)
  - Not Hemophilia, Cancer, Congenital Heart Disease
- Growing prevalence of mental health disorders (15-20%)
- Greater appreciation of role and impact of neuro-developmental health problems – learning, language (10-17%)
- Growing number of children with multiple conditions (co-morbidities) e.g. asthma, obesity, ADHD

# Trends in Childhood Disability- U.S.

(Limitation of Activity due to Chronic Conditions for U.S. Children, NHIS, 1960-2009)



# Mental Health Disorder Across the Life Span



# Children at Risk

**4-6%**  
**Severe**  
**Disabilities**

**12-16%**  
**Special Health**  
**Care Needs**

**30-40%**  
**Behavioral,**  
**Mental Health**  
**Learning**  
**Problems**

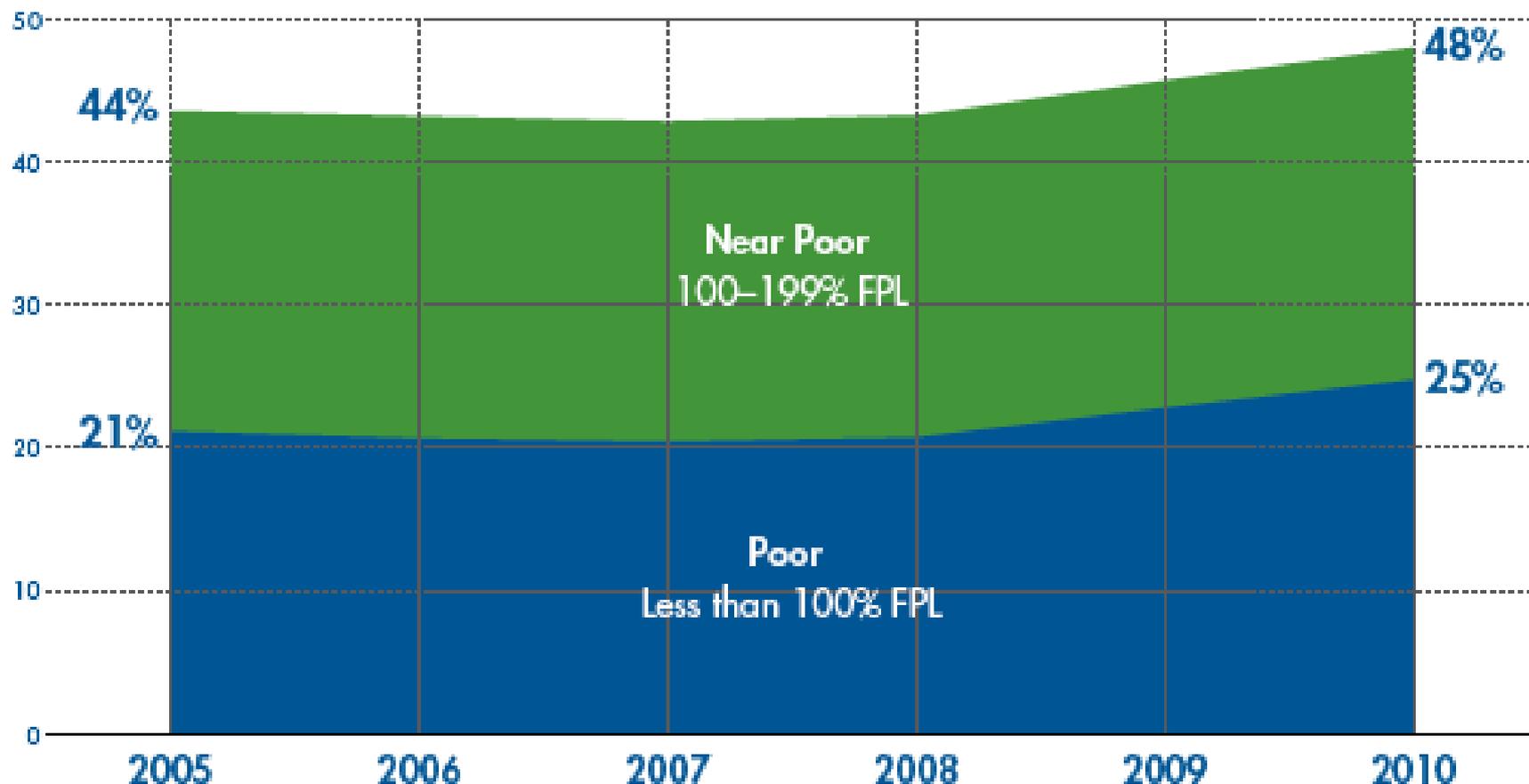
**50-60%**  
**Good Enough**

# Economic Adversity and Child Outcomes

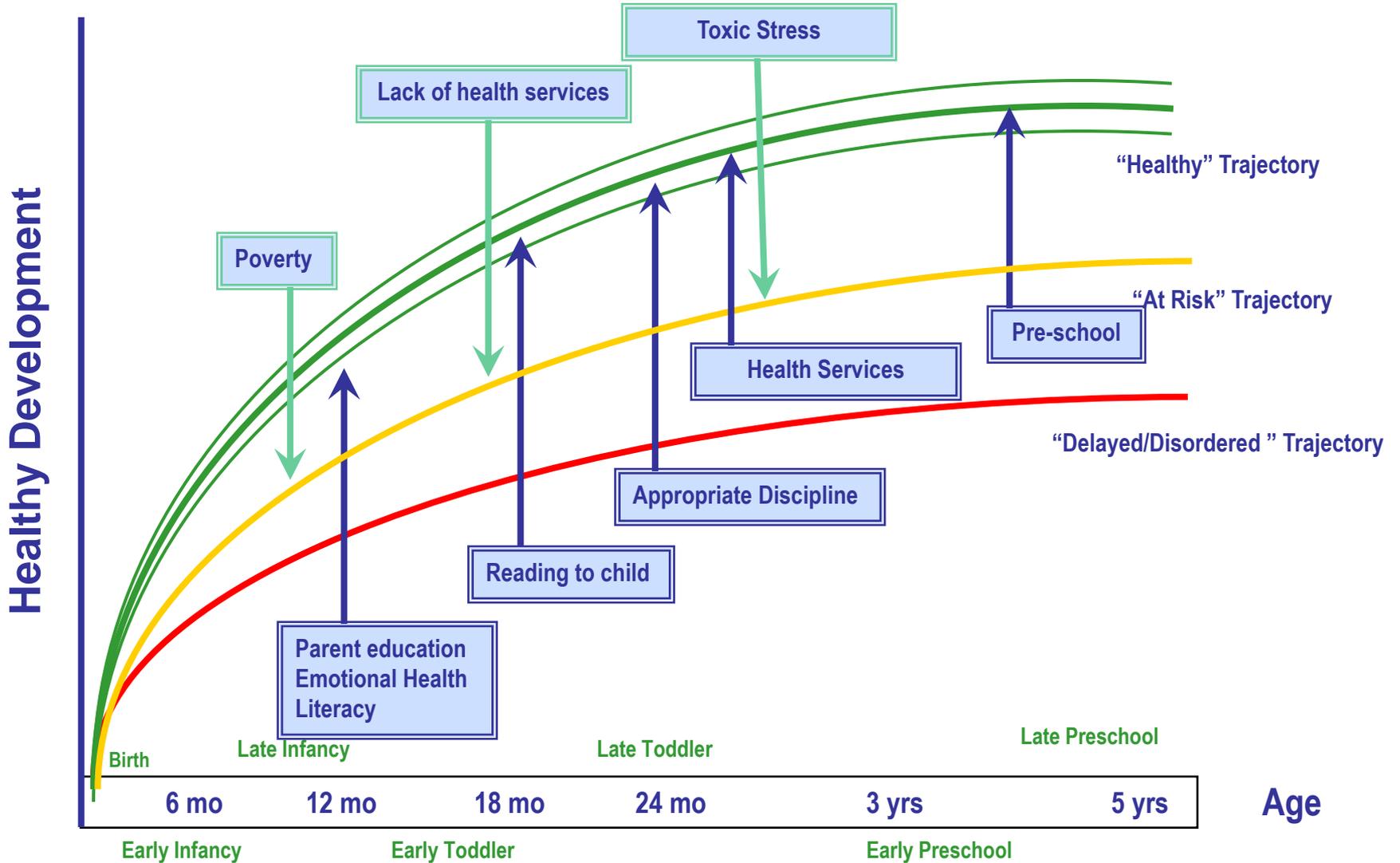
- Born early, smaller, more fragile, and at risk
- Worse physical, cognitive, emotional health
- Hospitalized more, more obese, more asthma, more mental health problems, more disability
- Lower health trajectories, greater brain drain
- Carry the burden of their social status into adulthood
- Programmed into how their biology – and how their immune, endocrine, neurological systems develop, function and perform

## Children under age 6 living in low-income and poor families, 2005–2010

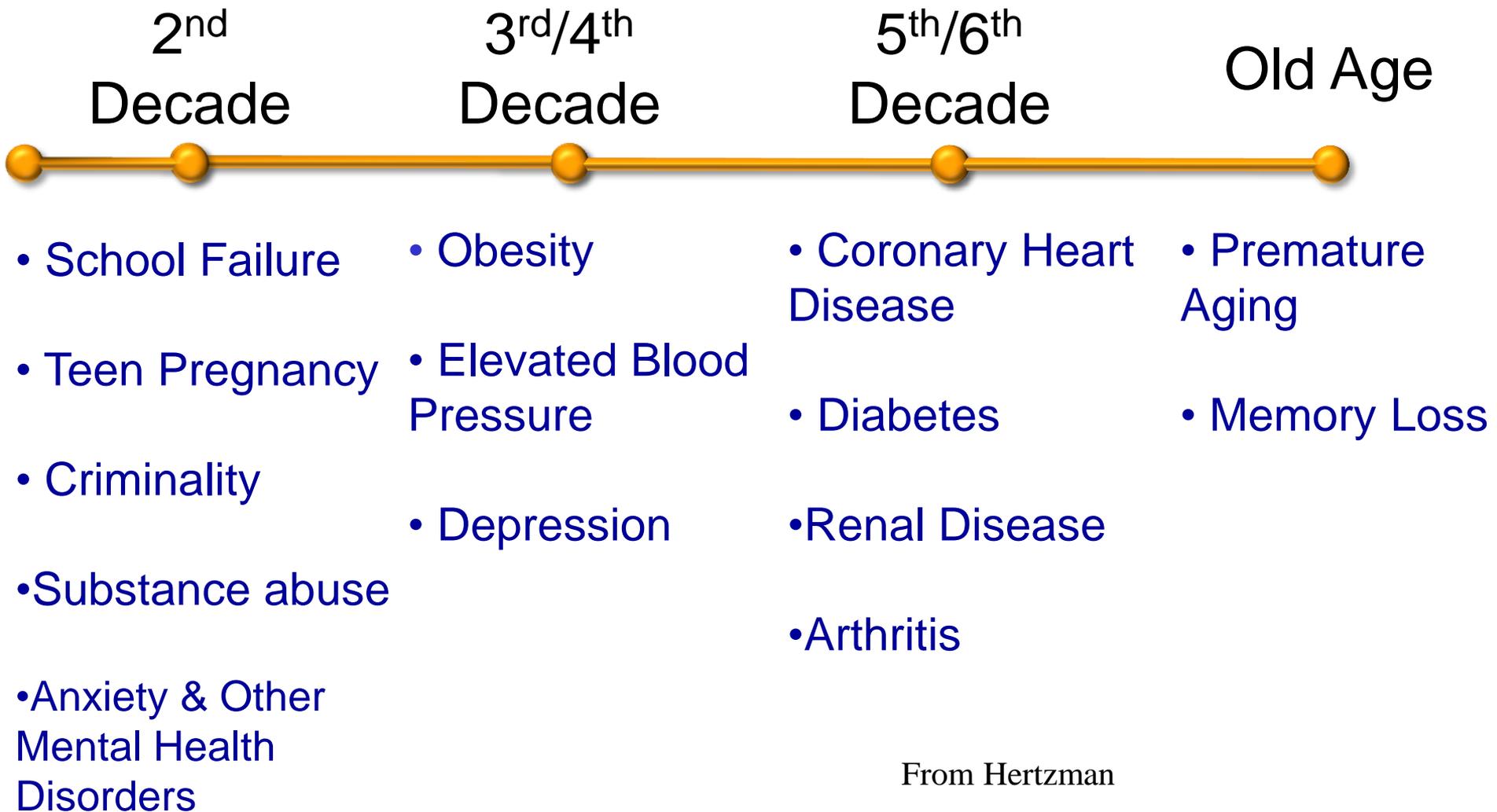
Percent (%)



# Healthy Development : Reducing Risk & Optimizing Protective Factors



# Down Stream Health Problems Related to Early Life

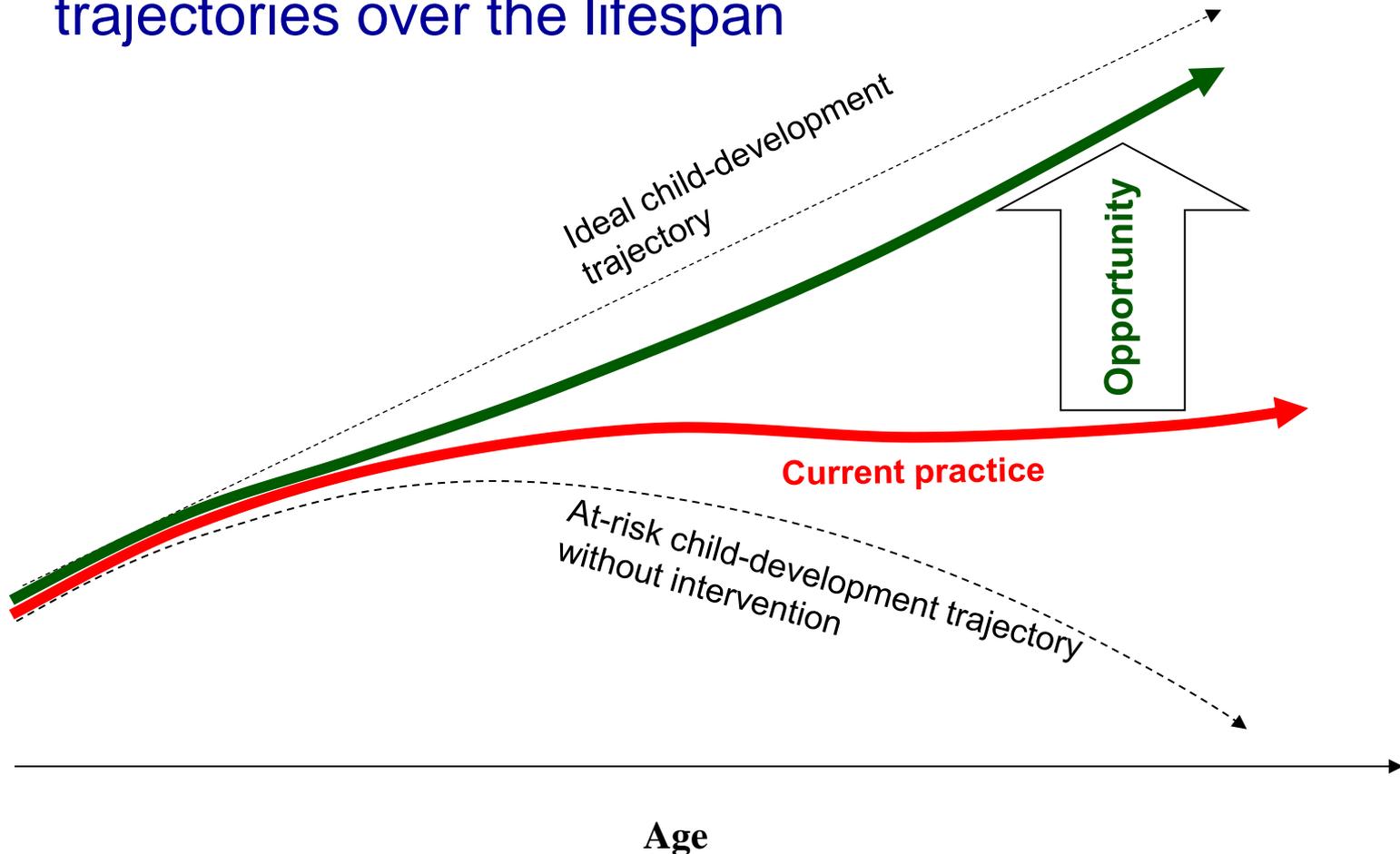


# Poor Performance of Child Health System

- Fragmented service delivery
- Difficulty accessing services and huge inequities
- Low and Uneven quality
- Models of care is outmoded and don't match current needs, or capability
- Limited local responsibility
- Operating under enormous constraints

# Not Optimizing Healthy Development

Addressing the factors shaping health development trajectories over the lifespan



# Science informing Policy

3.0 TF

A New Framework for Health System Transformation

## 3.0 Transformation Framework

- 3 eras of health care; 3 major transitions
- 1<sup>st</sup> Era was focused on saving lives through acute care, emergency and rescue care, and public health safety
- 2<sup>nd</sup> Era was focused on prolonging life and decreasing levels of disability through chronic disease management and secondary prevention
- 3<sup>rd</sup> Era will focus on optimizing health and well being through ... primary prevention, health promotion, community integrated delivery systems

# The Evolving Health Care System

## The First Era (Yesterday)

- Focused on acute and infectious disease
- **Biomedical Model**
- Short time frames
- Medical Care
- Insurance-based financing
- Industrial Model
- **Reducing Deaths**



**Health System  
1.0**

## The Second Era (Today)

- Increasing focus on chronic disease
- **BPS Model**
- Longer time frames
- Chronic Disease Mgmt & Prevention
- Pre-paid benefits
- Corporate Model
- **Prolonging Disability free Life**



**Health System  
2.0**

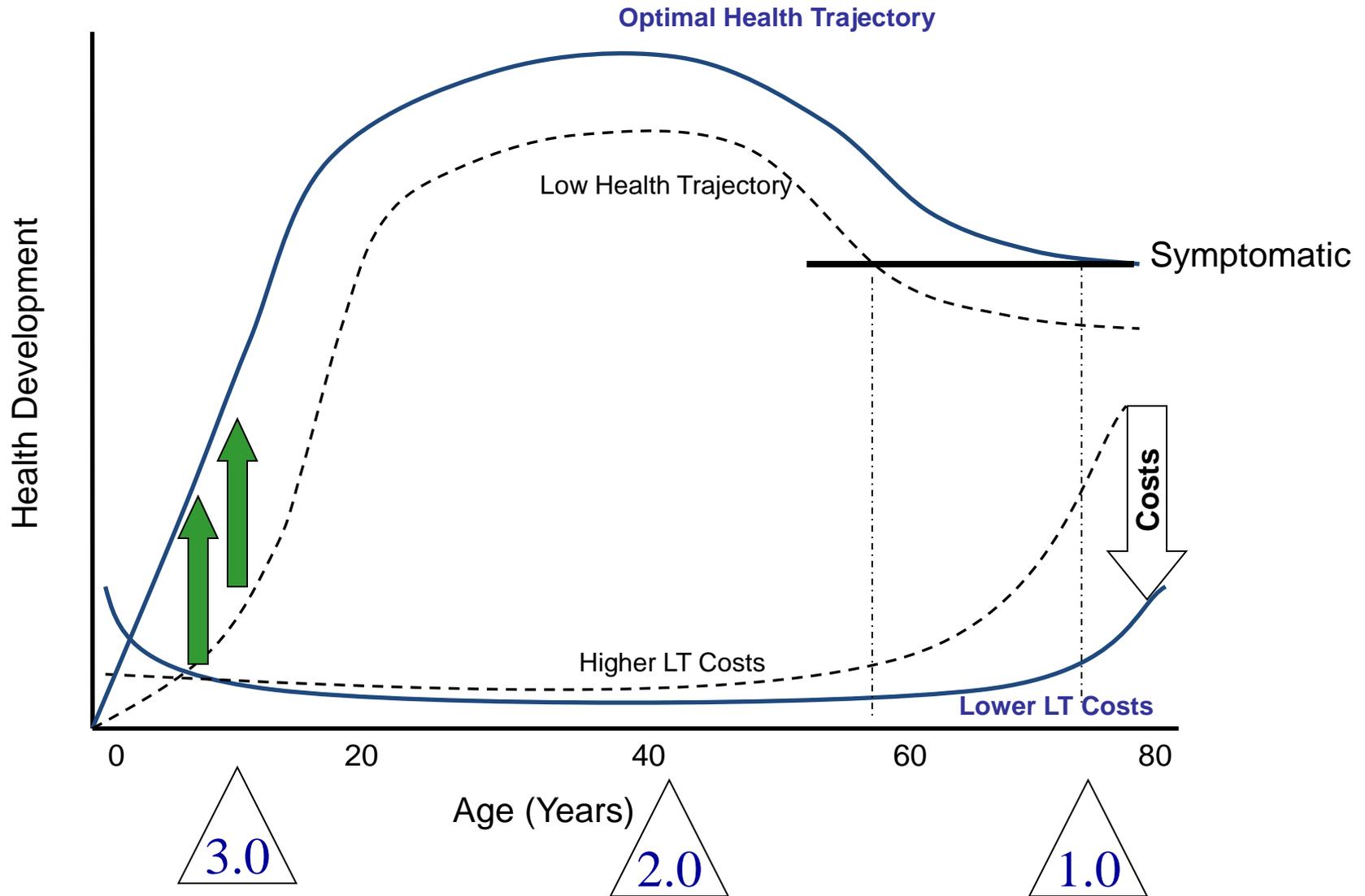
## The Third Era (Tomorrow)

- Increasing focus on achieving optimal health
- **Life Course Health Development**
- Lifespan/ generational
- Investing in population-based prevention
- Network Model
- **Producing Optimal Health for All**



**Health System  
3.0**

# Shifting the Health Development Curve to Shift the Cost Curve



# Innovation Driven US Health Care Delivery System Evolution

## Health Delivery System Transformation Critical Path

### Acute Care System 1.0

**Episodic  
Non Integrated  
Care**

- Episodic Health Care
  - Sick care focus
  - Uncoordinated care
  - High Use of Emergency Care
  - Multiple clinical records
  - Fragmentation of care
- Lack integrated care networks
- Lack quality & cost performance transparency
- Poorly Coordinate Chronic Care Management

### Coordinated Seamless Healthcare System 2.0

**Outcome  
Accountable  
Care**

- Patient/Person Centered
- Transparent Cost and Quality Performance
  - Results oriented
  - Assures Access to Care
  - Improves Patient Experience
- Accountable Provider Networks Designed Around the patient
- Shared Financial Risk
- HIT integrated
- Focus on care management and preventive care
  - Primary Care Medical Homes
  - Care management/ prevention focused
  - Shared Decision Making and Patient Self Management

### Community Integrated Healthcare System 3.0

**Community  
Integrated  
Healthcare**

Healthy Population Centered  
Community Health Linked  
Cost , Quality, and Population Transparency  
Accessible Health Care Choices

Community Health Integrated networks capable of addressing psycho social/economic needs

Population based reimbursement

Learning Organization: capable of rapid deployment of best practices

Community Health Integrated

Healthy People Goal Oriented  
Community Health Capacity Builder  
Shared community health responsibility

E-health and telehealth capable

Patient remote monitoring and management  
Health E-Learning resources

# Health System Transformation Framework

<b>Components</b>	<b>Current System</b>	<b>Transformed System</b>	<b>Change Strategies</b>
<b>Logic</b>			
<b>Organization of Health Producing Sectors</b>			
<b>Organization &amp; Delivery of Individual Care</b>			
<b>Medical Education &amp; Workforce</b>			
<b>Market</b>			
<b>Funding</b>			
<b>Regulation &amp; Governance</b>			
<b>Performance Monitoring</b>			

# Transitioning to a 3.0 Operating Logic

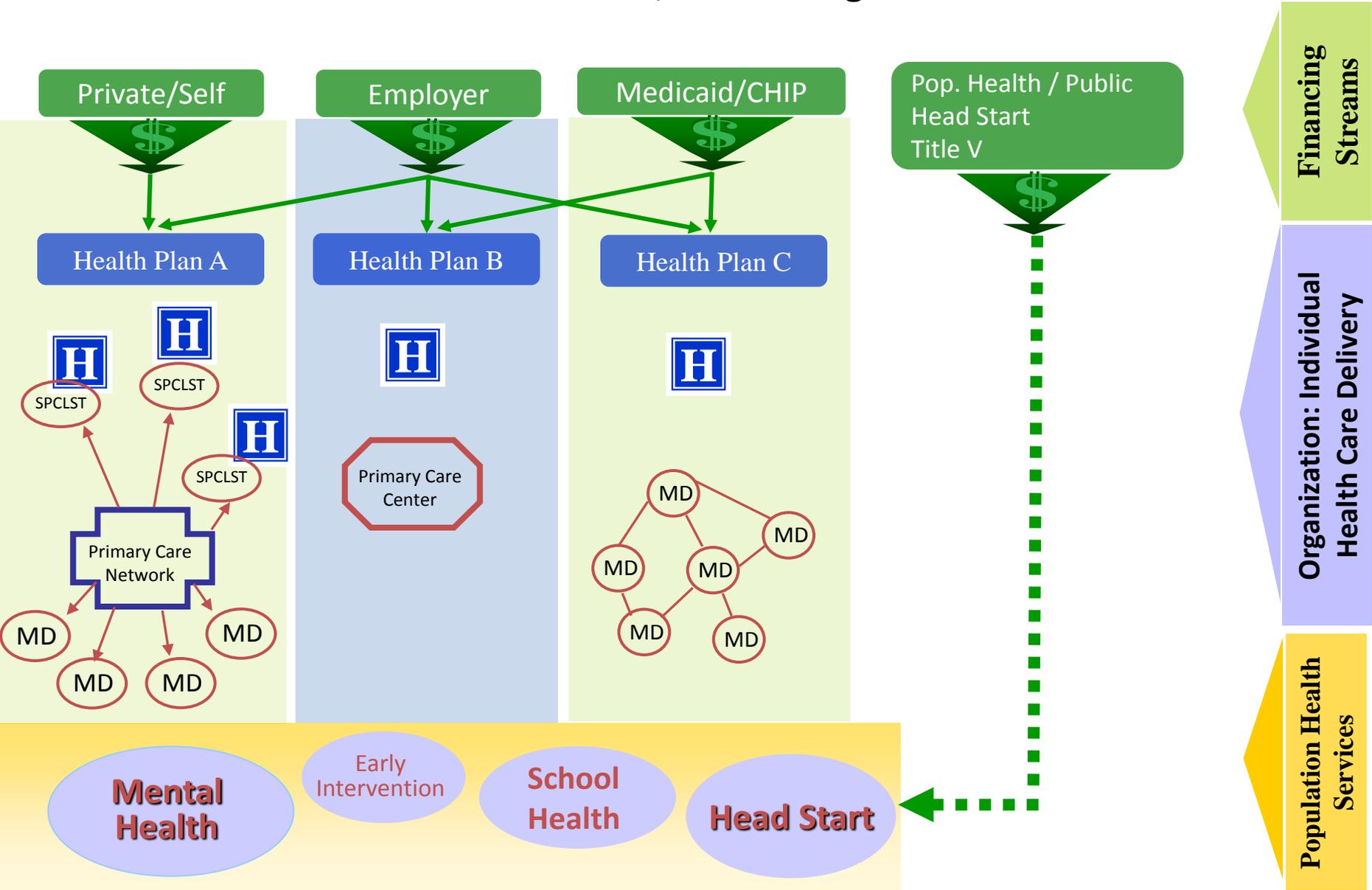
	Old Operating Logic	New Operating Logic
<b>Definition of Health</b>	<b>Absence of Disease</b>	<b>Development of Capacities and Realizing Potential (IOM2004)</b>
<b>Goal of the Health System</b>	<b>Maintain Health, Prolong Life</b>	<b>Optimize Population Health Development</b>
<b>Client Model</b>	<b>Individual</b>	<b>Individual, Population, Community</b>
<b>Health Production Model</b>	<b>Biomedical</b>	<b>Life Course Health Development</b>
<b>Intervention Approach</b>	<b>Diagnosis, Treatment and Rehabilitation</b>	<b>Disease prevention, Preemptive Interventions, Health Promotion, Optimization</b>
<b>Time Frames</b>	<b>Short/ Episodic</b>	<b>Life Long &amp; Continuous</b>

# Health System Transformation Framework

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# Current Model

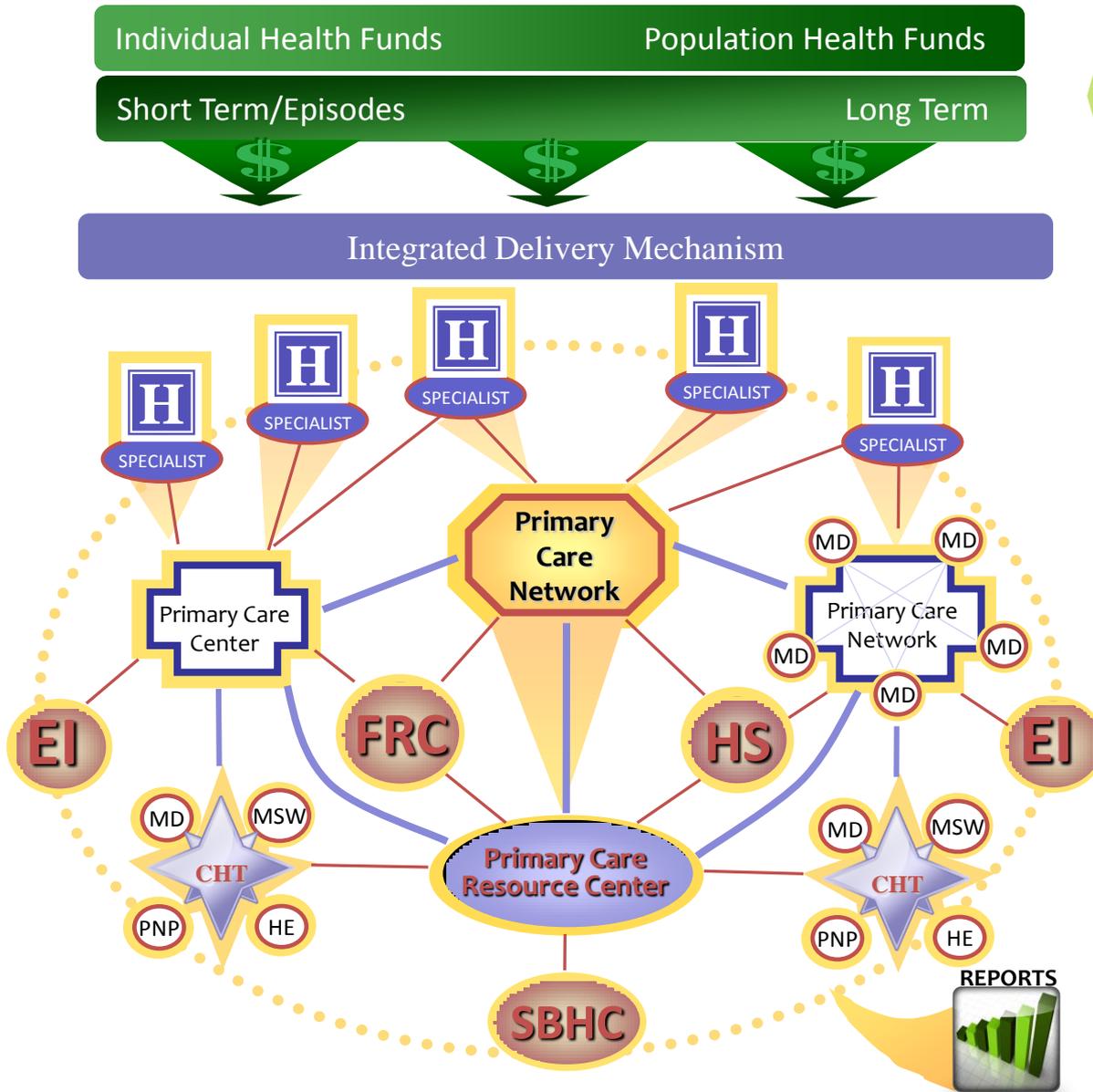
## Vertical Silos, Little Integration



# Integrated Health System



# Schema for a 3.0 KIDS Health System



## Integrated Finance Mechanism

- Employer
- Medicaid CHIP
- Individual
- Prevention Trust Fund
- Other: Title V, HeadStart, Title X, CDC, etc

## Measurement/IT System

- Decision Support and care mgmt
- Quality & Performance
- Clinical & Population Registries (surveillance and other analyses)
- Health information exchanges

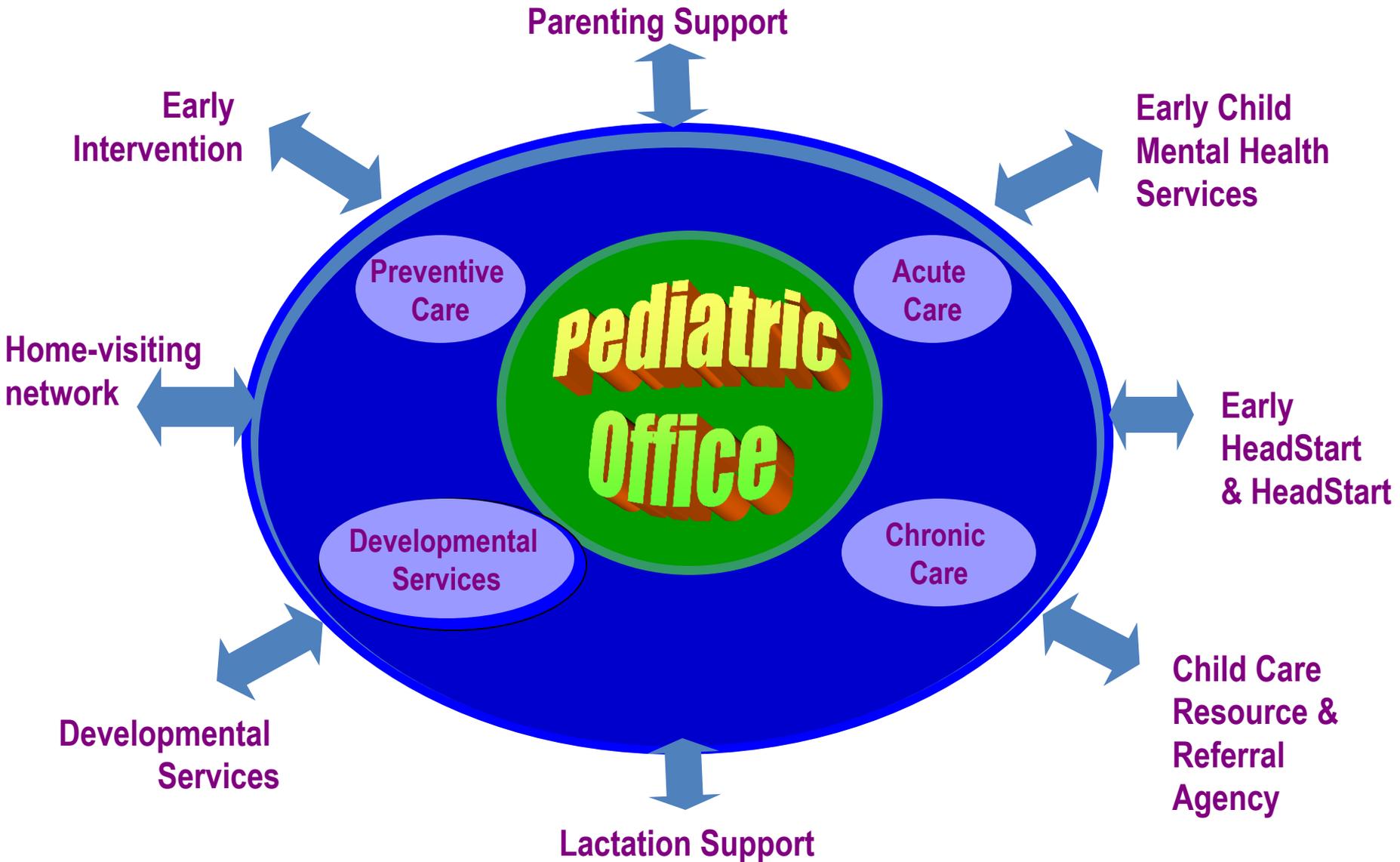
## Value Portfolio

- Population Health Trajectories
- Diagnosis-specific outcomes
- Geographic Outcomes
- Short/Long Term Costs Savings

# Health System Transformation Framework

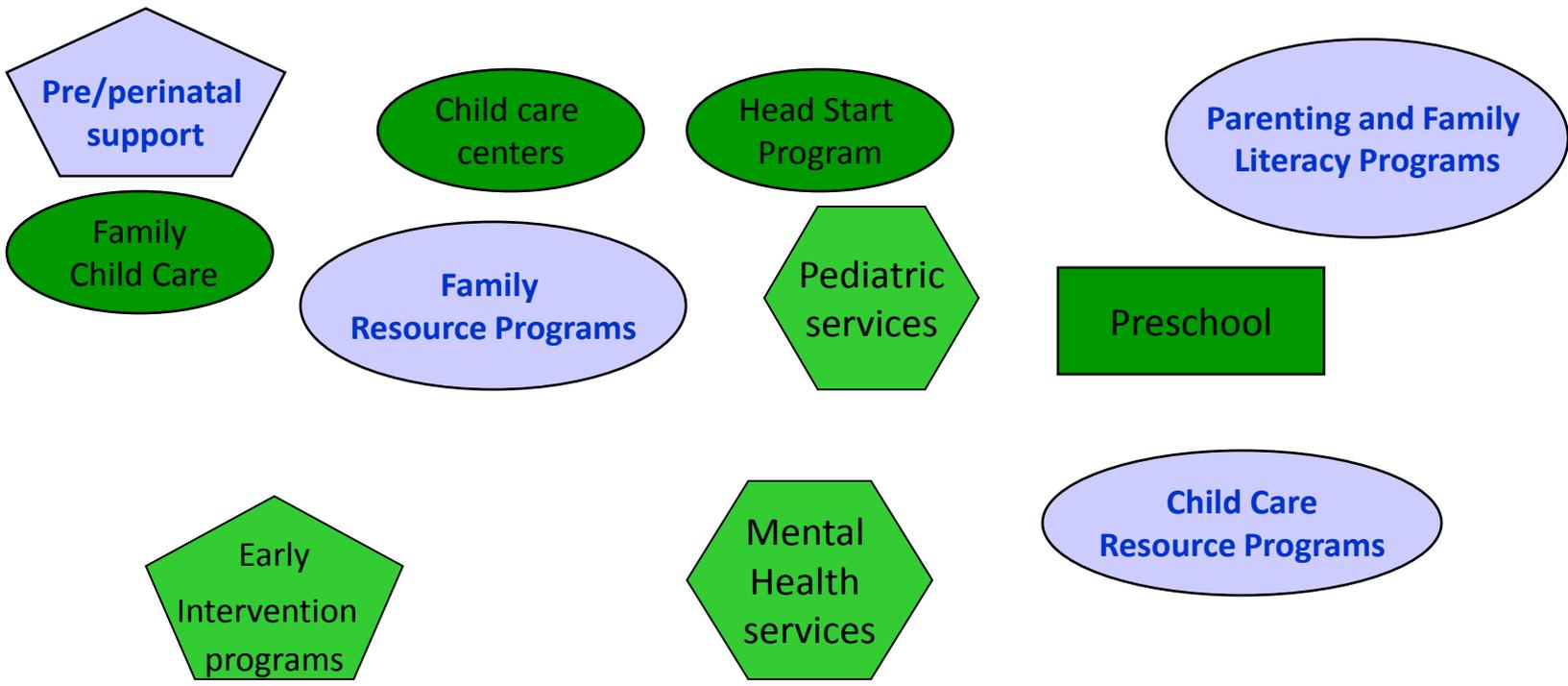
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# Pediatric Office 2.5



# Service Organization For Early Health and Development

## PROGRAMS Influencing Early Brain, Child Development & School Readiness



Sector based programs

ECE Programs

Health

Family Support

Child Welfare

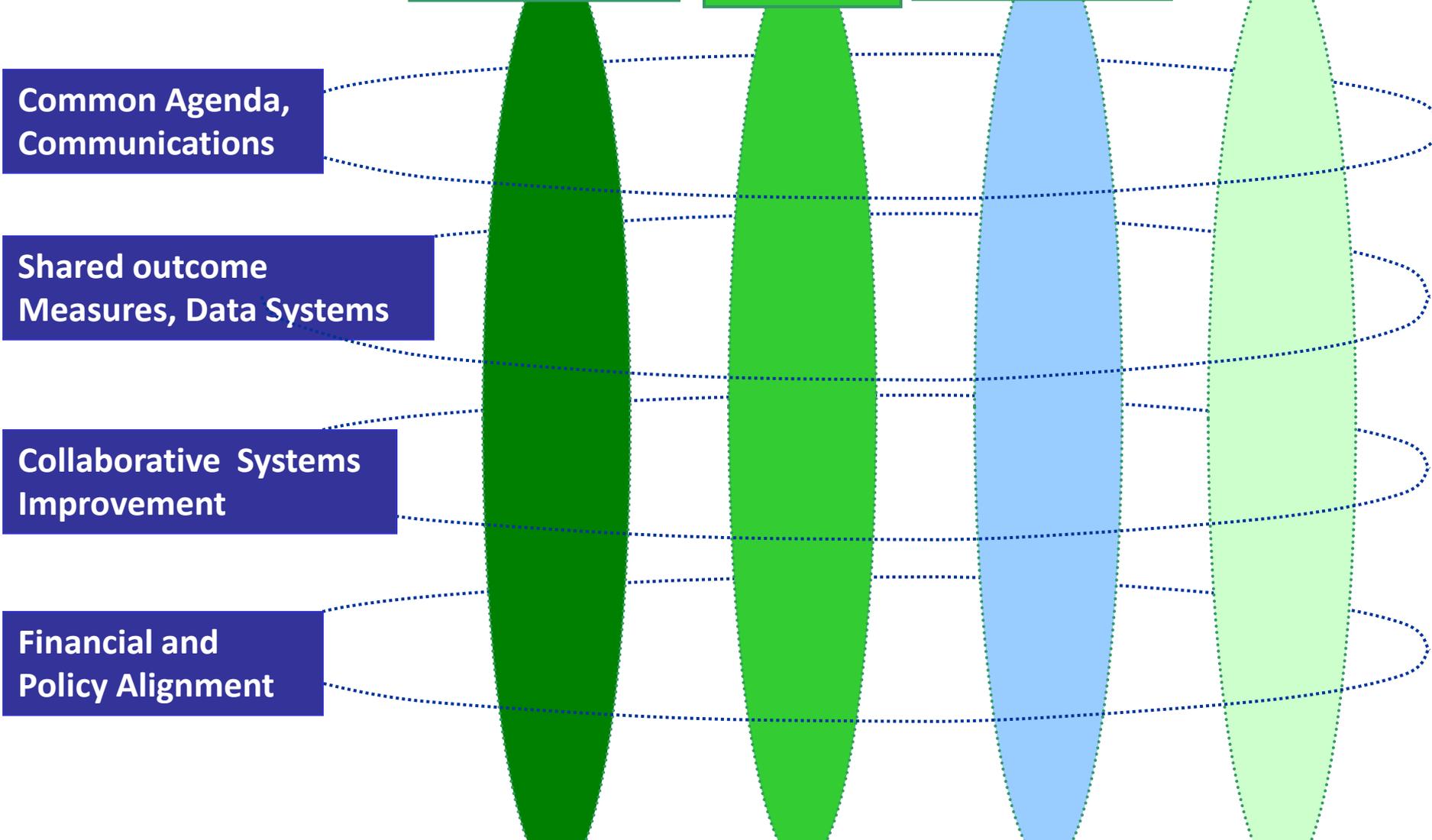
Common Agenda,  
Communications

Shared outcome  
Measures, Data Systems

Collaborative Systems  
Improvement

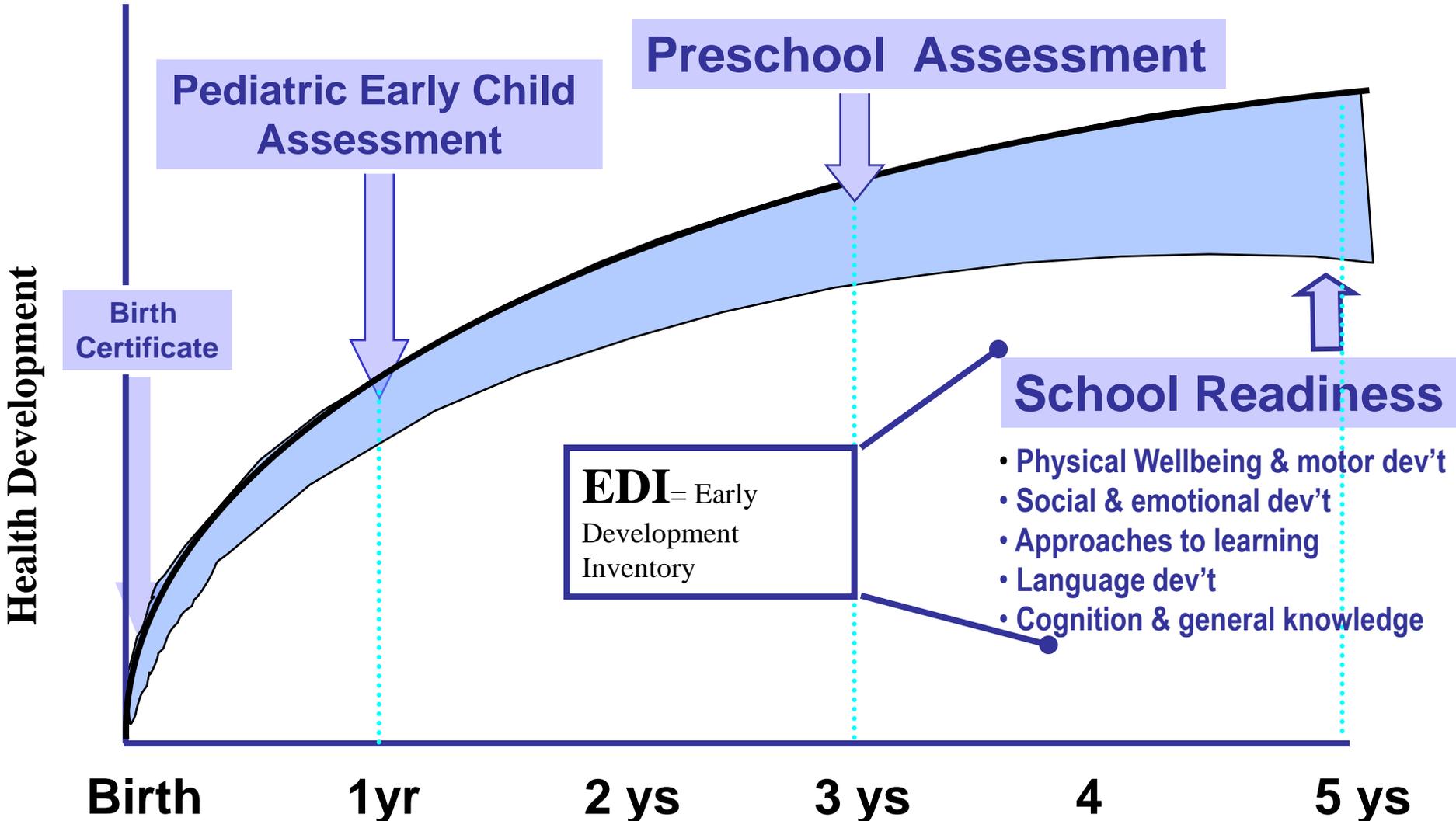
Financial and  
Policy Alignment

Systems Building: Cross-sector Linkage and  
Integration Strategies

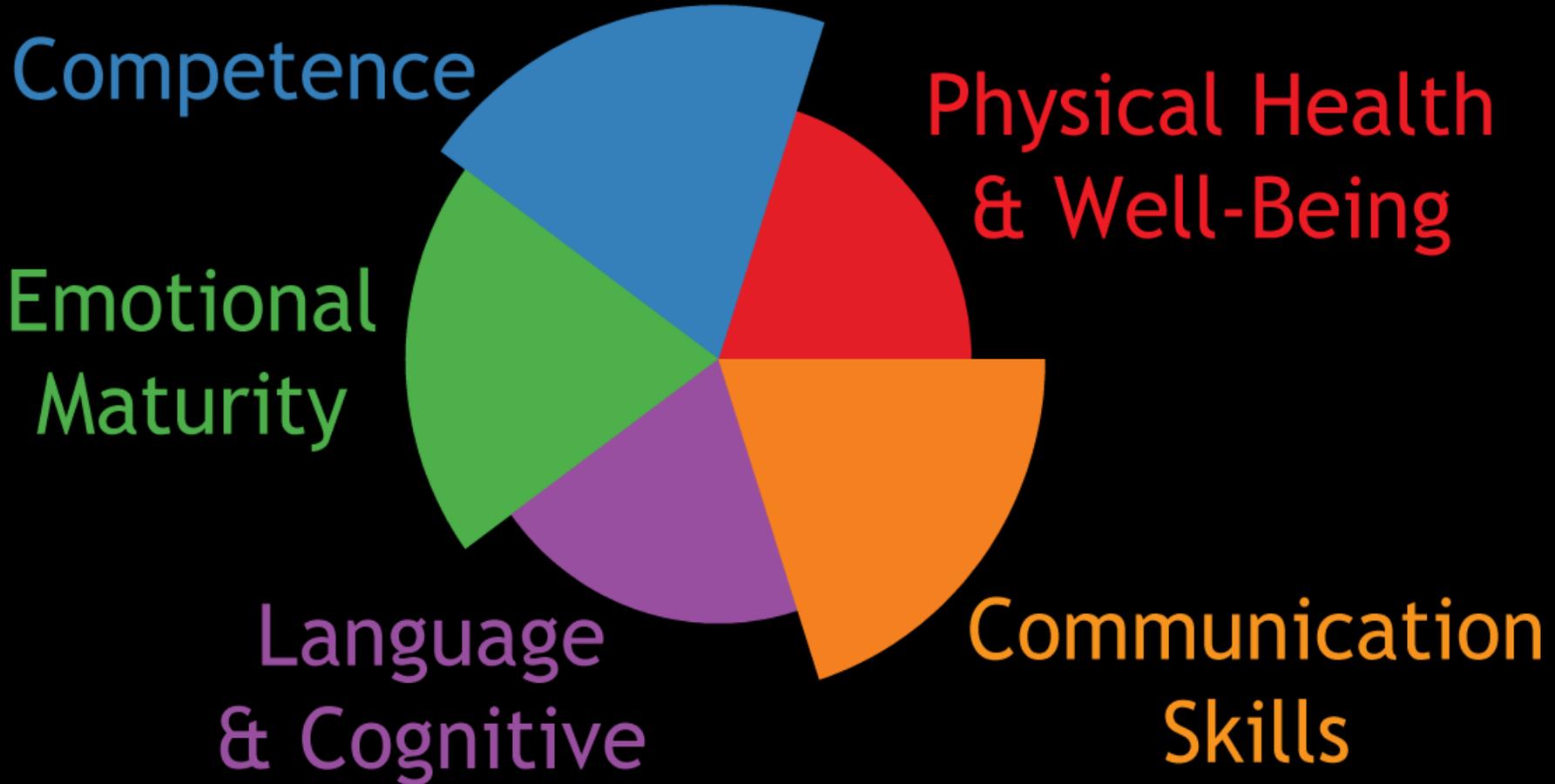


# Systematic Data Collection

## For tracking Health Development Trajectories



# What Does the EDI Measure?

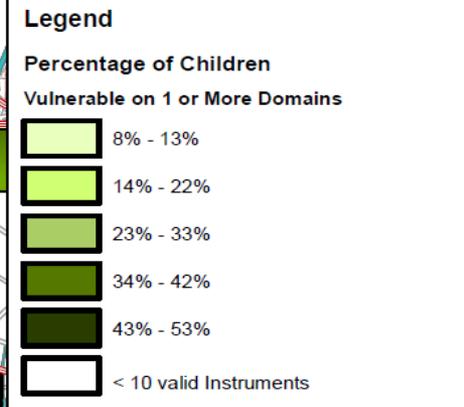
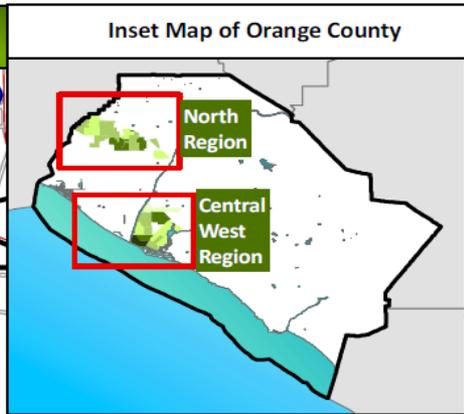
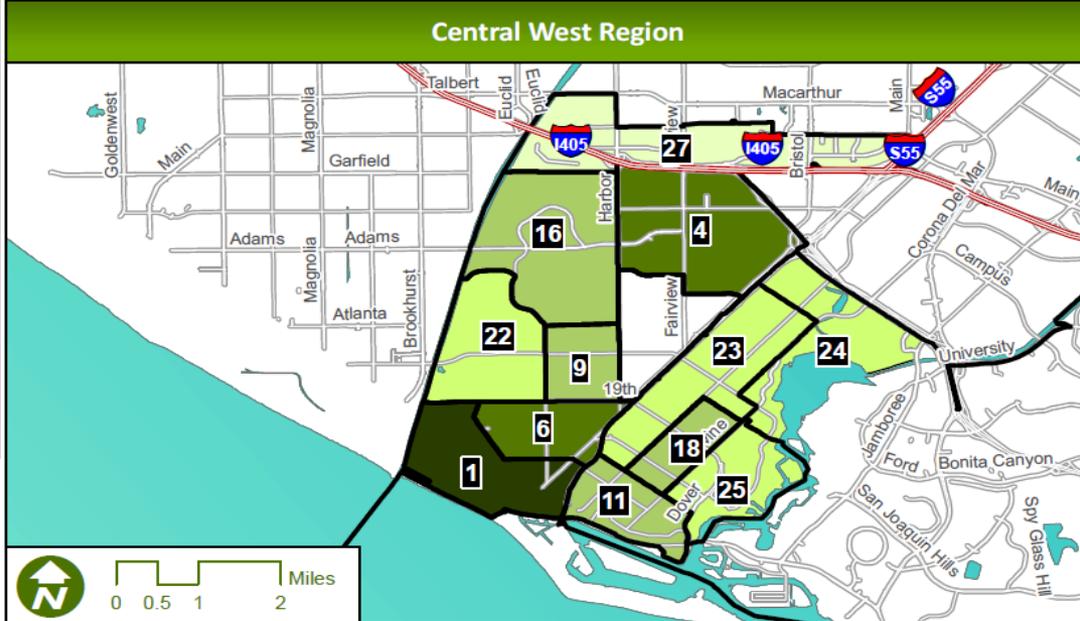
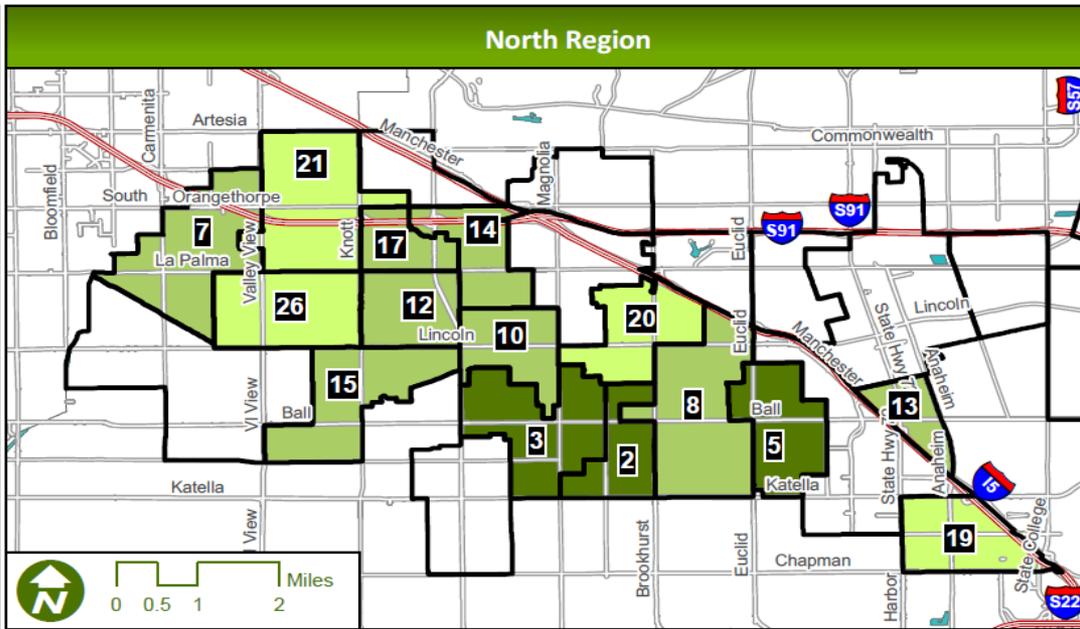


# EDI: Orange County - Neighborhoods: Percentage of Children Vulnerable on 1 or More Domains

Neighborhoods: Percent Vulnerable on 1 or More Domains

ID	Neighborhood	%
1	West Newport**	53%
2	Garcia**	41%
3	Magnolia High**	41%
4	Baker Area**	36%
5	Loera**	36%
6	Southwest Costa Mesa**	35%
7	La Palma**	33%
8	Magesca**	33%
9	Westside Costa Mesa**	32%
10	Hasket**	32%
11	Newport Heights**	31%
12	Knott	31%
13	Paul Revere**	31%
14	East Buena Park**	28%
15	South Cypress College**	27%
16	Mesa Verde**	25%
17	Pendleton	25%
18	Mesa	24%
19	Panderosa**	22%
20	Tiger Woods**	22%
21	Cory**	21%
22	Channel**	20%
23	Eastside Costa Mesa**	18%
24	Santa Ana Heights**	15%
25	Westcliff	15%
26	Santrack**	14%
27	South Coast Metro**	8%

\*\* Fewer than 70% of 5 year olds in this neighborhood had completed EDIs so the results may not represent children living here.



Data: EDI - 2009  
 Neighborhood Boundaries: CFC Orange County  
 Roads: UCLA - GIS Data Portal

# Transforming Early Childhood Community Systems (TECCS) National Learning Network 2012-2013





# Big, Bold and Transformative- Change

- Child Health Community needs to commit itself to Child Health 2025 Initiative
- Adopt a 3.0 Strategic Framework for Research & Health System Transformation ( children lead the way)
- **Make the Unnecessary Catastrophic Loss Health Potential** an unavoidable & inconvenient truth
- Child Health System Transformation Initiative— a innovation network designed to
  - Develop 3.0 delivery, organization, payment, HIT, & other innovations that will jolt the system forward
  - Prototype new models of finance & delivery

# ACA and the Child Health System

## **Positives:**

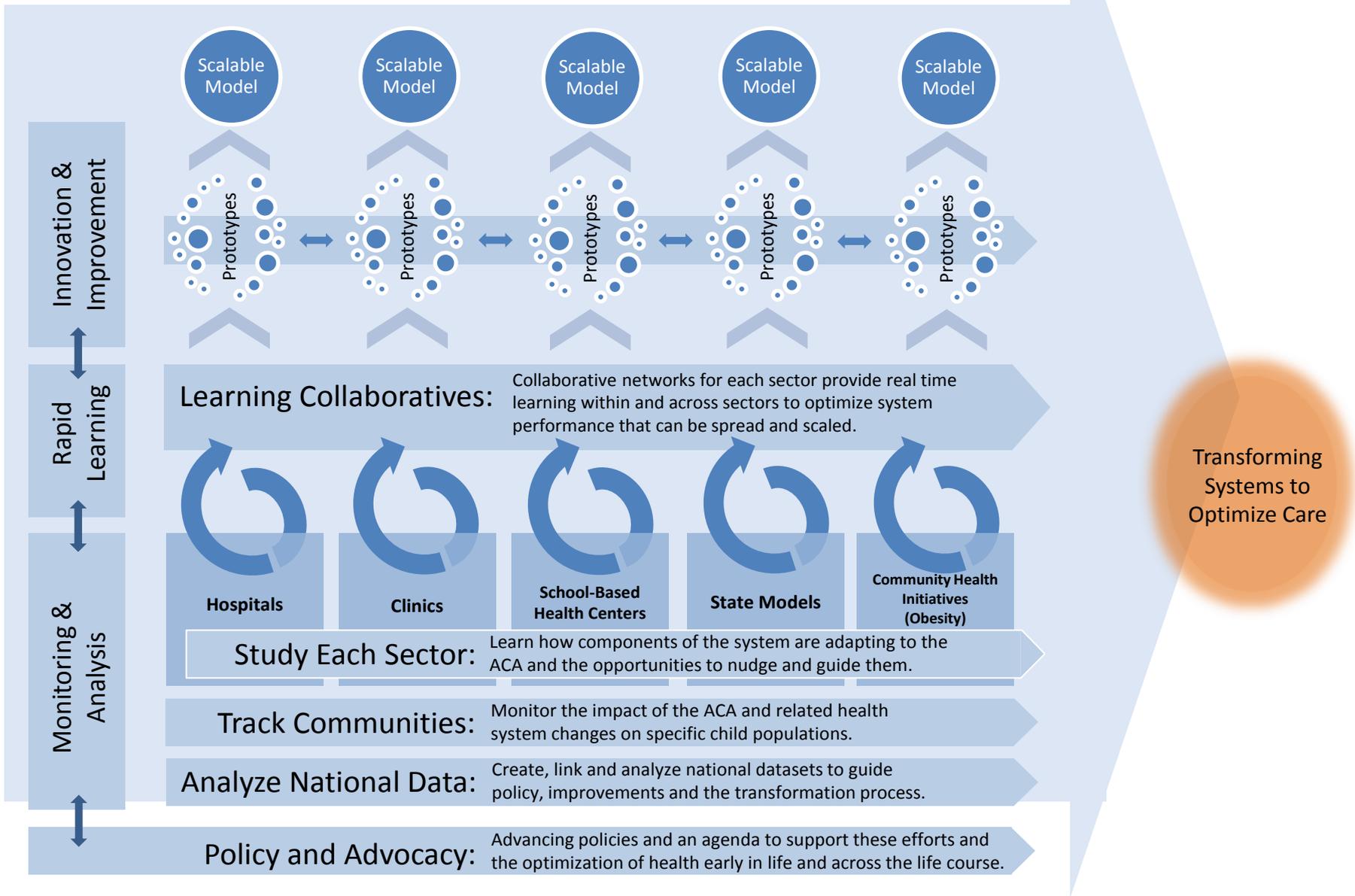
- Expansion of parent health insurance
- No lifetime caps
- No discrimination based on pre-existing conditions
- Better access to preventive care

## **Negatives:**

- Breakdown of regionalized care
- Squeeze on children's health services
- Challenges for children's hospitals
- Child benefit packages
- Second, third order consequences

# What is Needed

- Minimizing harm for children
- Maximizing gains for children
- Catalyzing transformation that optimizes health development of children and informs policy and practice nationally
- Leveraging all tools in ACA and related efforts and synergizing those resources for the child health community



## Integrated Strategy to Achieve Child Health Systems Transformation

## National Planning to date ( last 6 months)

- Several Analytic Papers in the works
- Analytic Framework for understanding and interpreting the ACA changes, enabling innovation
- 3 National stakeholder meetings
- National Collaborative Network design
- Several Project being Developed & Launched
- Beginning to Develop Tools/Apps
  - E.g. - state-level checklist for using ACA for advancing children's health

# CHSTI aims to produce:

- **Thriving Children's Hospitals** that are improving the quality care for CSHCN
- **Catalytic community health centers** developing Community Accountable Health System
- **3.0 SBHCs** prominently positioned, financially sustainable and serving as centers of community health
- **3.0 system prototypes** that demonstrate the feasibility of transformative change
- **States with enhanced capacity** to assure optimal implementation of the ACA and capability to drive innovations in the child health system
- **Momentum, hope, potential, transformation and change**