Transforming the Child Health System: Moving from Child Health 2.0 to 3.0

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Investing in Children’s Health and Well Being
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Context: What’s At Stake

- A good society and the most vulnerable
- Inherent vulnerability of children, added vulnerability of sick, poor, and disabled
- Good life for all depends on children thriving
- Too many children are not thriving
- The threat to America
- The cost of underinvestment and the future of our nation
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 + for profit medicine)
- 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%)
- Growing prevalence of mental health disorders (15-20%)
- Greater appreciation of role and impact of 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)
Children’s Health at Risk

- 4-6% Severe Disabilities
- 12-16% Special Health Care Needs
- 30-40% Behavioral, Mental Health Learning Problems
- 50-60% Good Enough

What % are thriving?
- 30% ?
- 40% ?
- 50% ?
Down Stream Health Problems Related to Early Life

2nd Decade
- School Failure
- Teen Pregnancy
- Criminality
- Substance abuse
- Anxiety Disorders

3rd/4th Decade
- Obesity
- Elevated Blood Pressure
- Depression

5th/6th Decade
- Coronary Heart Disease
- Diabetes
- Renal Disease

Old Age
- Premature Aging
- Memory Loss

From Hertzman
## Overall Child Well-being

<table>
<thead>
<tr>
<th>Country</th>
<th>Average rank</th>
<th>Material Situation</th>
<th>Health and Safety</th>
<th>Education</th>
<th>Children’s relationships</th>
<th>Subjective Well-being</th>
<th>Behaviour and lifestyles</th>
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UNICEF 2007
Child Well-being by Child Poverty $r=0.75$

Bradshaw, 2007
Underperformance 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
Putting Children First = Transformative

- **New Powerful Narrative** –
  - Not healthy, not investing, broken system
- **New “game changing” Strategic Approach**
- **Transformative Tactics for Confronting**
  - Challenges – private love/public commitment
  - Barriers – structural, organization, finance
  - Constraints – old, medically oriented, adult focused
- **Creating & Leveraging Opportunities**
  - Affordable Care Act – emerging innovations
  - Science of health development – National Children’s Study
  - New measurement tool, social networking innovations
4 Levels of Change: Invest Where it Counts

1. Fixit – fix broken parts and pieces
2. Incremental Improvements
   - Evidence based improvements in services and care
3. Major Innovations & Quantum leap;
   - Requires nudges and jolts
   - ACOs, HIT, Prevention Trust Fund,
   - Kids 3.0 ACO, Child Health Trusts, CAHS
4. Transformation: Paradigm Shift
   - New Operating System
The Evolving Health Care System

The First Era (Yesterday)
- Focused on acute and infectious disease
- Germ Theory
- 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
- Multiple Risk Factors
- 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
- Complex Systems - Life Course 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

- Optimal Health Trajectory
- Low Health Trajectory
- Higher LT Costs
- Lower LT Costs
- Symptomatic

Health Development vs. Age (Years)

- 3.0
- 2.0
- 1.0

Costs
# 3.0 Transformation Framework

<table>
<thead>
<tr>
<th>Components</th>
<th>Current System</th>
<th>3.0 System</th>
<th>Change Strategies</th>
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<tbody>
<tr>
<td>Operating Logic</td>
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<tr>
<td>Organization of Health Producing Sectors</td>
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<td>Organization &amp; Delivery of Individual Care</td>
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<td>Medical Education &amp; Workforce</td>
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<td>Market</td>
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<td>Funding</td>
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<td>Regulation &amp; Governance</td>
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<td>Performance Monitoring</td>
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## Transitioning to a 3.0 Operating Logic

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<tr>
<th>Category</th>
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<th>New Operating Logic</th>
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<td>Optimize Population Health Development</td>
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<td><strong>Client Model</strong></td>
<td>Individual</td>
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<td><strong>Health Production Model</strong></td>
<td>Biomedical</td>
<td>Life Course Development of Biopsychosocial Health</td>
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<tr>
<td><strong>Intervention Approach</strong></td>
<td>Diagnosis, Treatment and Rehabilitation</td>
<td>Disease prevention, Preemptive Interventions, Health Promotion, Optimization</td>
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<tr>
<td><strong>Time Frames</strong></td>
<td>Short/Episodic</td>
<td>Life Long &amp; Continuous</td>
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### 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
- Biomedical
- Life Course Development of Biopsychosocial Health

### Intervention Approach
- Diagnosis, Treatment and Rehabilitation
- Disease prevention, Preemptive Interventions, Health Promotion, Optimization

### Time Frames
- Short/Episodic
- Life Long & Continuous
Pediatric Office 2.5

- Home-visiting network
- Early Intervention
- Developmental Services
- Parenting Support
- Preventive Care
- Acute Care
- Chronic Care
- Lactation Support
- Early Child Mental Health Services
- Early HeadStart & HeadStart
- Child Care Resource & Referral Agency
- Developmental Services
Using Population Data for Learning, Engagement and Collective Action

% Kindergarten Children Vulnerable in Social Competence

% Mothers with Depression Risk (PHQ-2)

Proportion of Children Developmentally Vulnerable

- Lowest Proportion
- Highest Proportion
Big, Bold and Transformative Change

• Child Health Community needs to commit itself to Child Health 2025 Initiative

• Adopt a 3.0 Strategic Framework for Health System Transformation (children lead the way)

• Make the Unnecessary Catastrophic Loss Health Potential the unavoidable & inconvenient truth of our national destiny

• Child Health Futures Network – a national 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
    • Child Health Trusts,
    • Community Accountable Health Systems-Kids 3.0 ACO+
Traditional, Adult Health care Priorities

Children's Hospitals & Health Care Concerns
Current Model
Vertical Silos, Little Integration

Financing Streams
Organization: Individual Health Care Delivery
Population Health Services

Private/Self
Employer
Medicaid/CHIP

Health Plan A
Health Plan B
Health Plan C

Primary Care Network
Primary Care Center

Mental Health
Early Intervention
School Health
Head Start

MD
MD
MD
MD
MD
MD
MD
MD

SPCLST
SPCLST
SPCLST
SPCLST

Pop. Health / Public Head Start Title V
Concept – Integrated Health System

Source: Hassink, Werk, June 2008
Schema for KIDS ACO

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

Integrated Delivery 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
Transforming Early Childhood Community Systems (TECCS)

UCLA, UWW, WK Kellogg, Cincinnati Children's Hospital
States, Counties, Communities

Systematic Data Collection
For tracking Health Development Trajectories

- Birth Certificate
- Pediatric Early Child Assessment
- School Readiness

EDL Early Development Inventory
- Physical wellbeing & motor dev't
- Social & emotional dev't
- Approaches to learning
- Language dev't
- Cognitive & general knowledge

Health Development Trajectories
Four Key Strategies for TECCS

1. **Community Engagement**
   - Mobilize local EC coalitions around data collection, planning and improvement

2. **Measurement, Mapping, & Analytics**
   - Of children’s developmental outcomes using the Early Development Instrument (EDI) and related data to inform planning & improvement

3. **Targeted System Improvement**
   - Work with communities to identify and prioritize barriers, test and refine specific strategies to address those barriers

4. **Shared Learning with a Collaborative Innovation Network (COIN)**
   - Help communities share experiences, resources and lessons learned, and harvest knowledge about effective practices
EDI: Wichita Falls Neighborhoods - Percentage of Children Vulnerable on 2 or More Domains with Proportion of Vulnerabilities by Domain

Legend:
- By Domain
- Phys. Health and Well-being
- Social Competence
- Emotional Well-being
- Lang. and Cognitive Dev.
- Comm. and Gen. Knowledge

Percentage of Children Vulnerable on 2 or More Domains:
- 0% - 7%
- 8% - 12%
- 13% - 16%
- 17% - 21%
- 22% or more

Data: EDI - 2010
Roads: UCLA - GIS Portal

The UCLA Center for Healthier Children, Families and Communities, under license from McMaster University, is implementing the Early Development Instrument with its sub licensees in the US. The EDI is the copyright of McMaster University and must not be copied, distributed or used in any way without the prior consent of UCLA or McMaster. © McMaster University, The Offerd Centre for Child Studies.

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

Developmental progress, by kindergarten:

- % of 3rd Grade Children Who Are Proficient in Reading: 27%

Protective factors for families:

- Measures of real-time improvement in services and supports

Parent activities and behaviors:

- Parent experiences in Magnolia Partner Settings, and in the Community Overall

Potential and actual reach to children in the community:

- % Parents Reporting Ties to Neighbors