

Understanding Child Health System Transformation: A Health Development Ecosystem Perspective

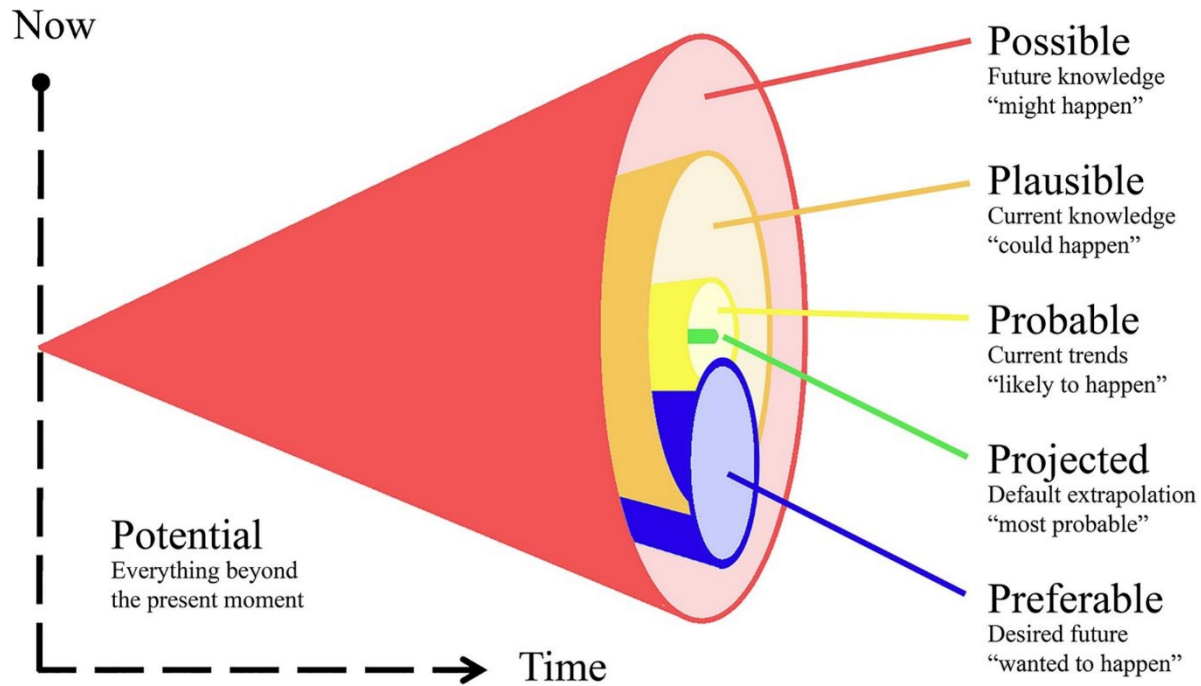
Committee on Improving the Health and Wellbeing of
Children and Youth, through Health Care System
Transformation

NASEM

March 30, 2023

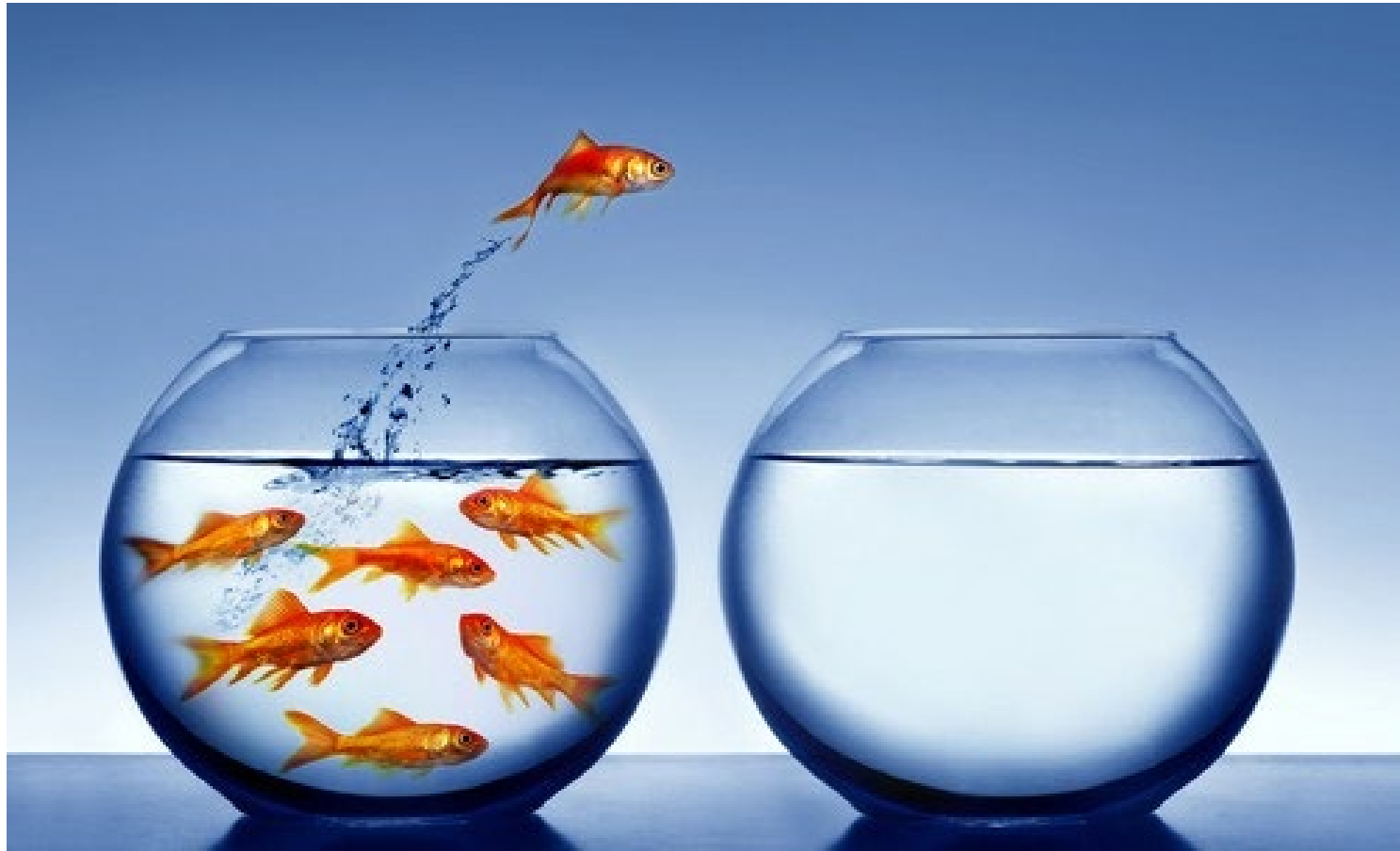
Assumptions

- Child Health Care System (CHCS) far beyond sell by date
- Is wholly owned by dominant/Adult Health Care System
- CHCS no longer aligned with Child Development Ecosystem- huge mismatch
- The goal should focus on transforming child health not child health care
- The outcome should be child thriving (health + wellbeing)
- Design a health system where all children thrive



Futures Cone. Van Drosser 2018 Improving the Link between the futures field and policy making
 Source: Adapted from [Voros, 2003](#), [Voros, 2017](#), which was based on [Hancock and Bezold \(1994\)](#).







Assumptions

- Child Health Care System is a Complex Adaptive System (CAS)
- Hard to fix, patch, repair a CAS; usually require transformation
- Need to move from a 2.0 health care system to a 3.0 health system
- Elements of the 3.0 child health system have already emerged and exist
- To get to 3.0 will require innovation, disruption, transformation
- Formula to make this happen

DIVE DEEP: shift from current to emerging systems

CURRENT SYSTEM

EMERGING SYSTEM

Events
What just happened?

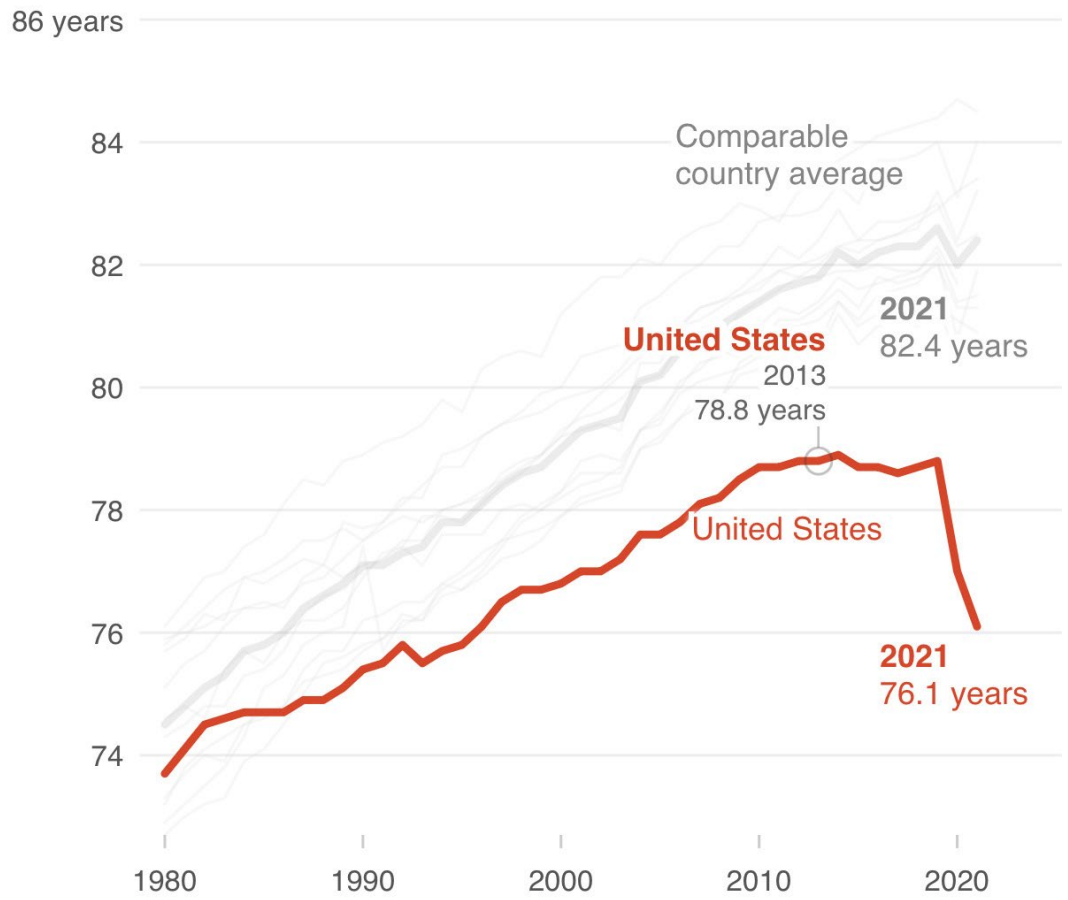
Patterns
What has been happening over time?

Structure
What policies, laws, physical structures influence the patterns?

Mental models
What are the mindsets, values and assumptions?

Note: Adapted from Iceberg Canvas:
working with leverage points, by Systems Innovation, 2020
(<https://www.systemsinnovation.io/post/iceberg-canvas>). CC-BY.

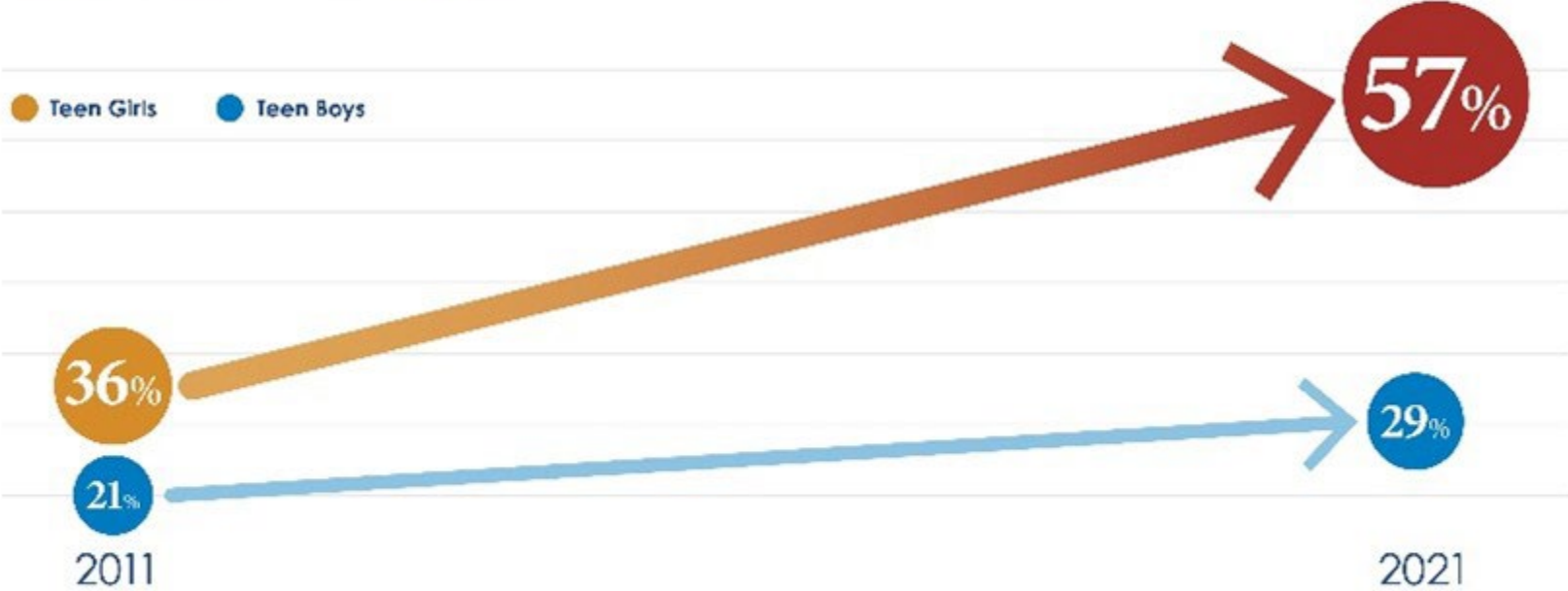
CIMMYT
International Maize and Wheat Improvement Center



Source: Peterson-KFF Health System Tracker

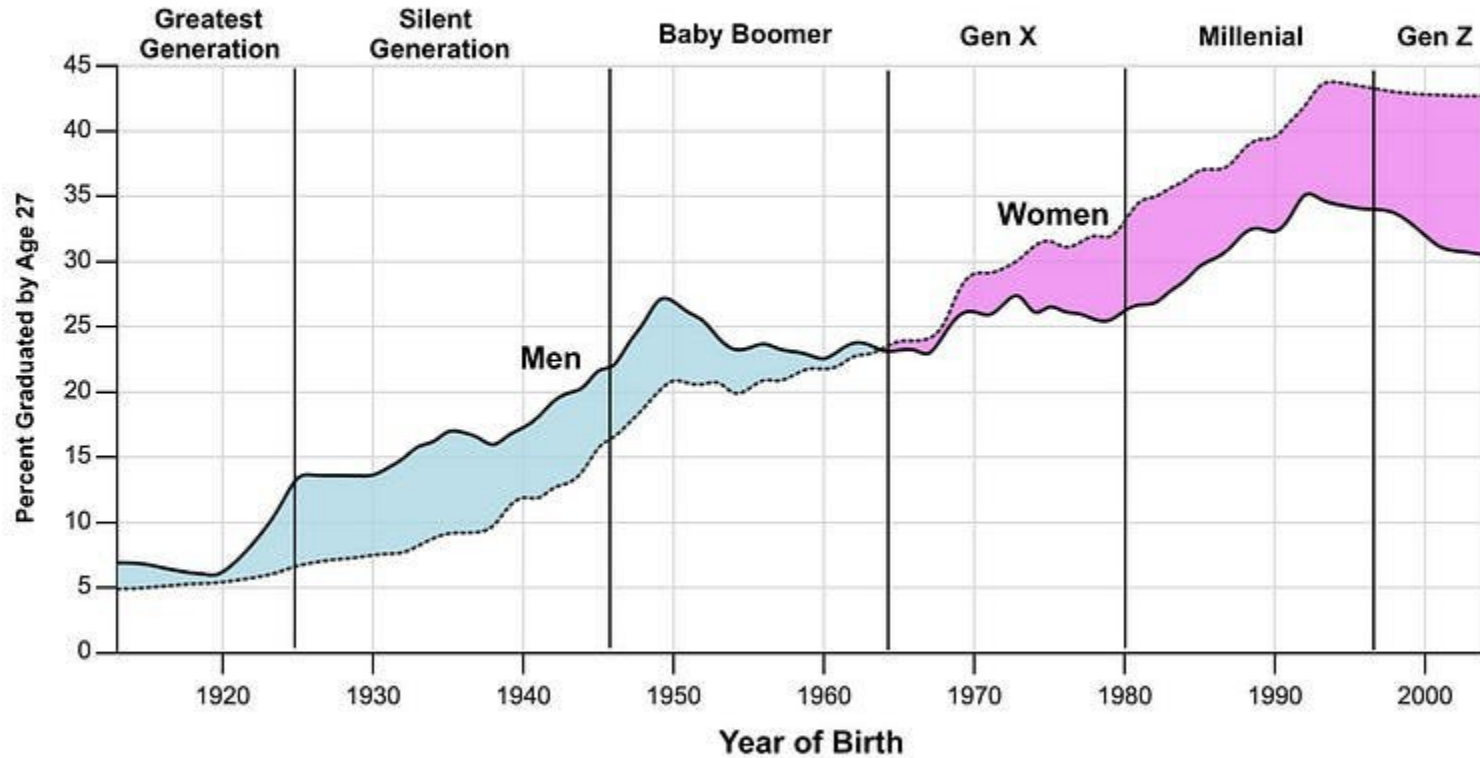
Credit: Ashley Ahn/NPR

TEEN GIRLS WHO PERSISTENTLY FELT SAD OR HOPELESS INCREASED DRAMATICALLY FROM 2011 TO 2021



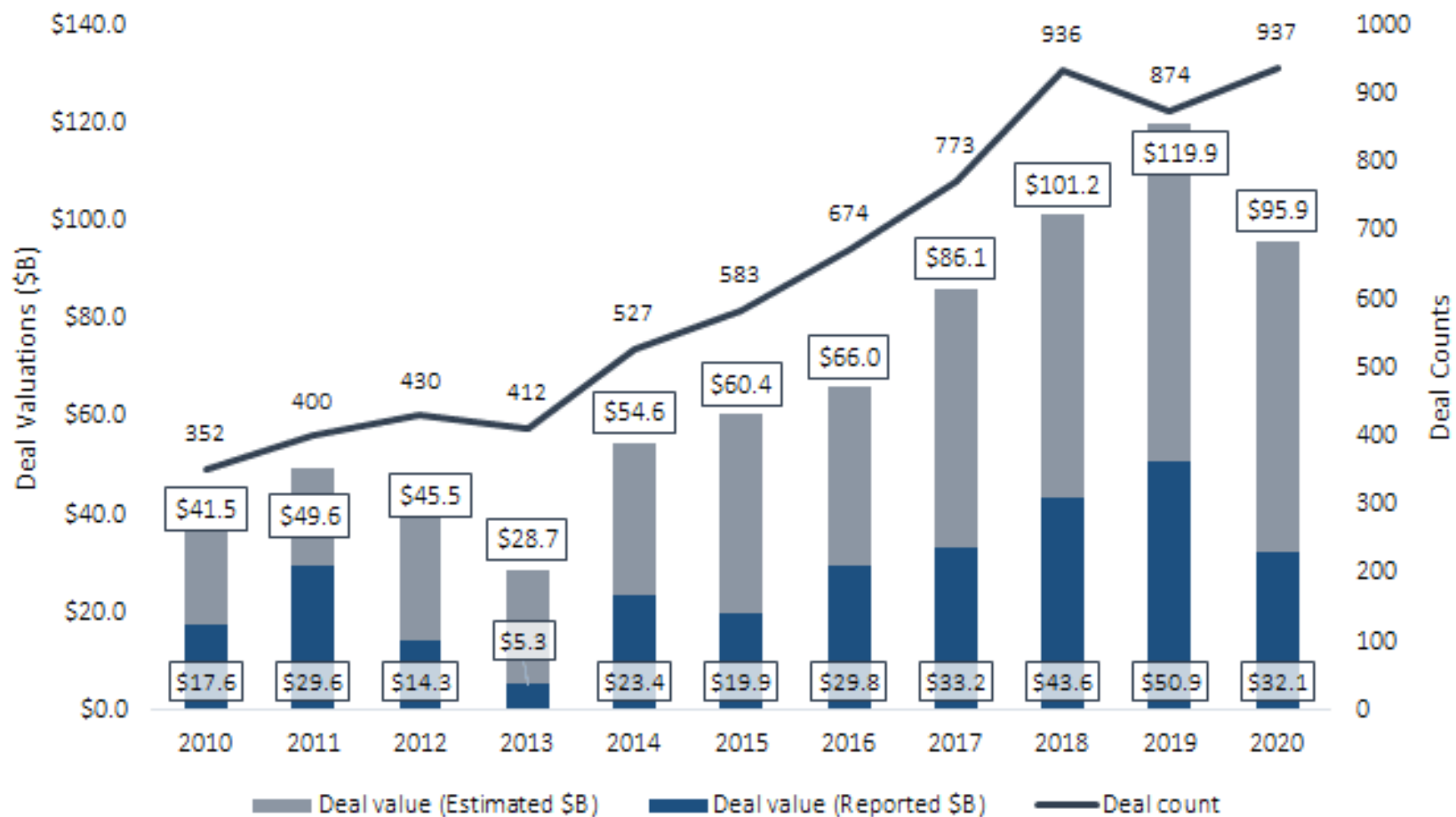
Source - CDC: Feb 13, 2023

US College Graduation Rate At Age 27 by Year of Birth



Source: US Census Educational Attainment, Table A-2

taboo.substack.com



Source: Scheffler
UCB 2022

Deep Drivers of Child Health Trends

- Change of age (economies/ production ecosystems)
 - agriculture > industrial > digital > AI
- Major disruptions in our social ecosystems
 - cultural forms, value streams, production models, relationship to environment/planet
- Accelerators of change
 - Globalization X Technology X Climate Change
 - Other Megatrends – urbanization, inequality, migration
- Speed of change accelerating (faster than we can adapt to; disease and disability due to adaptive failures)
- Mismatches -- Human development > Family Development > Community Development > Economic Development
- Disruptive conflicts, changing lifecourse pathways, instability, insecurity, are here to stay

Transformation Considerations

- Kids health and health care is fundamentally different than adults
- Thriving, not health should be the goal
- Science: Life Course Health Development
- Utilize a 3.0 Transformation Framework to set design goals
- Foresight transformation with 3 horizon approach
- Combine Child Health Care System transformation with transformation of child health +well being ecosystem

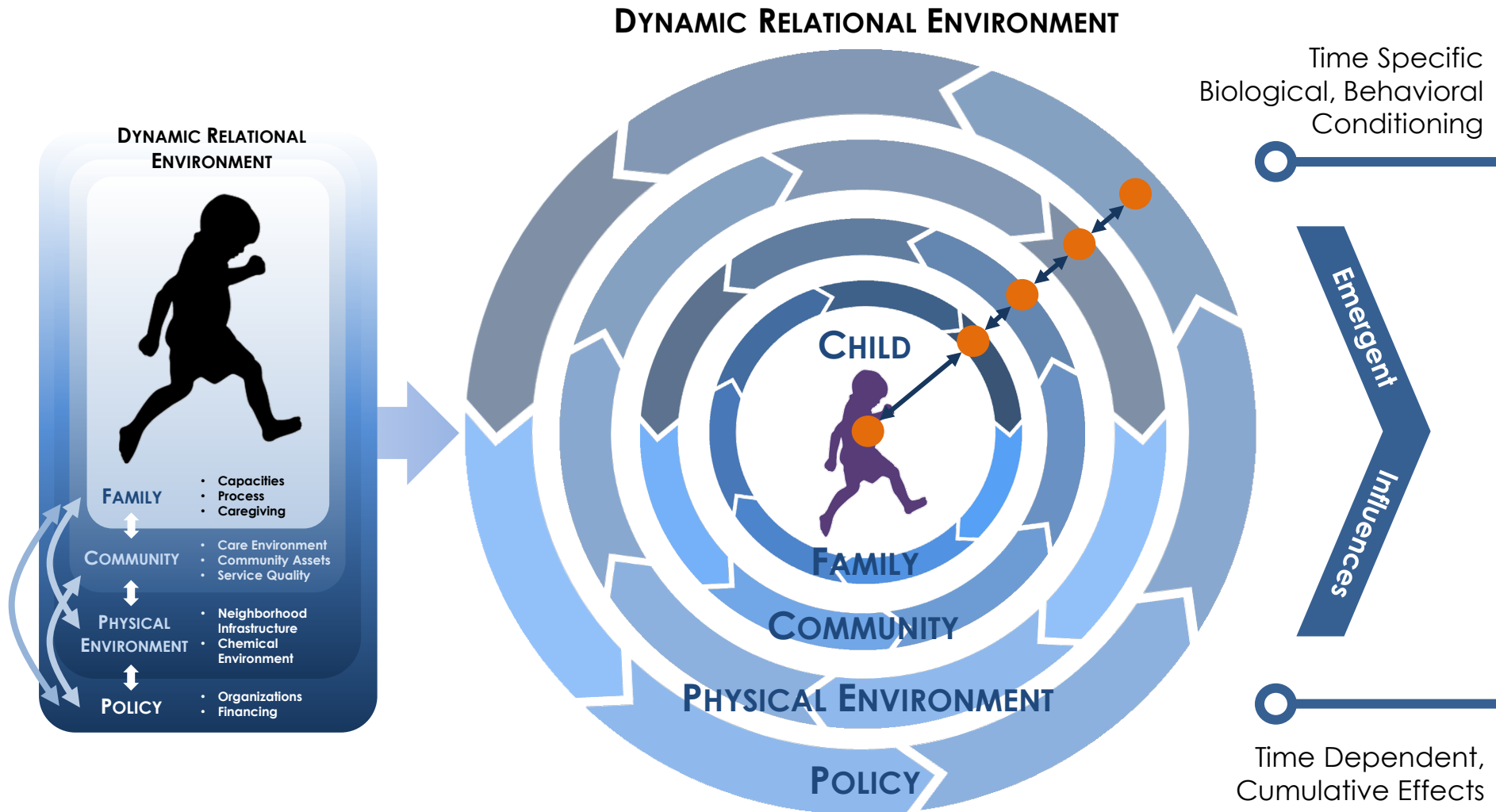
Disruptive Ideas

- Outcome = Thriving; health + wellbeing
- Disconnect child health system from adult health care system
- Make child health care system a public utility
- Shift from ROI to ROHD
- Create New Measurement – GDP2
- Create 20-year investment/ 80 year pay off model
- Shift Financing to Treasury – Thriving is about Human Capital

3 Alternative Analytic Frameworks: Making Sense of Complex System

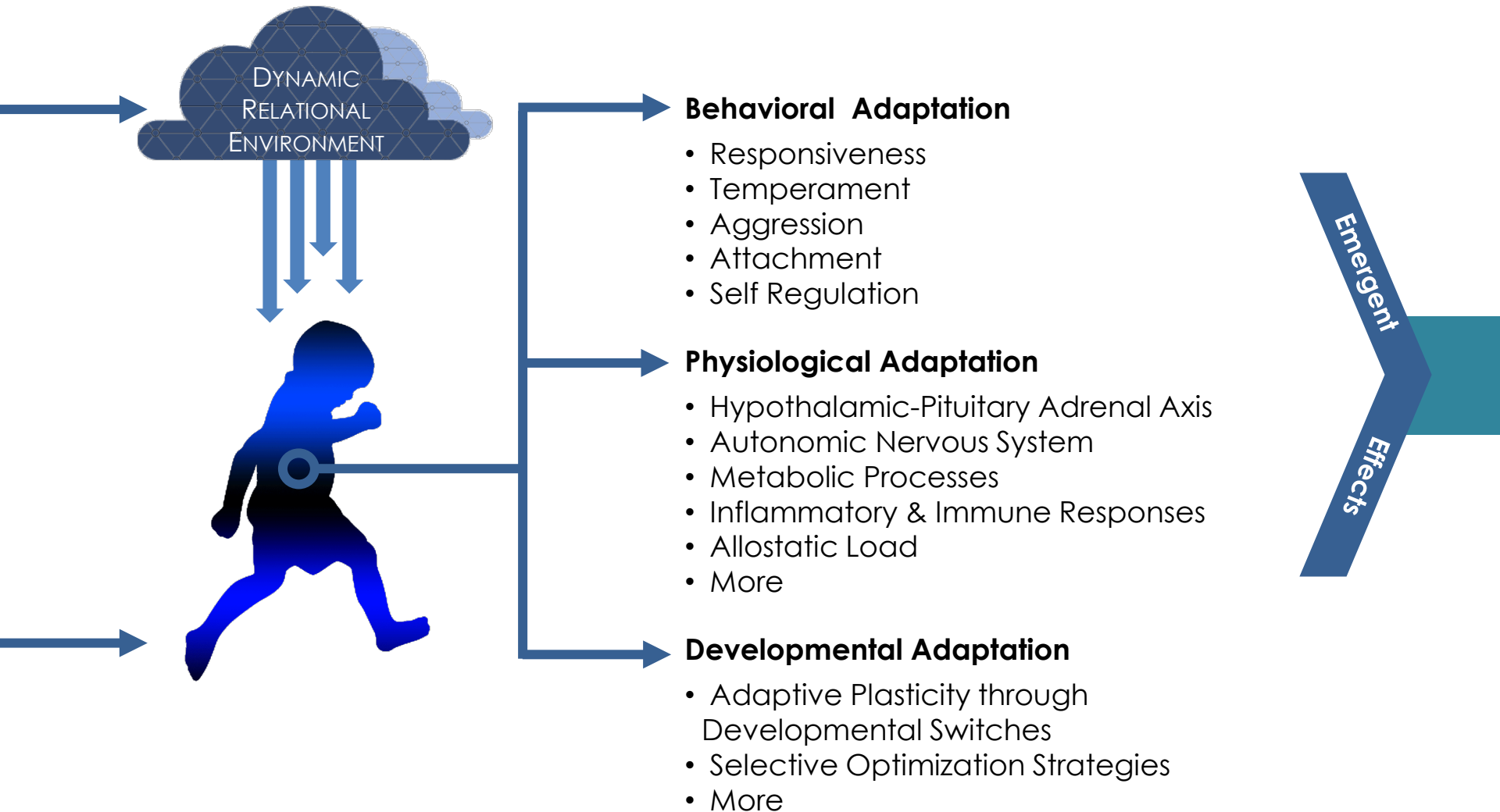
- Life Course Health Development
 - Building on relational developmental systems theory
- 3.0 Health System Transformation Framework
 - Evolution from 1.0 medical care system to a 2.0 health care system and now a 3.0 health system
- Three Horizon Transformative Innovation Framework
 - A foresighting method to create alternative futures

Changing Contexts of Health Development: Multiple Factors, Dimensions, & Levels Dynamically Transacting



Variable Adaptive Responses:

Plasticity & Optimization of Regulatory Processes

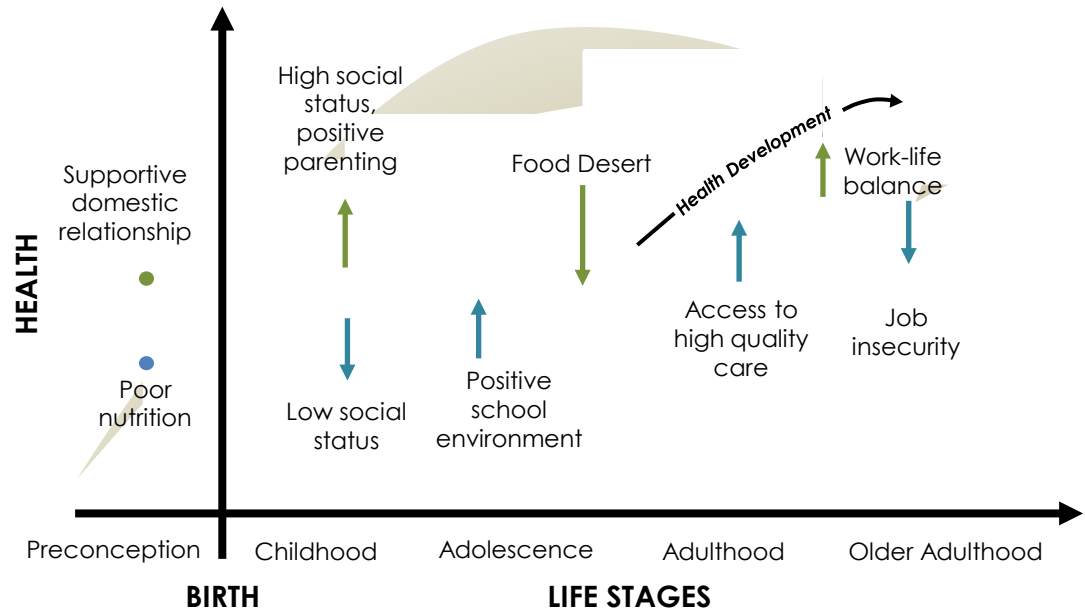


Dynamics of Health Development: Phases, Trajectories and Outcomes

HEALTH DEVELOPMENT TRAJECTORIES

Patterns of changes in health assets over time, affected by environmental and intrinsic factors.

- 1 LATENT EFFECTS**
Resulting from experiences, particularly during sensitive periods, that influence health later in life.
- 2 CUMULATIVE EFFECTS**
Resulting from experiences that accumulate over time & manifest in health.
- 3 PATHWAY EFFECTS**
Resulting from multiple, converging environmental and genetic influences, regulated by an array of specific developmental switches that set people on certain health development trajectories. (Combination of latent & cumulative effects)



PHASES OF HEALTH DEVELOPMENT

Generativity

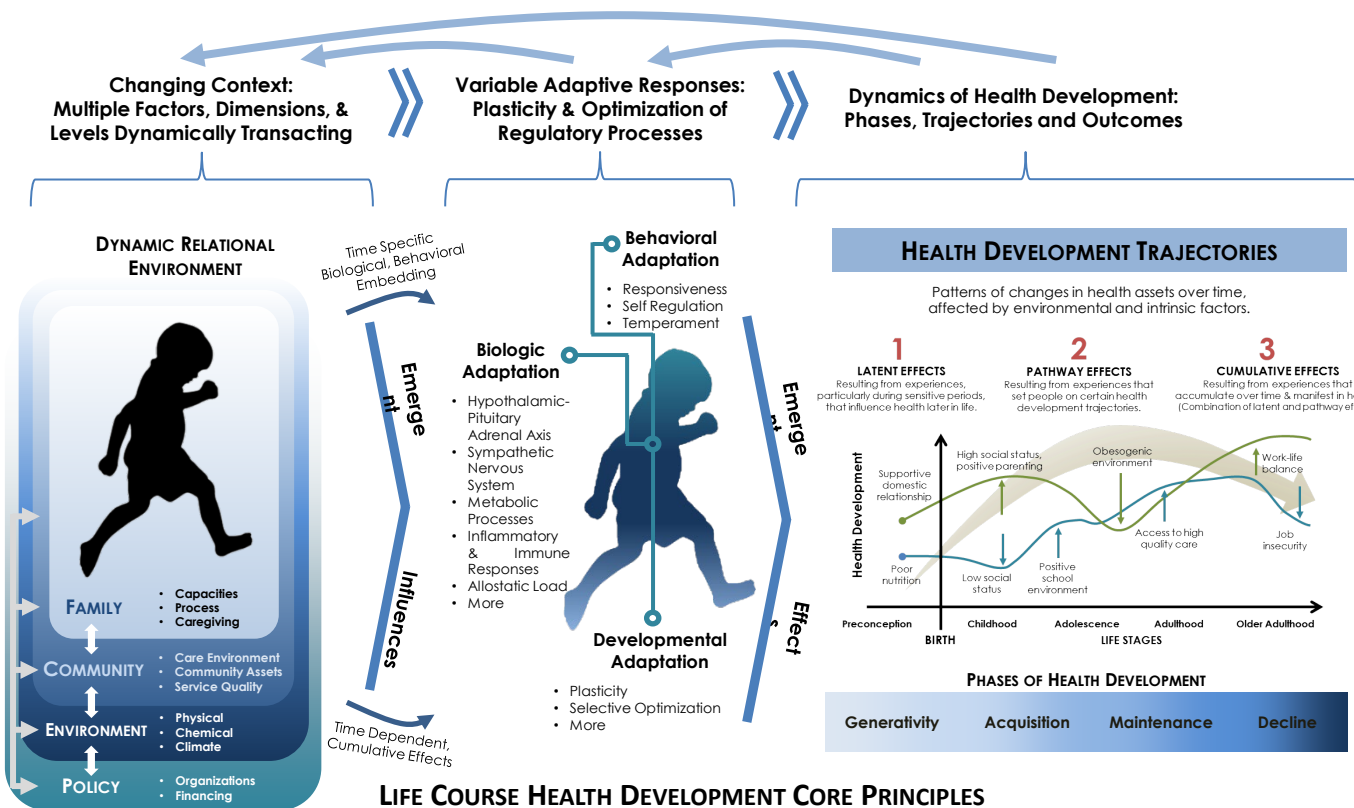
Acquisition

Maintenance

Decline



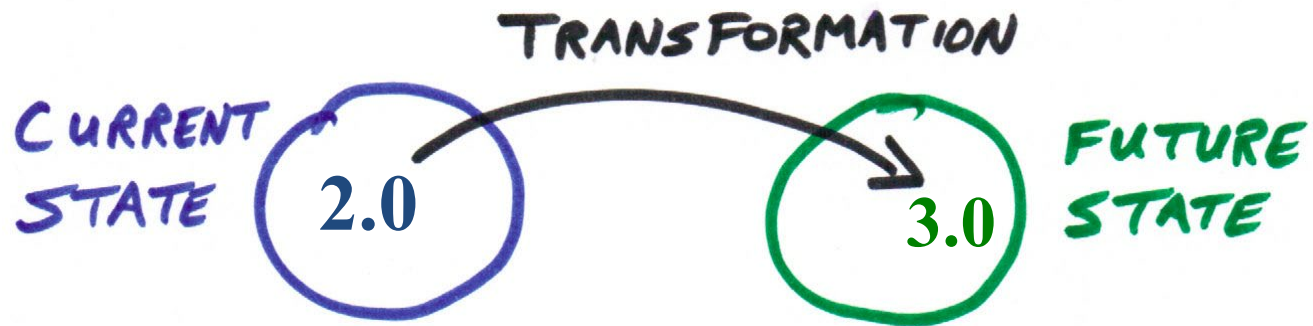
LIFE COURSE HEALTH DEVELOPMENT



LIFE COURSE HEALTH DEVELOPMENT CORE PRINCIPLES

- 1. Health Development integrates health & development into a unified whole**
- 2. Unfolding -HD unfolds continuously over the lifespan, shaped by experiences & environments**
- 3. Complexity HD results from adaptive, multilevel, and reciprocal interactions between individuals and environments .**
- 4. Timing -HD is sensitive to the timing and social structuring of I exposures & experiences .**
- 5. Plasticity -HD phenotypes are systematically malleable & constrained by evolution .**
- 6. Thriving -Optimal health development promotes survival, enhances thriving and protects against disease.**
- 7. Harmony -HD results from balanced interactions of molecular, physiological, behavioral, cultural and evolutionary processes .**





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**

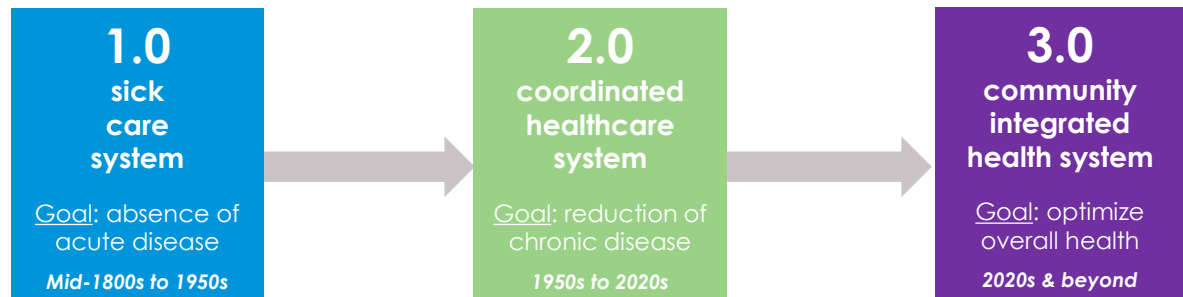
The Third Era (Tomorrow)

- 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**

Health transformation framework



SYSTEM DESIGN	Health service providers, operating separately	Team-based care within health	Community integrated services, health care as one component
CARE MODEL	Little coordination between in/outpatient care, episodic treatment	Chronic condition management, patient-centered care coordination	Health, psychosocial, and wellness care integrated across the life course
DOMINANT PAYMENT APPROACH	Fee-for-service	Value-based health payments	Payment structures that pay for factors beyond health care, including social issues
APPROACH TO QUALITY	Variable, low transparency	Consistent, standardize processes and outcomes	Continuous learning and quality improvement
BENEFICIARY LENS	Individual	Patient and family	Subpopulation and communities, equity-oriented



Health Reimagined vision



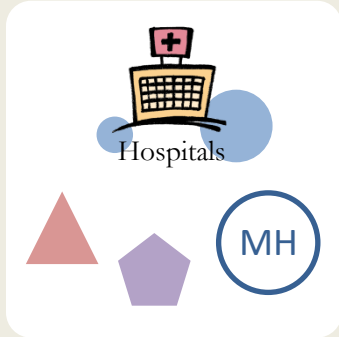
Transitioning to a 3.0 Operating Logic

	Old Operating Logic	New Operating Logic
Definition of Health	Absence of Disease	Development of Capacities and Realizing Potential (IOM2004)
Goal of the Health System	Maintain Health, Prolong Life	Optimize Population Health Development
Client Model	Individual	Individual, Population, Community
Health Production Model	Down Stream & Biomedical	Upstream Focus on Social and Developmental Origins
Intervention Approach	Diagnosis, Treatment and Rehabilitation	Disease prevention, Preemptive Interventions, Health Promotion, Optimization
Time Frames	Short/ Episodic	Life Long & Continuous

HEALTH DEVELOPMENT SYSTEM DESIGNS

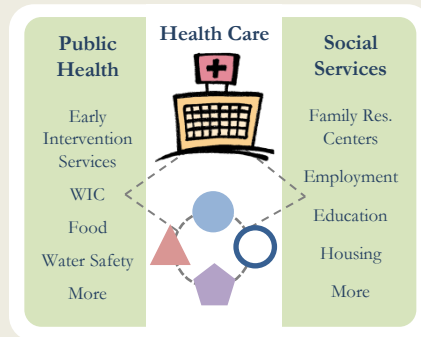
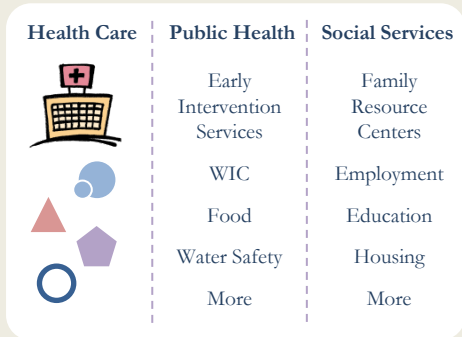
SYSTEM 1.0

Health Care System



SYSTEM 2.0

Health System (ACOs)

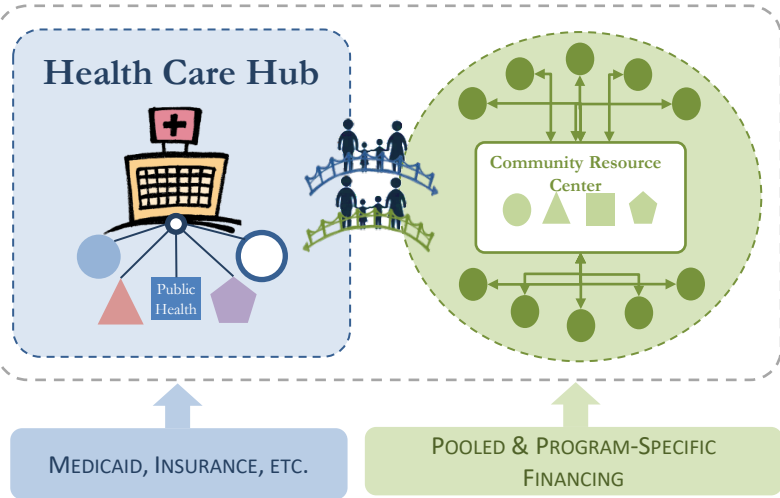


SYSTEM 3.0

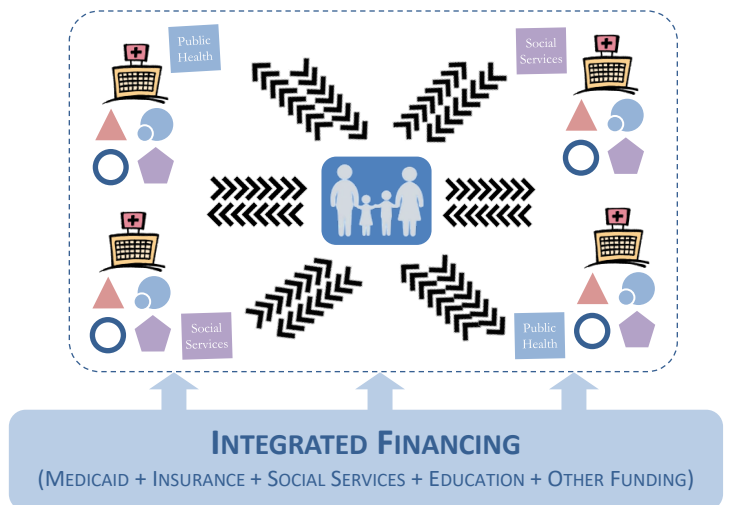
Health Development System
Accountable Communities for Health



BRIDGING HEALTH AND COMMUNITY SYSTEMS



INTEGRATION OF SERVICES & SUPPORTS, ADAPTING & RESPONDING TO THE FAMILY/INDIVIDUAL



- LIFE COURSE ORIENTED
- CULTURE OF HEALTH
- SHARED VISION
- COMMUNITY ACCOUNTABILITY
- HEALTH DEVELOPMENT FOCUSED

= Specialty Medicine
 = PCP Offices
 = Outpatient Community Clinics
 = Other Health Services

OPTIMIZING THE HEALTH DEVELOPMENT OF ALL CHILDREN

CURRENT SITUATION

ACTIVITIES FOR REACHING VISION

VISION

ERA

THE FIELD

FOCUS

ORGANIZATION

PRODUCTS & INNOVATIONS

REDUCING MORTALITY

1.0

BIOMEDICAL



Person



MEDICAL CARE RESCUE
+
PUBLIC HEALTH SAFETY

REDUCING MORBIDITY

2.0

BIOPSYCHOSOCIAL



Person + Environment
Extending Life!

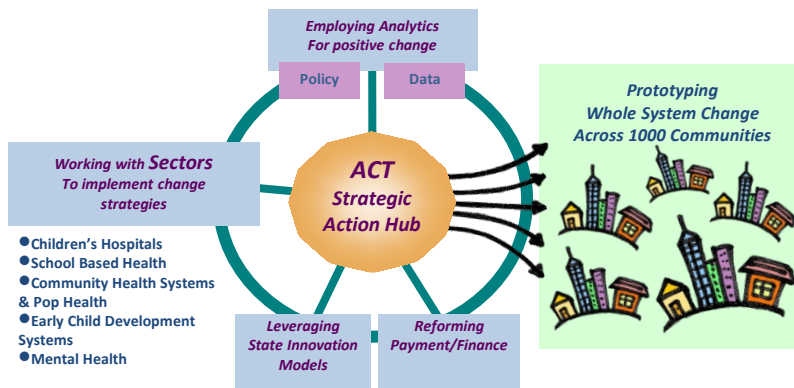


CHRONIC DISEASE CARE
+
PUBLIC HEALTH PREVENTION



ALL CHILDREN THRIVE

CREATING KNOWLEDGE, TRANSFORMING COMMUNITIES
RE-ENGINEERING COMPLEX SYSTEMS



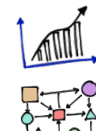
Networking Strategies, Platforms and Apps



Learning Systems with Collaborative Innovation Networks (CoINs) embedded



National Research Networks

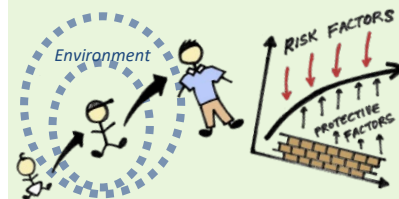


Life Course Trajectories, Data, Measurement and Information Tools

OPTIMIZING HEALTH

3.0

LIFE COURSE HEALTH DEVELOPMENT



Person X Environment
(A Dynamic Relationship)
OVER THE LIFESPAN

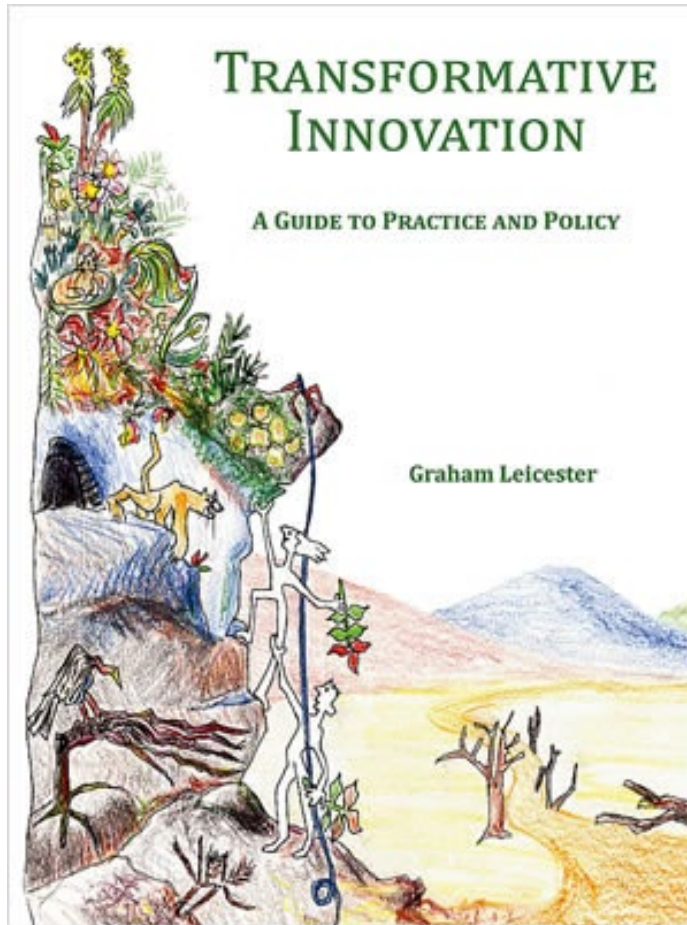


CROSS SECTOR COLLABORATION & CULTURE OF HEALTH

COMMUNITY ACCOUNTABLE HEALTH DEVELOPMENT SYSTEMS

Time

Transformative Innovation



Patterns: reading the landscape of change

Pathways: plotting a way through towards a desired future

Practice: making the journey (including **Policy** and finance)

People: 21st century competencies

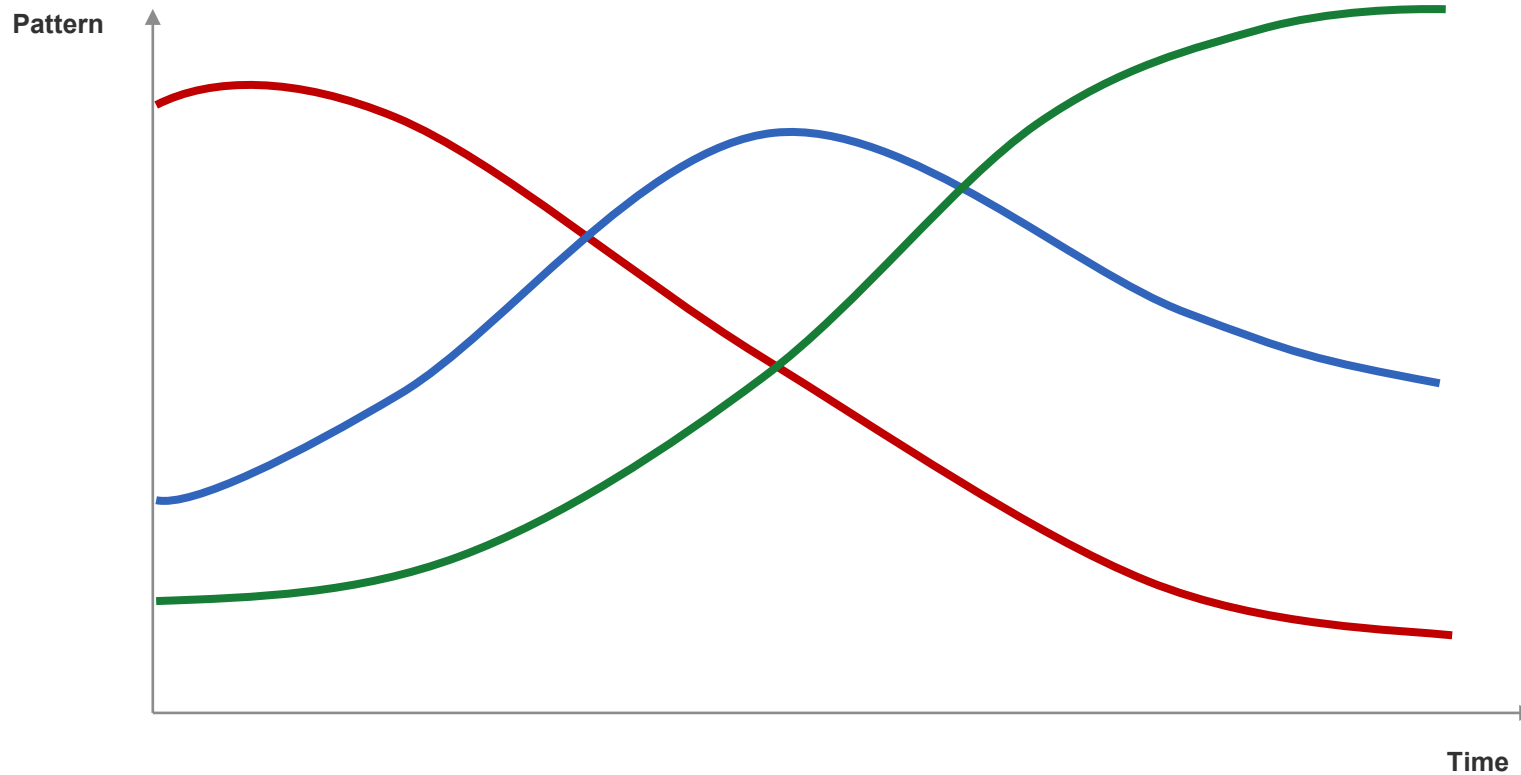
Three Horizon Thinking

- Focused on bridging **different** kinds of knowledge
- Focused on change processes that lead to **significant systemic changes**
- Designed for **complex problems** with *uncertain predictive models*
- Provides an **analytic lens** for ecosystem action

Three Horizons

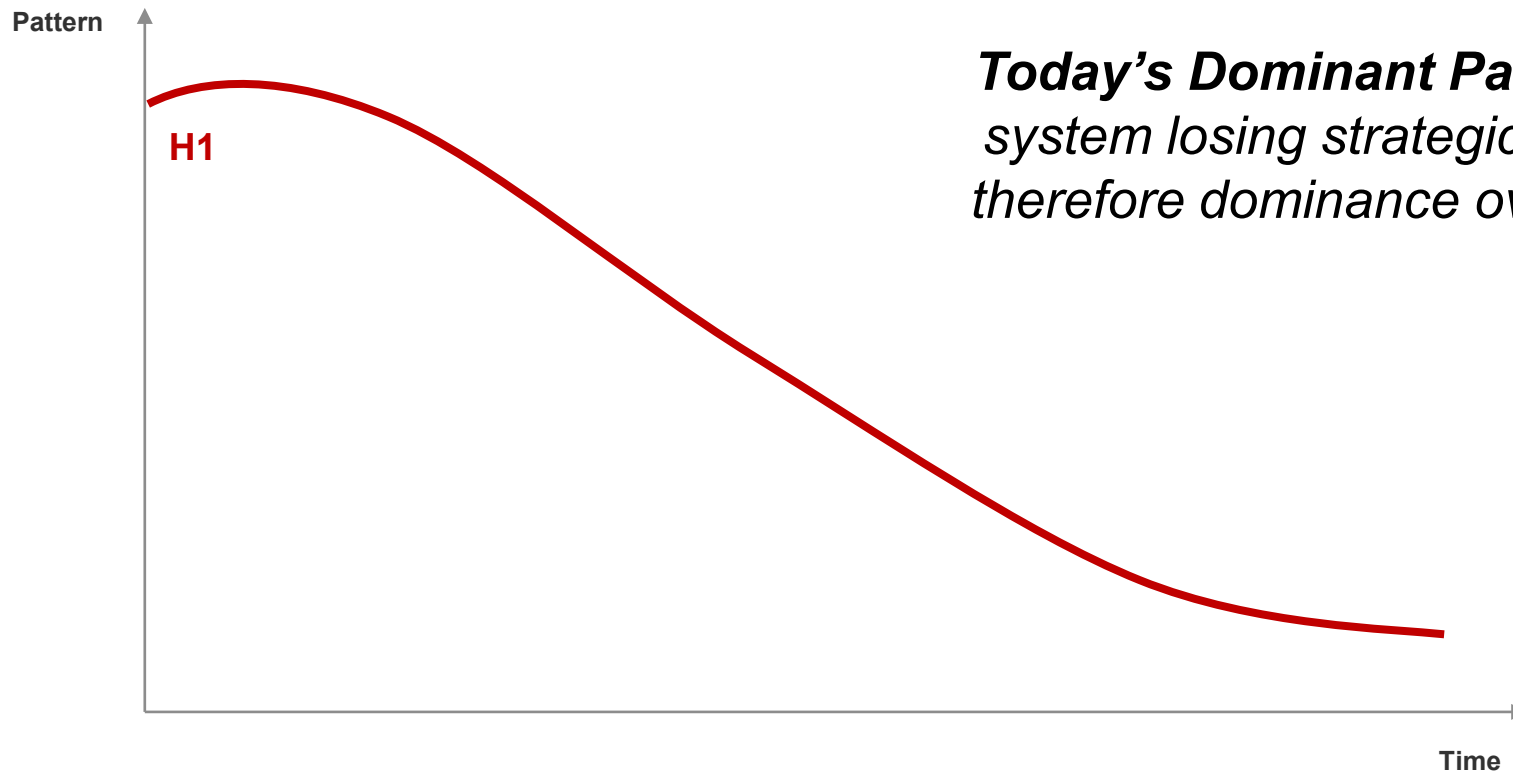


Making sense of the landscape of change through three perspectives on the future potential of the present moment



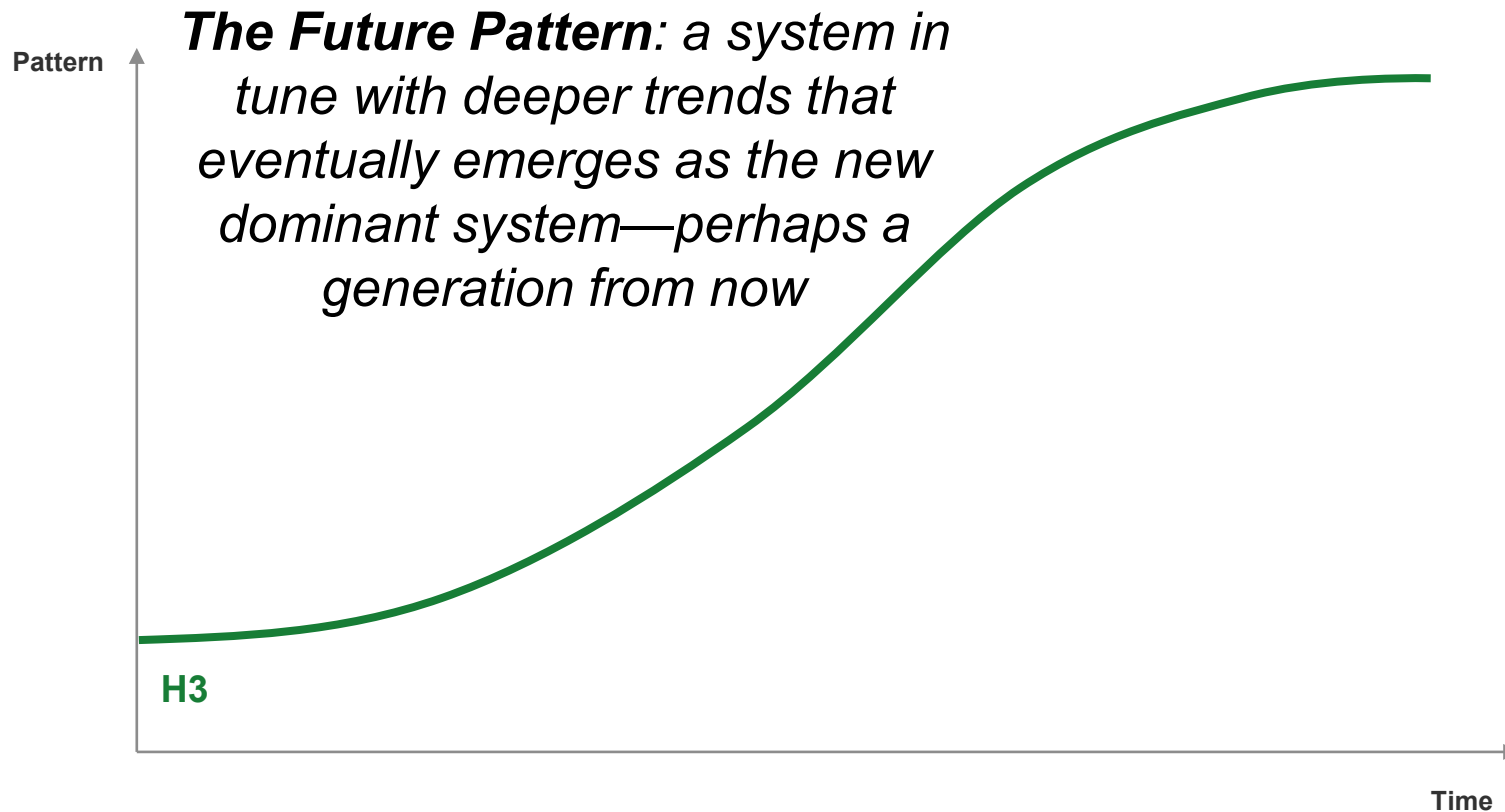
First Horizon: Sustaining Innovation

The managerial perspective, keeping things going



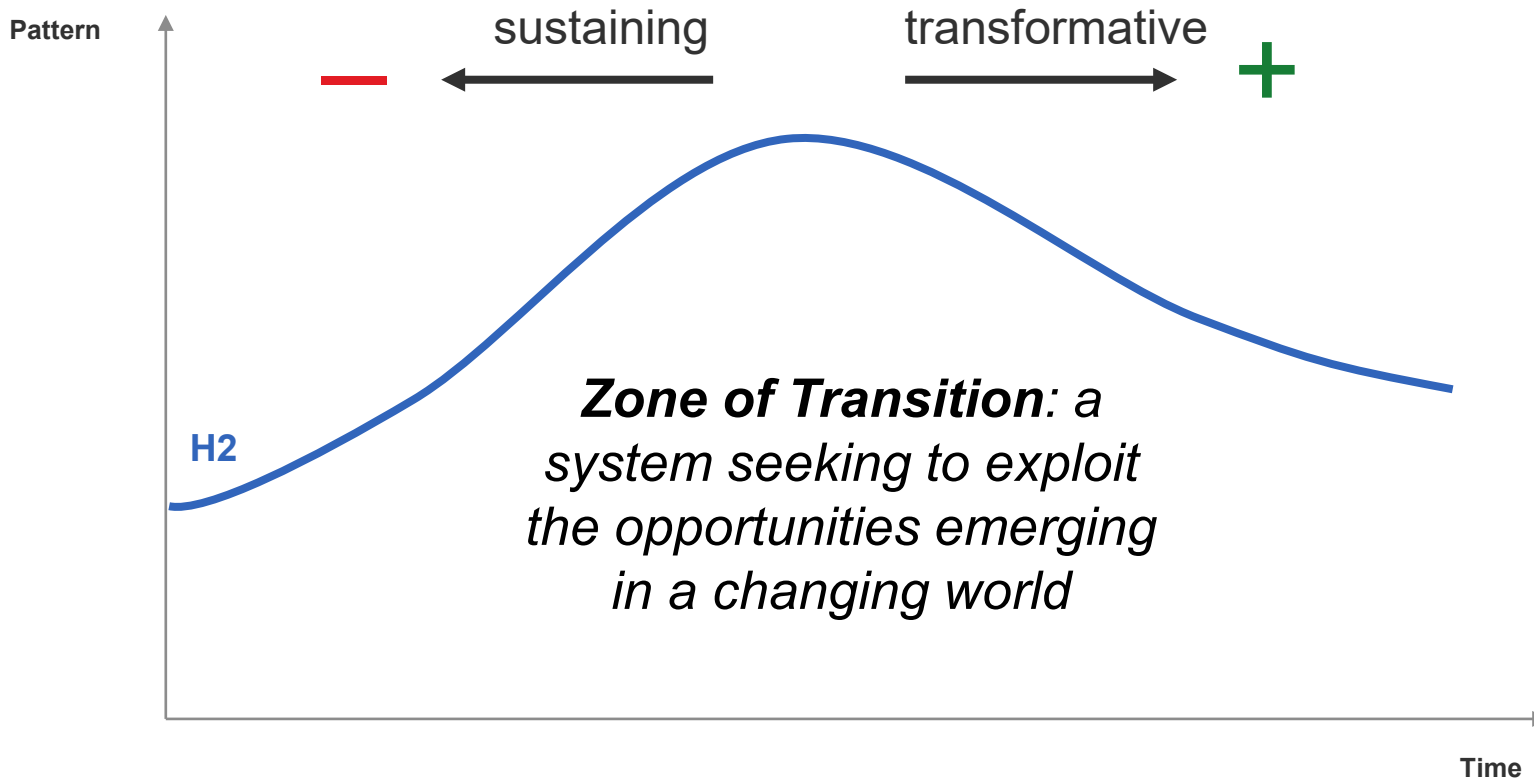
Third Horizon: Transformative Innovation

The visionary perspective, aspiring to a better way



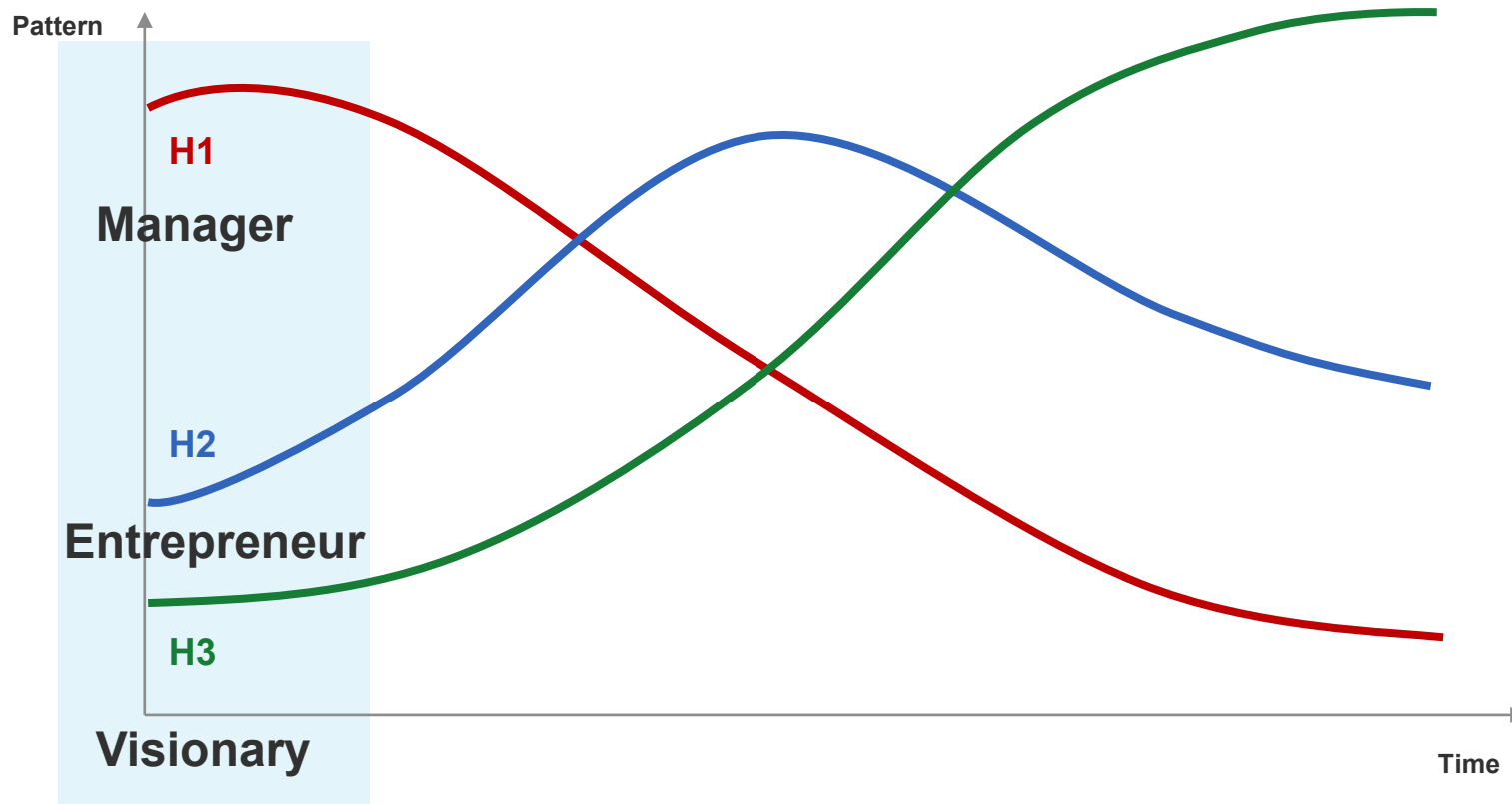
Second Horizon: Disruptive Innovation

The entrepreneurial perspective, eager to try new things

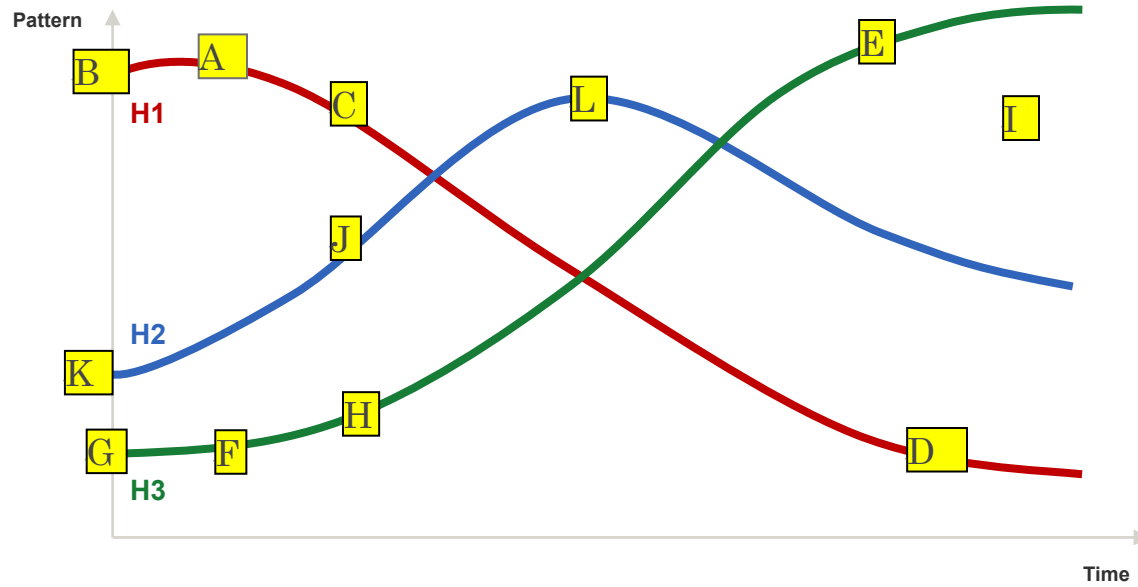


Three Horizons: Bringing it Together

A transformative innovation system that contains three ways of acting in and seeing the world.



Three Horizons: Analysis of Ecosystem



3 Horizon Perspective

- Lots of 1st Horizon incremental improvement need to scale
 - Help Me Grow
 - Medical Financial Partnerships
- Already 2nd & 3rd Horizon Innovation Emerging
 - Hope Street Family Center
 - All Children Thrive Cincinnati, Healthy Neighborhood- Healthy Families
- Expanding the All Children Thrive approach to transform the child ecosystem
 - Engagement –centered on families
 - Governance, Leadership, Accountability
 - Learning System – data >> information>> insight >> action
 - National All Children Thrive Innovation Platform
 - Financing Revolution
 - Discovery Transformation

Disruptive Ideas

- Outcome = Thriving; health + wellbeing
- Disconnect child health system from adult health care system
- Make child health care system a public utility
- Shift from ROI to ROHD
- Create New Measurement – GDP2
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ACT America Health Care System Transformation

Strategic Components

1. Vision for a future 3.0 health development system – optimizes the health, development and wellbeing of all children
2. Life course health science: implications for design, innovation, breakthroughs
3. Transformative logic, strategies and innovations for a 3.0 system
4. Develop prototypes of potential 3.0 child health system designs
5. Tools needed (road mapping, data systems, performance indicators and dashboards, PDSA cycles)
6. Leadership development, community engagement, governance and impact strategies
7. Multi-level and multi sector innovation and learning system: to drive vertical, horizontal and longitudinal alignment and integration in a complex world
8. Financing strategies : life course designed, achieve long-term health impacts, cross sectors, achieve 3.0 health optimizing outcomes
9. Communication strategies for how we talk to each other, the messaging for stakeholders, and a narrative for the public
10. Aligning CHSTI with community economic development and other movements for equity and social justice

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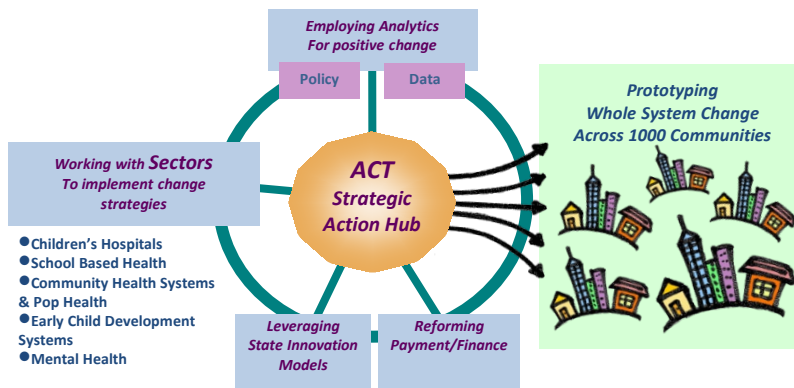


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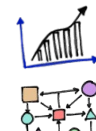
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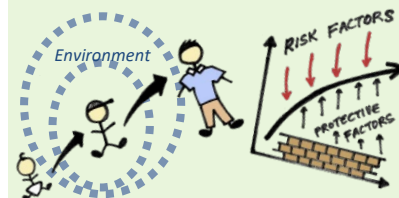


Life Course Trajectories, Data, Measurement and Information Tools

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3.0

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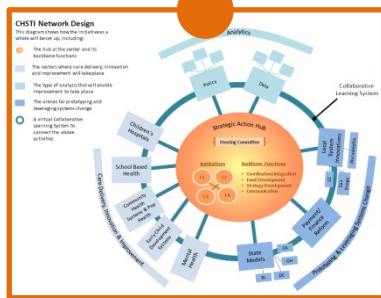
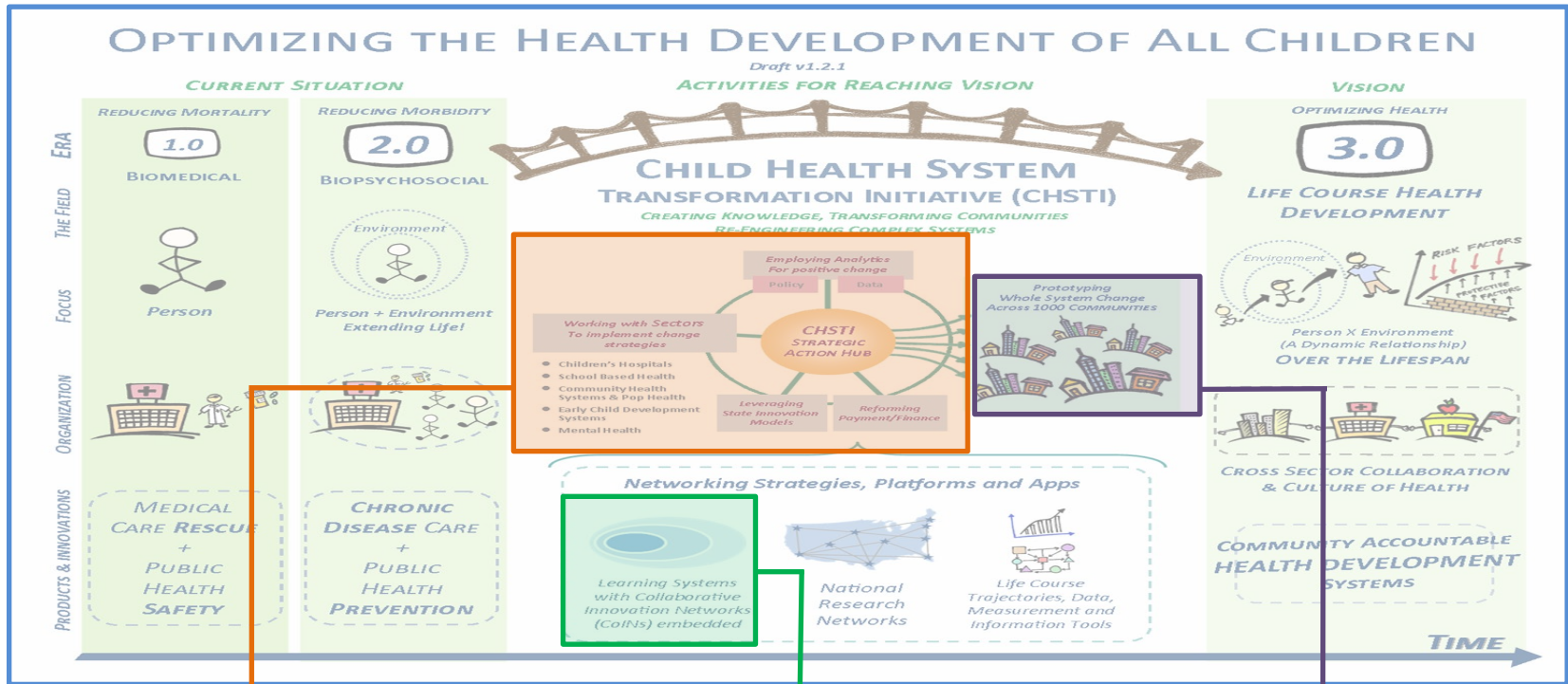


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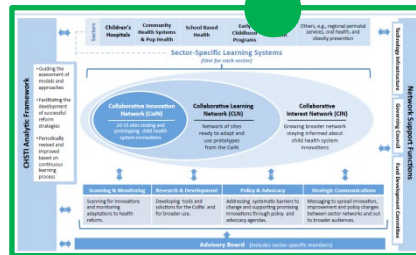
COMMUNITY ACCOUNTABLE HEALTH DEVELOPMENT SYSTEMS

Time

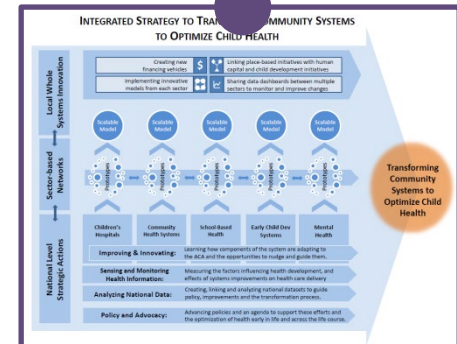
Child Health System Transformation Initiative (CHSTI) Diagram Guide



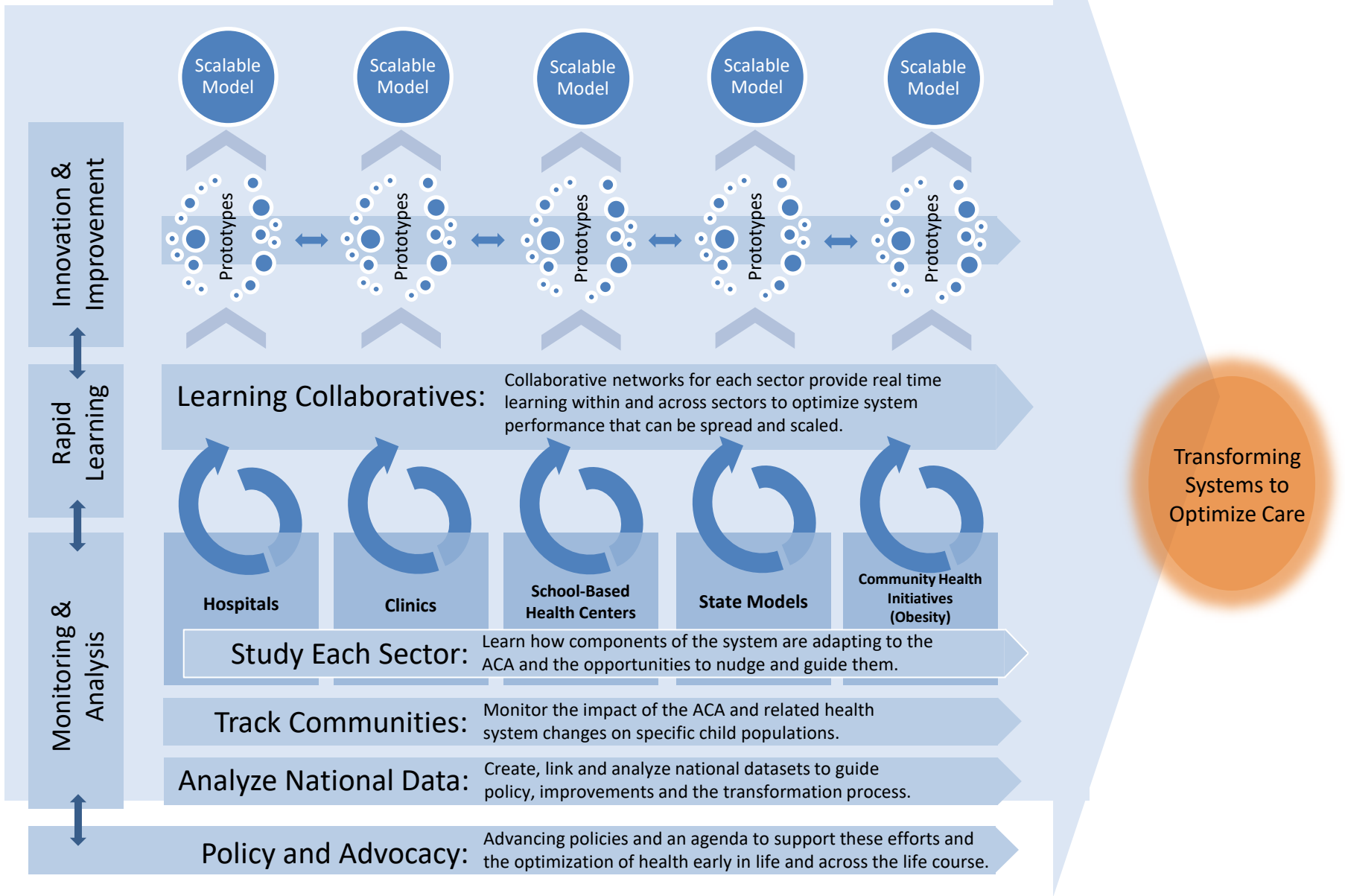
CHSTI Network Design



Sector-Based Learning Systems

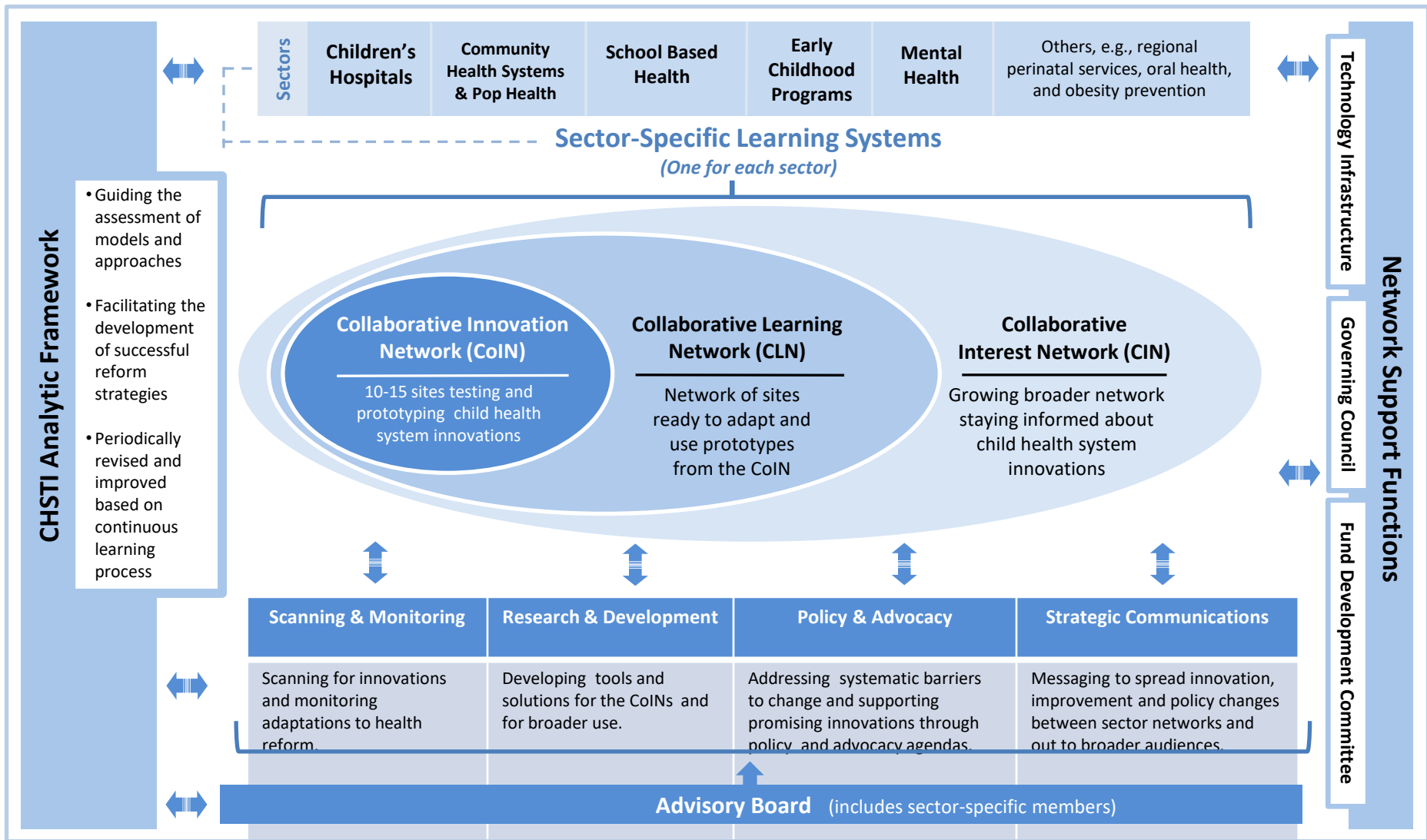


Strategy to Transform Community Systems



Integrated Strategy to Achieve Child Health Systems Transformation






Child Health System Transformation Initiative: Sector-Specific Learning Systems

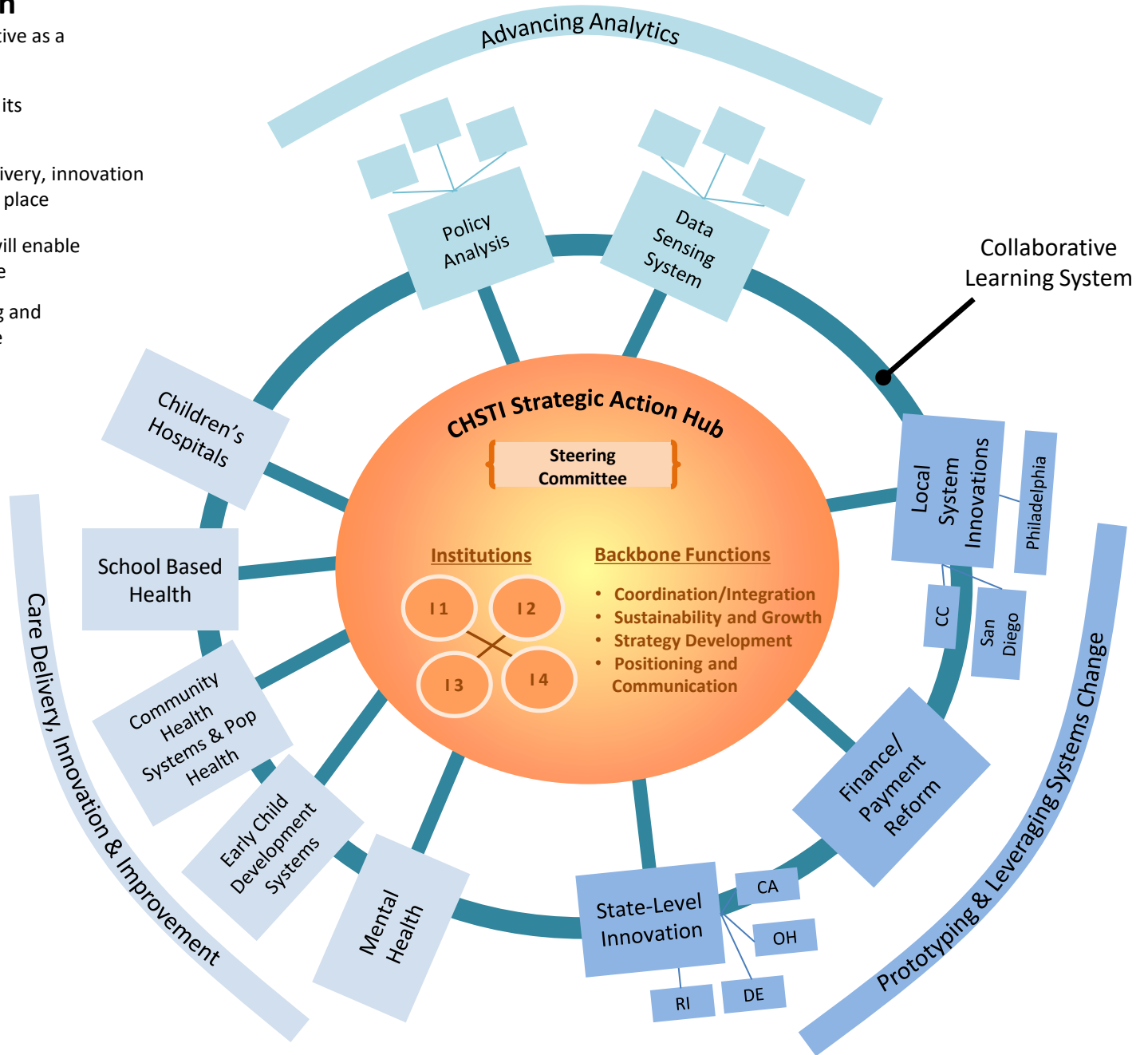


The Child Health Systems Transformation Initiative is a self-organizing, open source network that links sector-specific learning systems (e.g., children's hospitals, school-based health centers, community clinics, etc.) with an initiative-wide analytic framework, advisory board, and set of network support functions, including a technology infrastructure, a governing council and fund development committee. Each sector-specific learning system has three nested networks: 1) A *Collaborative Innovation Network (CoIN)* of leading edge organizations using structured methods for testing and refining innovations., 2) A *Collaborative Learning Network* of forward-thinking organizations ready to learn from and adopt innovations developed by the CoIN, and 3) A *Collaborative Interest Network* of the broader array of organizations in a given sector that stay informed about and help to spread innovations in the field. These learning systems allow for fluid movement or organizations between networks to facilitate spread and scale. Each learning system is supported by *scanning and monitoring* of innovations and ACA impacts in that sector, *research and development* to create tools and solutions for deployment to the CoIN, *policy and advocacy* to analyze policy barriers and recommend policy solutions, and *strategic communications* for messaging to key internal and external audiences.

CHSTI Network Design

This diagram shows how the initiative as a whole will be set up, including:

-  The hub at the center and its backbone functions
-  The sectors where care delivery, innovation and improvement will take place
-  The type of analysis that will enable improvement to take place
-  The arenas for prototyping and leveraging systems change
-  A virtual Collaborative Learning System to connect the above activities

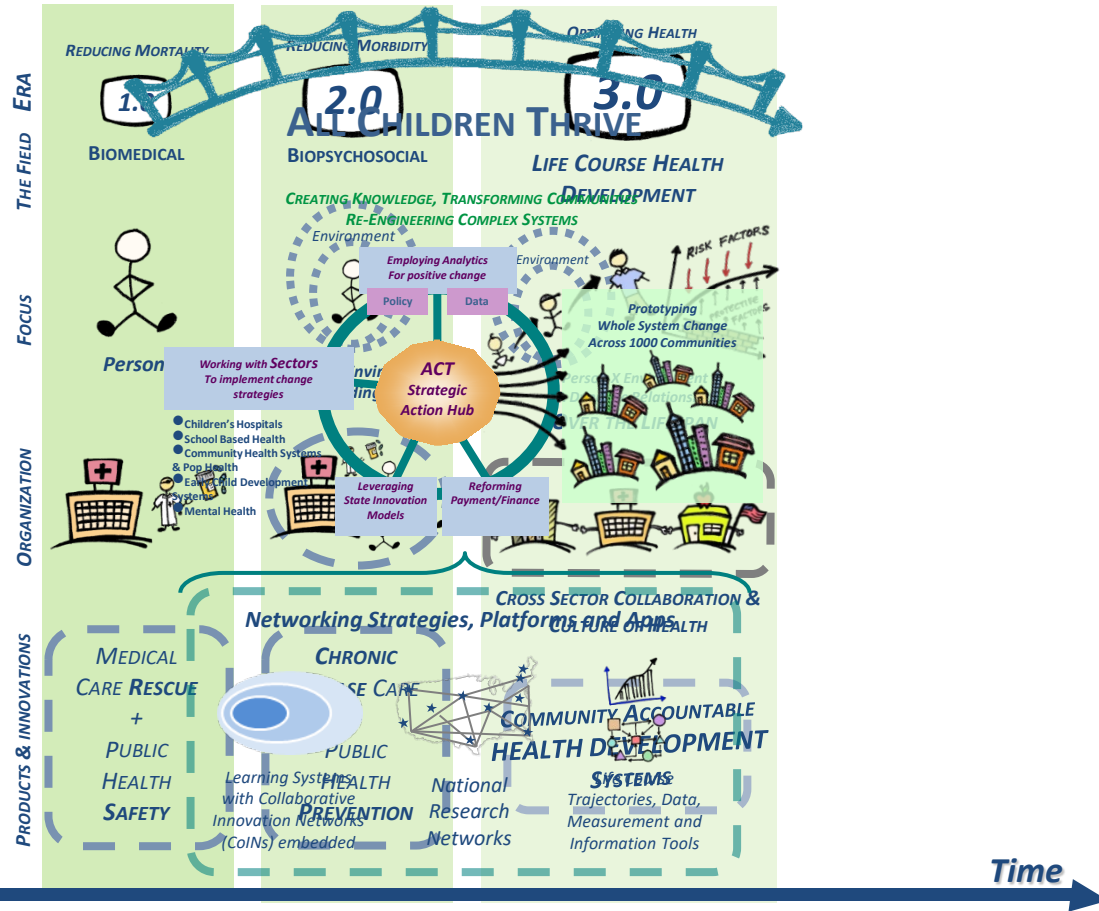


OPTIMIZING THE HEALTH DEVELOPMENT OF ALL CHILDREN

CURRENT SITUATION

ACTIVITIES FOR REACHING VISION

VISION



All Children Thrive California



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All Children Thrive
California

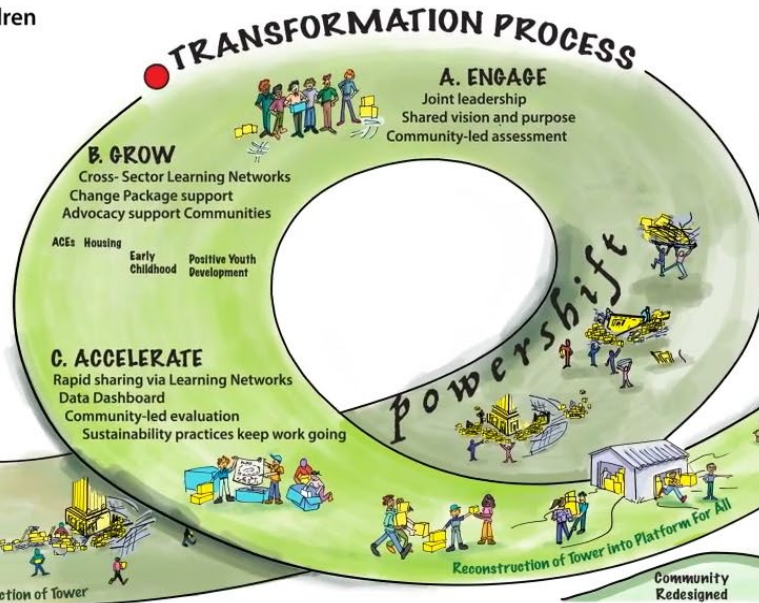


Shift Power: Embedding community voices into policy, planning, development and city-wide, cross-sector systems improvement processes

What is All Children Thrive?

ACT brings together community members, youth, city officials, and community-serving organizations who work side-by-side to create innovative approaches and policies to strengthen the capacity of mental health, housing, early childhood and youth development services, so that all children and youth can thrive.

● CURRENT STATE: Few Children Thrive



Guiding Principles

- Children, youth & families center our work
- Prioritizing youth & community leadership
- Elimination of Inequitable Systemic Barriers
- Building relationships and trust
- All teach -- All Learn
- Focused on Improvement and Sustainability

Transforming ● NEW FUTURE: All Children Thrive



ACT California Cities



22 Fully onboarded cities

• 3 Pilot Vanguard Cities

★ Fresno

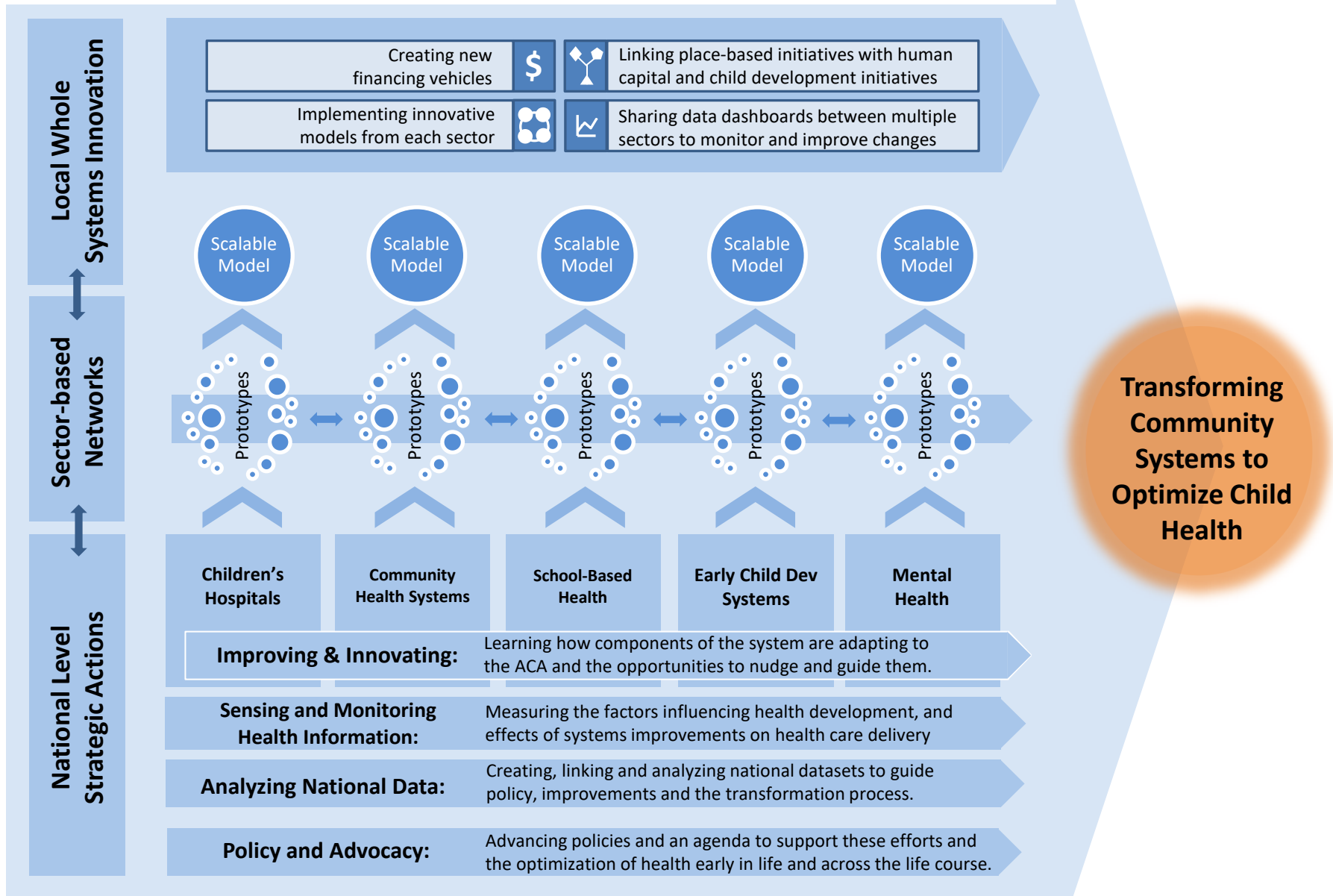
★ Sacramento

★ Stockton

• 14 Pilot Cities

• 5 Affiliate Cities

INTEGRATED STRATEGY TO TRANSFORM COMMUNITY SYSTEMS TO OPTIMIZE CHILD HEALTH



Shifting the Health Development Curve to Shift the Cost Curve

