Nemours: Leveraging the Links Between Health and Education

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Why Nemours? Why Prevention?

- The ability to read is a major predictor of adult health status
- Prevention provides long term effect and bends the cost curve
- Ability to address societal health status
- Families better informed, maximizing engagement in health of child

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A Comprehensive Approach

- Multiple reports suggest that health care alone is not sufficient to promote healthy child development
  - Child health and well-being are influenced by multiple factors.
- A comprehensive approach is needed that integrates and coordinates across health, education and human services
- This comprehensive approach should consider:
  - The health and well-being of the whole child including the child's physical environment and social service needs; and
  - The child's needs over the long-term
- Application of the medical model in analyzing educational outcomes

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Strategy

- A prevention-oriented child health system builds upon, and extends beyond, traditional prevention in primary care to look at the population level
- Strategy makes use of socio-ecological model, looks beyond the individual to examine a range of other factors that affect health outcomes at multiple levels
- Spreading policy and practice changes:
  - Population health-focused model: Defined program goals around reading readiness
  - Strategic partnerships: Greatest potential impact, authority to make policy and practice changes, ability to leverage resources
  - Knowledge mobilization: Providing evidence-based materials and tools
  - Social marketing: Creating and accelerating social policy and behavior changes

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BrightStart!

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Nemours BrightStart!: What We Do

- Develop materials and services targeting young children at-risk for reading problems, to teach them effectively from the beginning of their reading journey.
- Help parents, teachers, health care providers, community leaders, and policy makers understand key concepts and actions that will promote reading success for all.
- Conduct translational research to measure our impact and contribute scientific knowledge to reading development field.

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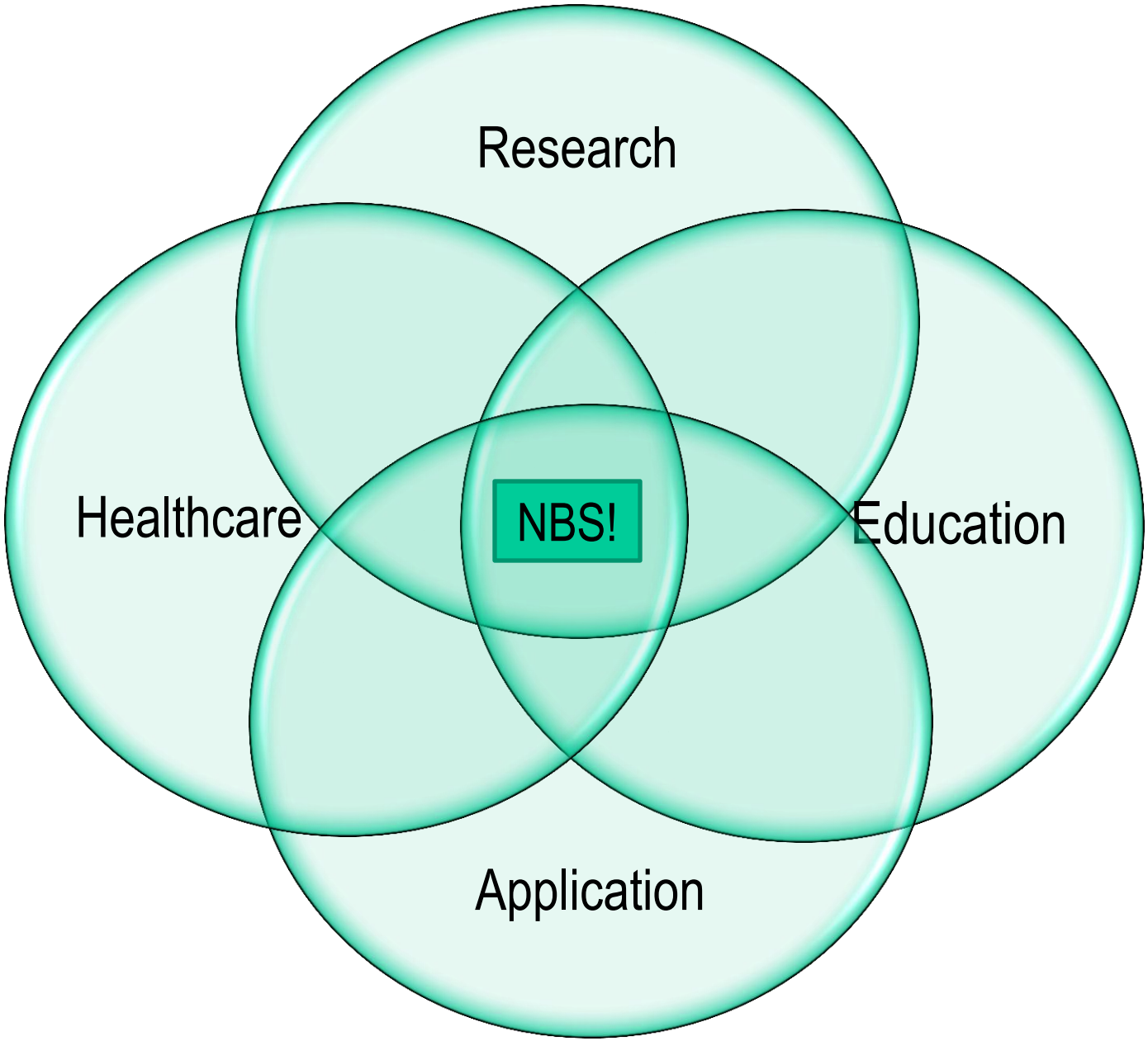

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Key Elements

- Screen - Screen all children (4 or 5 year-olds) using a quick, psychometrically sound measure
- Intervene - Provide small-group instruction (20 lessons) to children “at risk” for reading failure due to low reading readiness screening scores
- Rescreen – Rescreen after completing instruction to measure progress

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4 Years of Cluster Randomized Studies

- Funded by Nemours
- Designed to contribute to science, inform public policy, AND provide a useful service to at-risk children
- Took place in natural environment of preschools and childcare centers
- No at-risk child was excluded from intervention or from our data analyses

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General Experimental Design

- Used Immediate (Fall) versus Delayed (Spring) treatment group design
- Randomly assigned childcare sites to treatment group, matched by zip code and percent of children receiving financial subsidy
- Key comparison was change from T1 to T2 – did treatment groups differ significantly at T2?

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General Analytic Strategies

- Used HLM to test overall treatment effects
- Two-level model (children nested within centers)
- “Intent to treat” model employed
- Effect sizes computed using Cohen’s *d*

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Overall Results, 2005 - 2012

- Over 13,000 pre-kindergarteners screened
- Over 3,300 received Nemours BrightStart! intervention
- Two-thirds or more moved to the age-appropriate range in reading readiness skills after intervention
- Using GRTR-R, able to calculate standard scores, which show the at-risk children move from significantly below average at pre-test to solid average range at post-test
- 70% or more achieve post-test standard score $\geq$ 90

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Conclusions From Across Studies

- BrightStart! intervention has a positive impact on several key early literacy skills.
- Using data to inform curriculum changes has enhanced outcomes.
- There does not appear to be a major time of year effect for intervention
- Children at all risk levels benefit substantially
- More work to be done on specific ways to enhance phonological awareness at this young age and also to address the issue of non-response to treatment (perhaps a layered approach to intervention)

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National Early Care and Education Collaboratives

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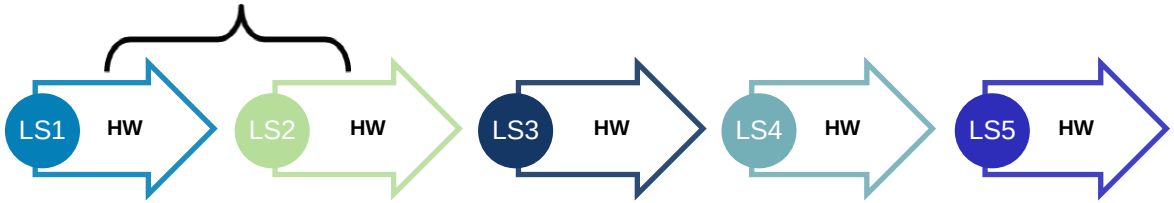
ECE Learning Collaborative Model

- *Taking Steps to Healthy Success* Curriculum
  - 5 Learning Sessions
    - In-Person Session (Collaborative)
      - Facilitated by: State implementing partner
      - Audience: 30 ECE Programs Leadership Teams
    - Homework Session (ECE Program)
      - Facilitated by: "Leadership Team"
      - Audience: ECE Program Staff

Each "in-person session" is spaced approximately 6 – 8 weeks apart to provide enough time for the homework activities.



Homework includes:
- *Abridged learning session*
- *Action task*

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Cohort 1 (Aug ‘13 – Jun ‘14) Implementation

- 7 organizations (2 state health departments, 1 local service provider, 4 child care resource & referral agencies) and Nemours funded to implement the Collaboratives.
- Arizona, North Florida (Orlando, Jacksonville), South Florida (Miami/Dade) Indiana, Kansas, Missouri, New Jersey.
- 500 ECE programs (Head Start, preK, child care) enrolled serving more than 52,000 children birth – five.
- 4 of 5 learning sessions complete.
- Provided ongoing feedback to CDC and Nemours on curriculum, recruitment/enrollment, technical assistance, homework, and other that is being used to frame future cohorts.

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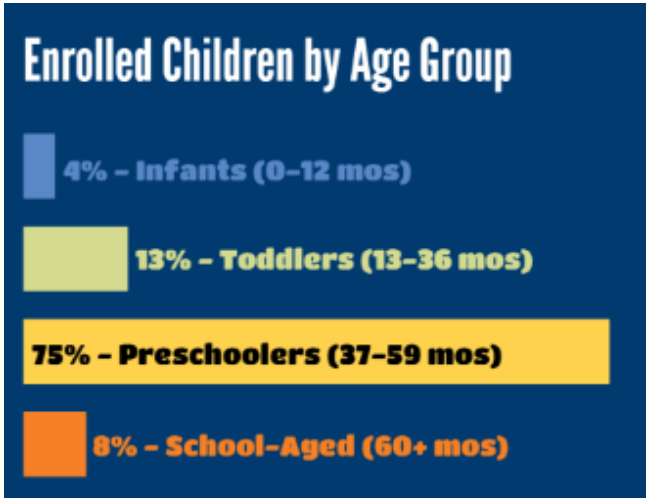
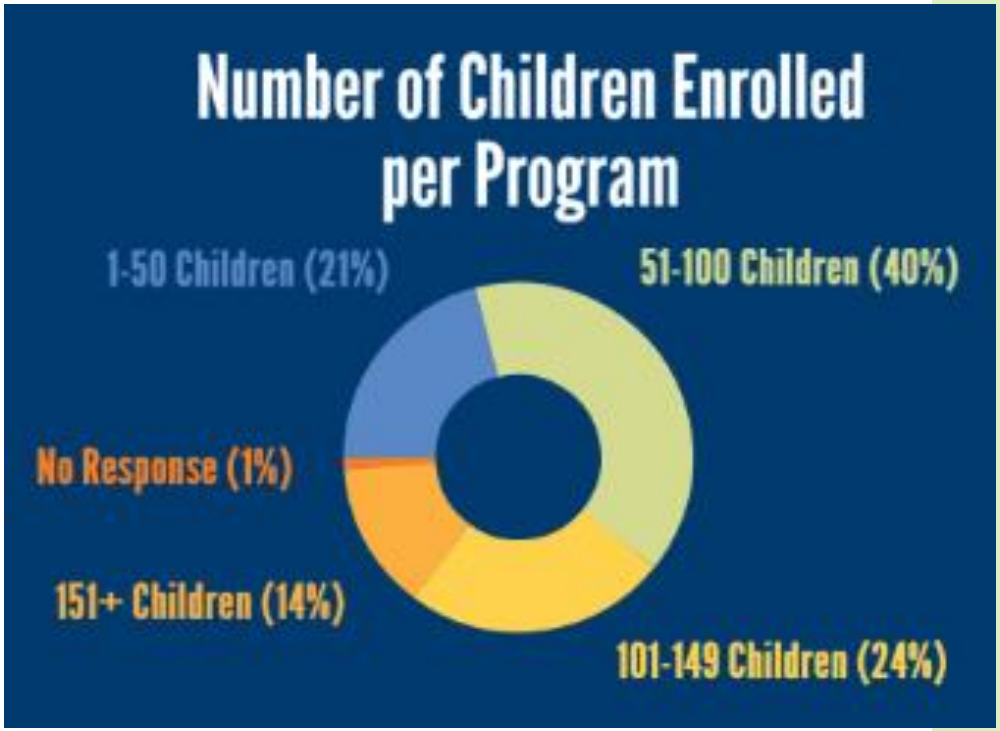
What Do The Centers Involved Look Like?





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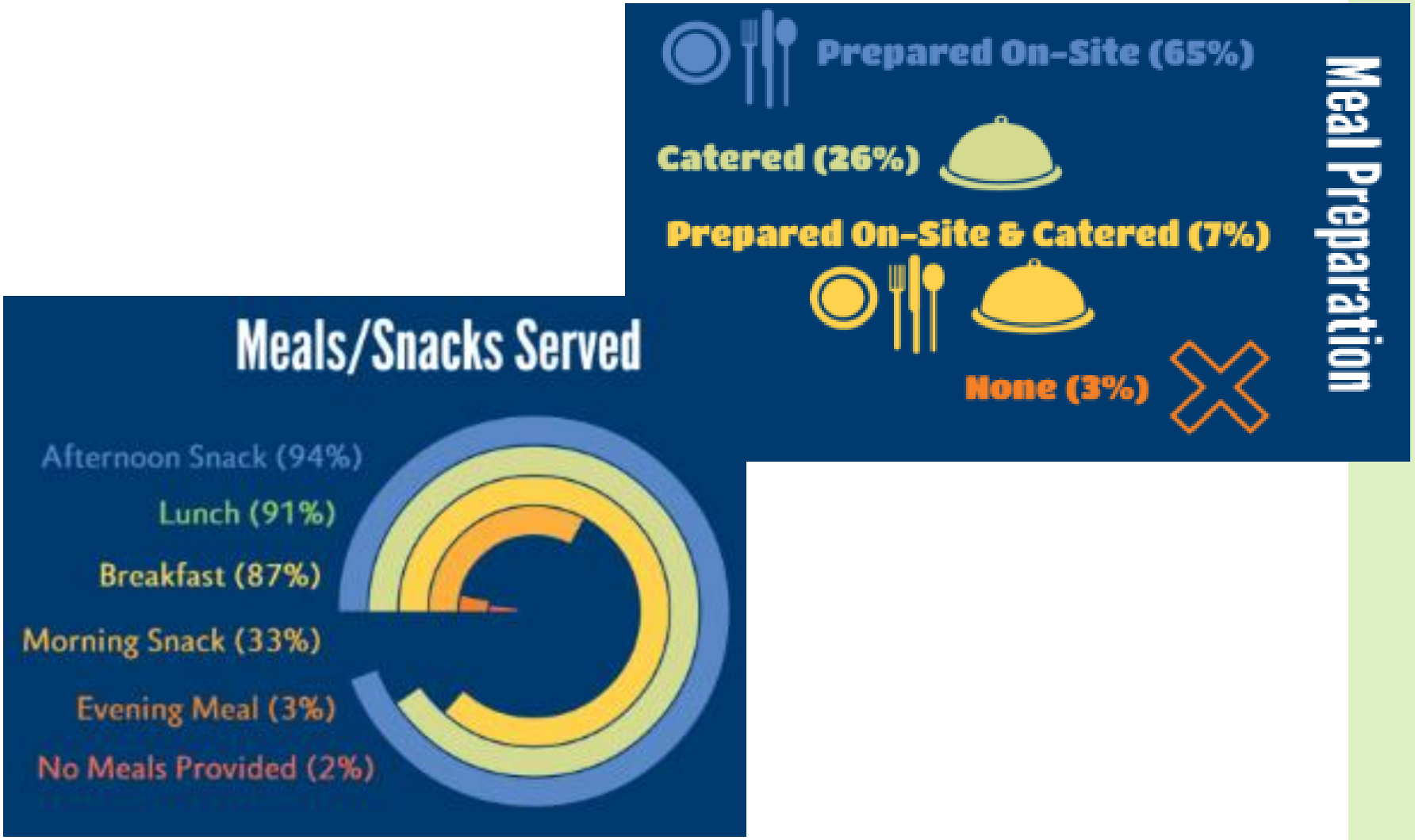

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Lessons Learned

- State organizations needed more organizational capacity and bandwidth.
- State organizations didn't naturally think about weaving project into existing initiatives. Need more direction and pushing on systems change and integration.
- Asking center staff to become leaders and train their entire center is innovative. Requires time and lots of coaching for leadership teams.
- Balance fidelity to a national model and state customization necessary for buy-in and sustainability.
- No perfect trainers; those strong in ECE are weak in health and vice versa.

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Preliminary Data

- At the first learning session when asked *"As an early childhood leader, my greatest challenge at the moment is…"*, most participants answered:
  - Staff (buy-in, commitment, changing their own behavior);
  - Families (buy-in, commitment, changing their behavior); and
  - Time.
- State organizations reported that personal contact and relationships with ECE providers was critical for engagement and participation. Providers need lots of coaxing.

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Preliminary Data (continued)

- Baseline NAP SACC scores were lowest on the following items:
  - Education for families on healthy eating, physical activity and breastfeeding
  - Professional Development for staff on healthy eating, physical activity and breastfeeding
  - Physical activity time for children (frequency, type)
  - Family style dining
  - Breastfeeding space for nursing moms
  - Classroom learning activities that include healthy eating and/or physical activity
  - Written policies that support best practices

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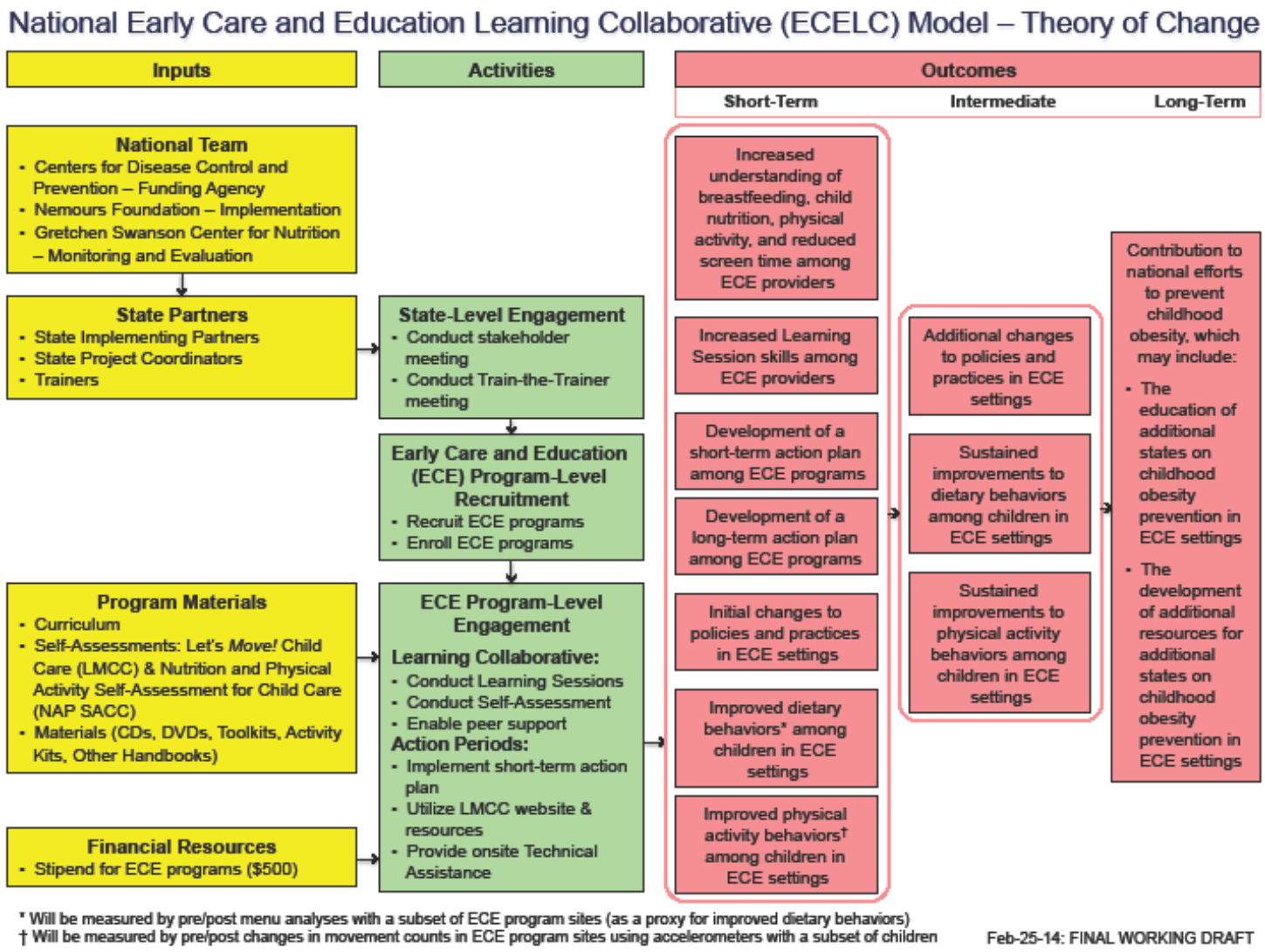
Cohort 1 Evaluation



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Cohort 2, Phase 1 (May ‘14 – Spring ‘15)

- RFP issued to 10 states (WI, TX, NC, KY, CA, VA, WA, NY, MA, MD)
- Nemours funded 3 new organizations (1 state health department, 1 child care resource & referral agency, 1 state-wide public/private foundation) in KY, CA (Los Angeles) and VA.
- Curriculum redesigned and repackaged.
- Trained Project Coordinators, they train Trainers.
- More guidance about timing and frequency of learning sessions and TA.
- Smaller number of collaboratives (3) per state.
- Recruitment period lengthened and Trainers encouraged to support.
- Allowed to recruit programs with 50+ children but continue focus on programs with high proportion of low income/subsidy children.
- First rural collaborative.

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Cohort 2, Phase 2 (Fall ‘14 – Spring ‘15)

- 3 Collaboratives each in first six states (AZ, FLA, IN, KS, MO, NJ)
- Curriculum redesigned and repackaged.
- Train Project Coordinators, they train Trainers.
- More guidance about timing and frequency of learning sessions and TA.
- Smaller number of collaboratives (3) per state.
- Recruitment period lengthened and Trainers encouraged to support.
- Allowed to recruit programs with 50+ children but continue focus on programs with high proportion of low income/subsidy children.
- 24 sites randomly selected for pre-post observation using a standardized tool to determine if changes actually occur in HEPA/breastfeeding.
- Sustainability planning.

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Making School A *Moving* Experience:

A Physical Activity Success Story from Delaware

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Make School a *Moving Experience*

- **Goal: To support partner schools in providing students with at least 150 minutes of MVPA a week**
- **How is this achieved? Each school creates its own combination of**
  - Physical education
  - Classroom activities
  - Recess activities
  - Other adaptations to schedule

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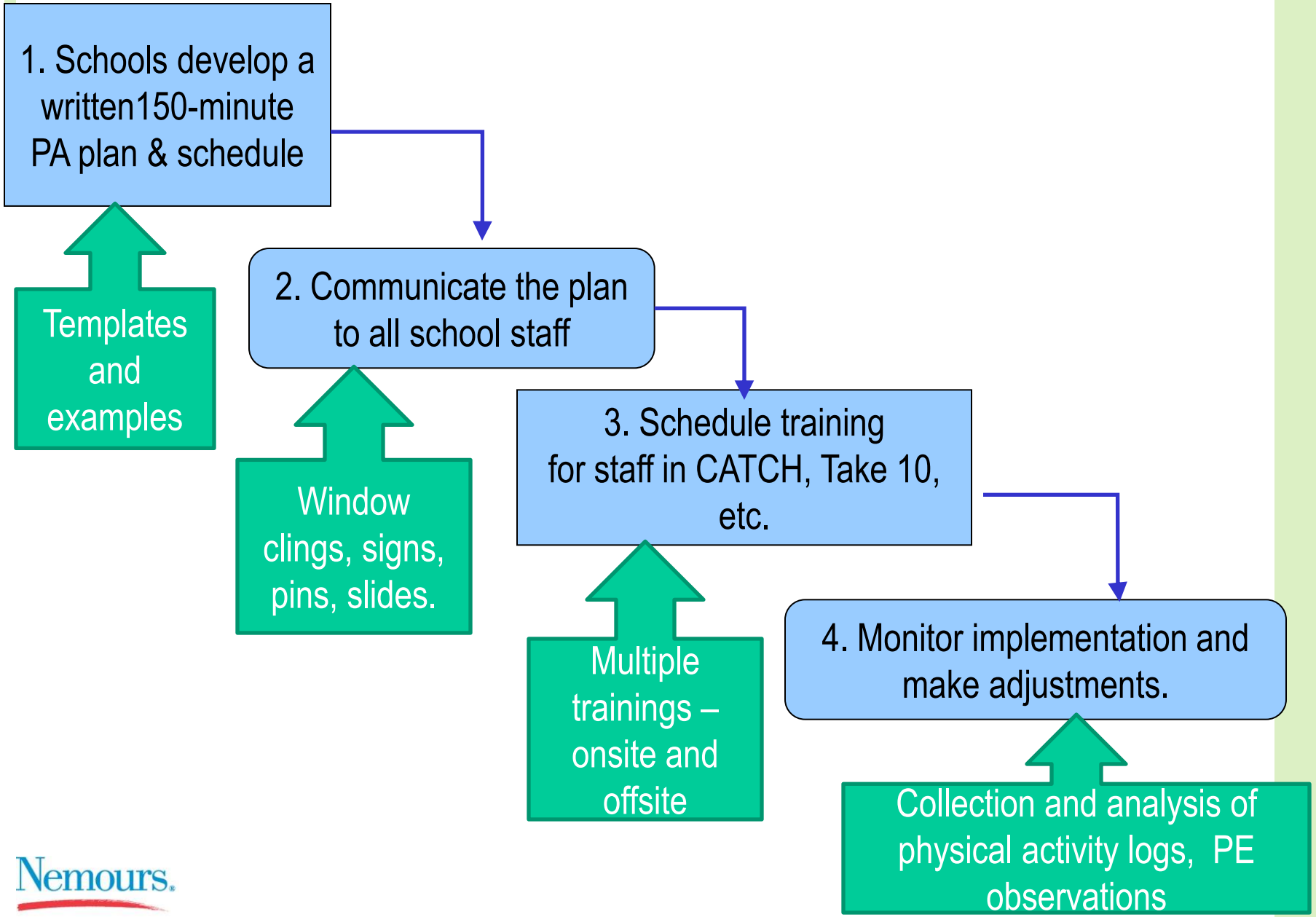
What is the Process?



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What supports does NHPS provide?

- **Technical assistance to create a PA plan and schedule**
- **Materials for evidence-based program**
  - CATCH – increase MVPA in PE class
  - Take 10! – integrate MVPA into the curriculum
  - CATCH Kids Club – increase MVPA in the after-school setting
- **Professional development to implement these programs**
- **E-newsletters and access to online resources**
- **Monitoring and evaluation data**

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Where we were at the end of the grant period

- Active partnerships with 13 school districts and their wellness councils
- 74 public elementary schools (~72%) voluntarily incorporating 150 minutes of physical activity into the school week
- 40,000+ students participating in increased physical activity at school
- 2,000+ teachers/staff trained to provide physical activity

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Coordinated Approach To Child Health
CATCH®

Delaware Small Communities Community Transformation Grant

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Community Transformation Overview

The overarching purpose CTG is to reduce the prevalence of:

- heart attack,
- stroke,
- cancer,
- diabetes and
- other leading chronic disease-related causes of death or disability

Delaware Small Communities Grant Objectives for targeted communities

- Increase active living.
- Increase healthy eating.
- Increase social/emotional wellness

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Increased Nutrition Through:

- **Building on district wellness policies to increase strength and breadth of nutrition sections of district policy**
- **Creating nutrition promotion plans for all schools including messaging, connecting with families and students**
  - Food of the Month
  - Taste testing
  - Focus groups
- **Using Behavioral Economics to promote increased consumption of healthy foods and decrease plate waste**

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Increased Social and Emotional Wellness Through:

- Developing school written plans building on evidence-based practices
- Engaging parents through evidence-based and evidence-informed programs
- Mobilizing and coordinating community resources strategically to provide access to services

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Increased Active Living Through:

- **Supporting evidence-based practices in the classroom**
  - CATCH
  - Energizers
- **Building on district wellness policies to increase strength and breadth of active living sections**
- **Augmenting school-wide activities and physical activity plans**
- **Implementing high school active living plans**

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The Student Health Collaboration

IMPROVING COMMUNICATION. ENHANCING STUDENT HEALTH.

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Transforming Care Coordination through School Nurse Collaboration

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Background

Guided by aims of optimizing health outcomes for children, enhancing the patient experience and reducing costs , Nemours – a children's hospital system, identified opportunities for collaboration to enhance communication among members of the healthcare community.

School systems presented a compelling opportunity to collaborate on an innovative continuum of care model.

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Program Description

- **School nurses provide essential medical care to children while in school. Many of these children have complex medical conditions that require careful management and care coordination. Unfortunately, school nurses are currently not routinely recognized as part of the care team.**
- **Recognizing this problem, a multi-disciplinary team was formed to develop a way to facilitate the exchange of medical/education information between school nurses, primary and specialty clinicians and families.**
- **The three main goals of this work include:**

1) Improved communication with Nemours clinicians
2) Enhanced access to health information of their students/ Nemours patients
3) Recognition of school nurses as part of the child's healthcare team.

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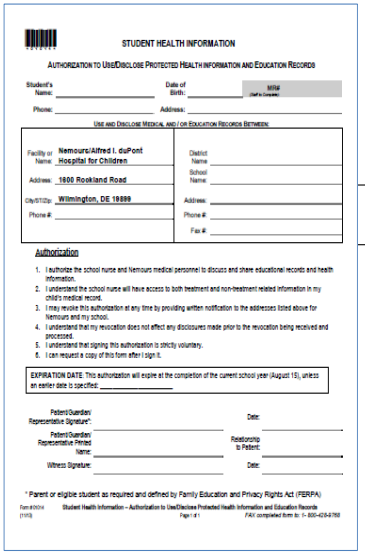
Communication Pathway

AUTHORIZATION FORM



STUDENT HEALTH INFORMATION

AUTHORIZATION TO USE/DISCLOSE PROTECTED HEALTH INFORMATION AND EDUCATION RECORDS

Student's Name: _____ Date of Birth: _____ MRN

Phone: _____ Address: _____

USE AND DISCLOSE MEDICAL AND / OR EDUCATION RECORDS BETWEEN:

Facility or Name: Nemours/Alfred I. duPont Hospital for Children
Address: 1600 Rockland Road
City/ST/Zip: Wilmington, DE 19899
Phone #: _____

District Name: _____
School Name: _____
Address: _____
Phone #: _____
Fax #: _____

Authorization

1. I authorize the school nurse and Nemours medical personnel to discuss and share educational records and health information.
2. I understand the school nurse will have access to both treatment and non-treatment related information in my child's medical record.
3. I may revoke this authorization at any time by providing written notification to the addresses listed above for Nemours and my school.
4. I understand that my revocation does not effect any disclosures made prior to the revocation being received and processed.
5. I understand that signing this authorization is strictly voluntary.
6. I can request a copy of this form after I sign it.

EXPIRATION DATE: This authorization will expire at the completion of the current school year (August 15), unless an earlier date is specified: _____

Patient/Guardian/Representative Signature*: _____ Date: _____

Patient/Guardian/Representative Printed Name: _____ Relationship to Patient: _____

Witness Signature: _____ Date: _____

* Parent or eligible student as required and defined by Family Education and Privacy Rights Act (FERPA)

Student Health Information – Authorization to Use/Disclose Protected Health Information and Education Records

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FAX completed form to: 1- 800-429-6768

SCHOOL NURSE
(currently only Delaware)

(Nurse)
Fax to
Nemours
Informatics

NEMOURS CLINICIANS

(Abstractor)
Fax to
Nemours
Informatics

NemoursLink

Sent to Health Information Management - EPIC

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Utilization Data

- **100% of Delaware's public school districts (19/19)**
- **64% of Delaware's charter schools (14/22)**
- **24% of Delaware's private schools (8/33)**
- **48% of Delaware's diocese schools (10/21)**

- **235 school nurses with user agreements**
- **Targeting children with chronic or complex conditions:1,503 students enrolled (as of 5/19/14)**
- **Up to 476 unique patients records accessed per month**

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*All school districts/schools are required to complete partner and user agreements with Nemours to participate.

Evaluation –School Nurse Survey

- **Nurses reported that:**
- **They are making better use of their time**
- **Time not spent trying to get health information can be spent doing other things**
- **It is easy to get needed medical and treatment information**
- **It is easier to get protected health information for their students from Nemours than other community providers**

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Lessons Learned/ Future Plans

Lessons learned;

- ✓ integrated care champions are key
- ✓ don't recreate – use systems already in place
- ✓ provide education and understanding, especially about the role of the school nurse
- ✓ establish buy-in–*what's in it for me?*
- ✓ form committees to guide the work
- ✓ get parental feedback on communication products
- ✓ conduct face-to-face meetings between school nurses and clinical staff which builds a rapport and collaboration between the two groups to provide the best possible care for their patients.

Future Plans:

- The main focus over the next year is to ensure all school nurses in the state have an opportunity to participate, including all public, private/parochial and special needs schools, as well as use quality improvement measures to improve health outcomes for all students and improve health communications among the families and health care providers.
- We are currently fielding a pre-post survey with parents and guardians to measure perceived changes in health-related quality of life, parent opinions about the program and their child's health, as well as days of work missed due to child's illness.
- In addition, data on health care utilization and school-related behaviors (e.g., academic achievement and attendance) are being tracked longitudinally using EMR and school electronic records data.

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