

# GLIDES PROJECT

## GuideLines Into DEcision Support

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the Agency for HealthCare Research and



# Overview

- Intro
  - Project goals
- Project organization
- Knowledge transformation
- Implementation - Yale sites
- Implementation - Nemours sites
- Evaluation

# GLIDES Steering Group



- Rick Shiffman *Project Director*
- Mark Dixon *Project Manager*
- Paula Burns *YNHH IS&T*
- Leora Horwitz *Evaluation (Yale)*
- Ian Nathanson *Nemours Lead*
- Gabriela Ramirez *Evaluation (Nemours)*
- David Milov *Nemours Information Systems*



**AHRQ**  
Project Officer - White  
Contracting Officer - Zuhlke

**Project Director - Shiffman**

**Decision Support Council**  
Project Director - Shiffman  
Project Mgr - Dixon  
Nemours Lead - Nathanson  
YNHH IS&T - Burns  
Nemours CMIO - Milov  
Evaluation Leaders:  
Horwitz  
Ramirez

**Guideline Transformation Group**  
Group Leader - Shiffman  
Project Manager - Dixon  
XML Programmer - Michel  
Informatics Fellow - Lomotan  
IS&T Chief - Burns  
Clinical Experts:  
Bazzy-Asaad  
Tolomeo  
Fenick  
Caprio  
Banasiak  
Werk  
Fenick  
Bilskis  
Cunningham

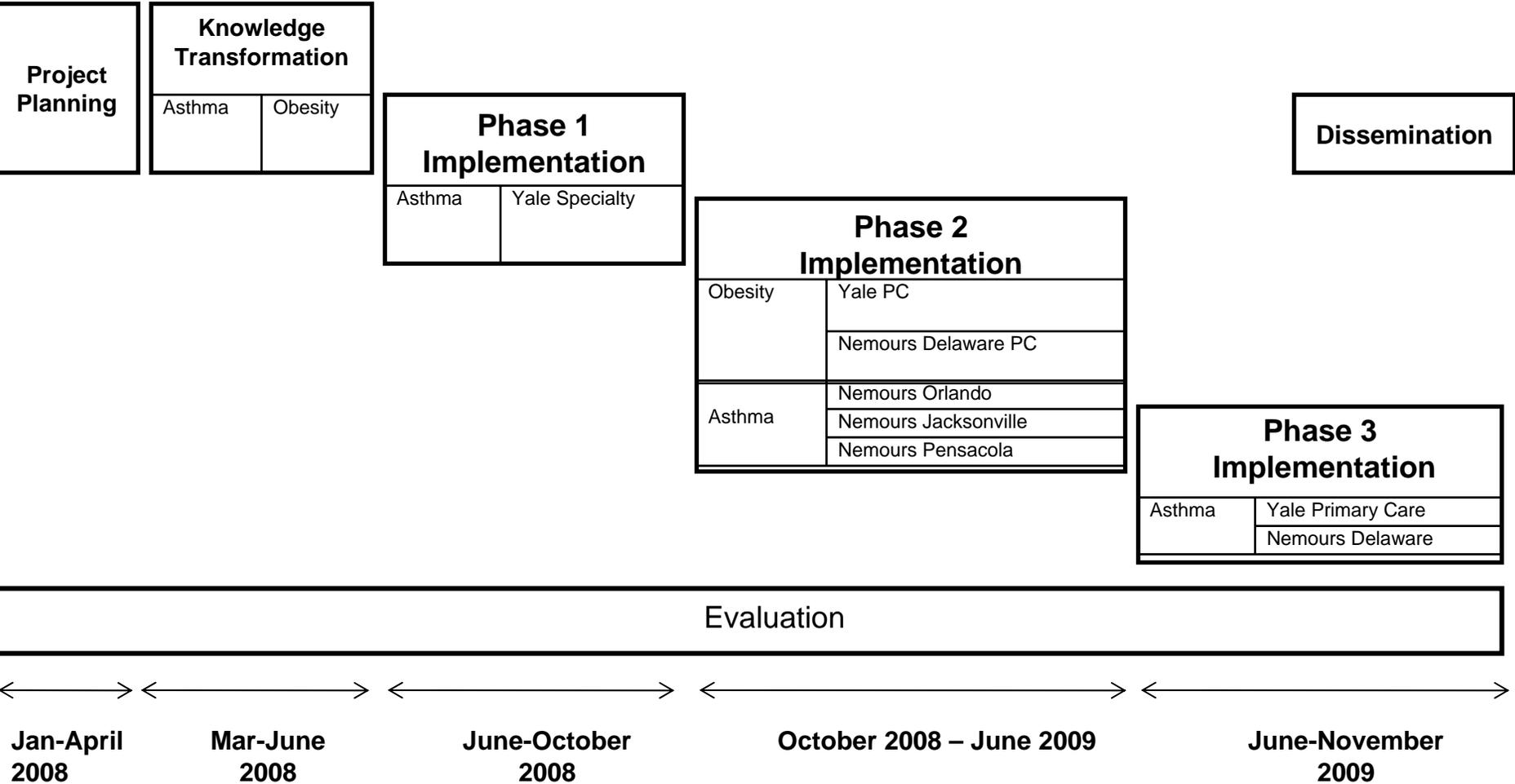
**YNHH Implementation Group**  
Group Leader  
Project Manager - Dixon  
**Technical Sub-Group**  
IS&T Chief - Burns  
Centricity Team Leader - Simonette  
Programmers: Bonilla, Atamanuk  
**Clinical Sub-Group**  
Bazzy-Asaad  
Tolomeo  
Fenick  
Banasiak  
Bilskis  
Cunningham  
Residents  
CMIO - Hsiao

**Nemours Implementation Group**  
Group Leader - Nathanson  
Project Manager - Dixon  
**Technical Sub-Group**  
Chief, Medical Informatics - Milov  
Epic Team Leader  
Programmer  
**Clinical Sub-Group**  
Nathanson  
Werk  
Hassink  
User(s)/Tester(s)

**Evaluation Group**  
Group Leader - Horwitz  
Project Manager - Dixon  
Yale Evaluation Lead - Horwitz  
Nemours Evaluation Lead - Ramirez  
Nemours Evaluation Coordinator(s)  
Yale Research Asst -  
Evaluation Consultant - Justice

**Finance**  
Eileen Soto  
John Beecher  
Nemours Finance  
Yale G&C Finance

# Project Plan Overview





# Goals 1 and 2

- Implement evidence-based guideline recommendations that address both preventive practices (**pediatric overweight and obesity**)<sup>1</sup> and complex management of chronic disease (**asthma**)<sup>2</sup>.
- Apply the Guideline Elements Model and its associated tools (GEM Cutter, EXTRACTOR, COGS, GLIA) **to systematically and replicably transform the knowledge** contained in these guidelines into a computable format.

<sup>1</sup>CDC, AMA, HRSA/MCHB. *Pediatrics* 2007; 120: Suppl 4.

<sup>2</sup>NHLBI NAEP. *Expert Panel Report 3*; 2007.

QuickTime™ and a  
TIFF (LZW) decompressor  
are needed to see this picture.

# GEM

- Knowledge model for guideline documents
- Adopted as a standard by ASTM in 2002, 2006
- Models heterogeneous information contained in guidelines
  - Multi-level hierarchy (>100 elements)

# Knowledge Transformation



1. Select guidelines and recommendations
2. Mark up selected guidelines using GEM Cutter II
3. Perform guideline quality appraisal with GEM-COGS
4. Apply EXTRACTOR to GEM files  
=>recommendations, rules, decision variables, actions
5. Restate recommendations in human-readable statement logic
6. Categorize action-types
7. Map concepts in recommendations to SNOMED codes
8. Add critical terms to recommendation glossary
9. Classify recommendations by clinical objective
10. Identify obstacles to implementation with GLIA



## Goal 3

**Deliver the guideline knowledge via electronic decision support** interventions at ambulatory sites that employ CCHIT- certified, widely-used EHR systems:

- Centricity EMR
  - Yale New Haven Hospital's Primary Care Center
  - Yale Specialty Clinics
- EpicCare
  - Nemours primary care practices (Delaware Valley)
  - Nemours specialty clinics (Orlando, Jacksonville, Pensacola)

# Yale New Haven Hospital



# Local Implementation



1. Select recommendations to implement
2. Define local workflow
3. Define intervention triggers
4. Map guideline concepts to local vocabularies
5. Choose appropriate decision support interventions
6. Design and programming
7. Testing
8. Rollout
9. Monitor and support

# Nemours



- Healthcare system dedicated to children
- >400 MDs and 4100 staff
- AIDHC; planned NOCH
- Multi-specialty practice sites in  
Wilmington, DE, PA, NJ  
Orlando, Jacksonville, Pensacola
- ~1 million encounters/yr

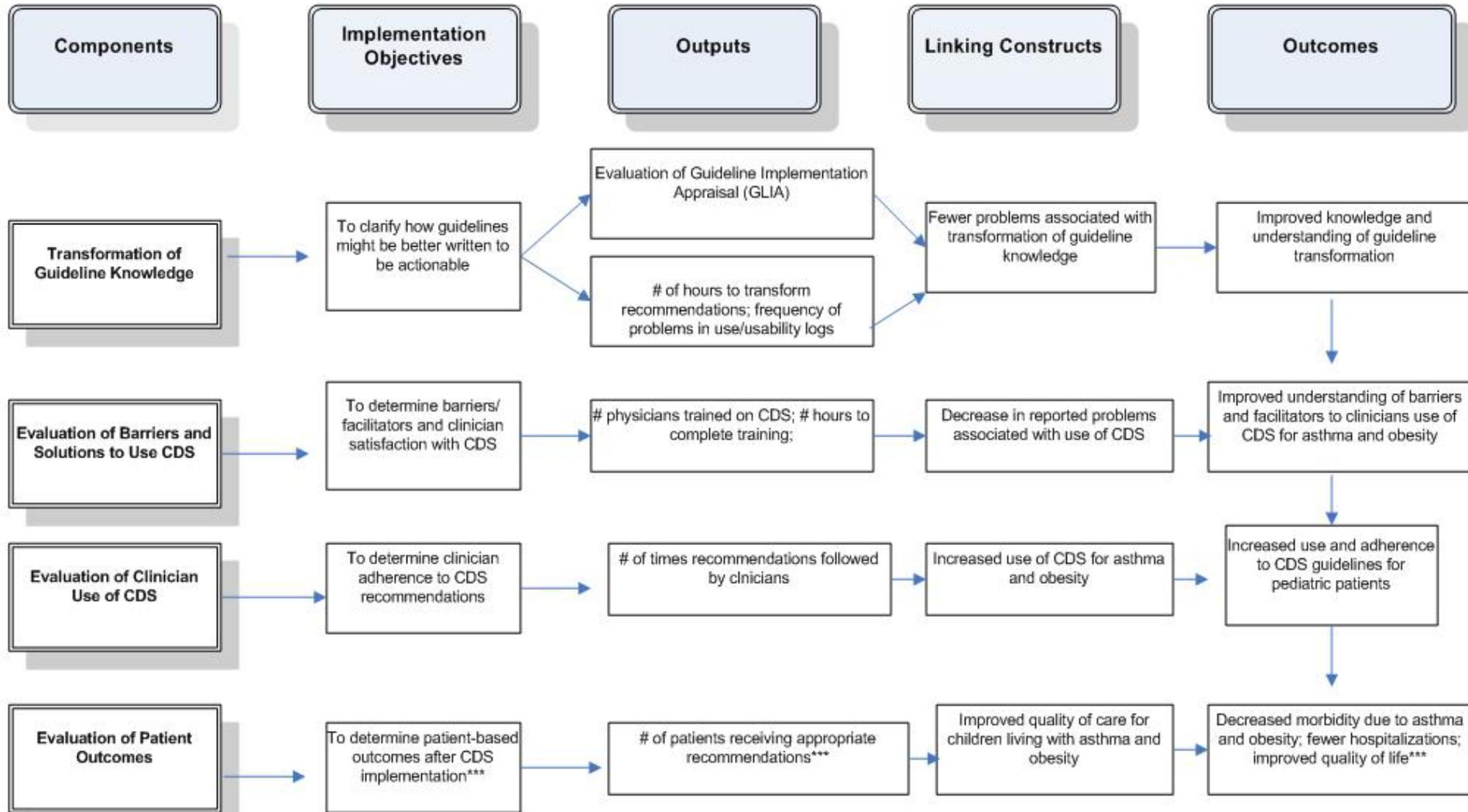




## Goal 4

**Evaluate** the fulfillment of knowledge transformation goals and the effectiveness of the decision support tools in improving the quality of health care.

# Logic Model





# Evaluation Plan

1. Perform literature review: asthma, obesity, and DSS
2. Define pre- and post-intervention variables
3. Design evaluations of process and outcomes
  - Yale PCC
  - Yale specialty
  - Nemours specialty (Florida)
  - Nemours primary care (Delaware Valley)
4. Prepare IRB, PRA materials
5. Create and install Use and Usability logs
6. Collect data on processes and outcomes affected by DSS
7. Analyze data
8. Clinician survey
9. Prepare reports

Domain	Indicators	Source
Structure	<p>Clinician training in CDS use</p> <p>Clinician knowledge and attitudes about CDS</p> <p>Organizational structures (Size of organization, staffing patterns, physical space and layout, equipment availability and usability)</p> <p>Guideline quality</p>	<p>Clinician survey</p> <p>Site visit, observation</p> <p>COGS, GLIA</p>
Process	<p>Clinician satisfaction with CDS system</p> <p>Vendor feedback process</p> <p>Clinician use of CDS</p> <p>Adherence to recommendations</p> <p>Data feedback (e.g. frequency, type of data, perceived validity) for clinicians</p>	<p>Identified participant interviews</p> <p>Vendor feedback log</p> <p>Rapid cycle, data-based process checks / Retrieval of clinical data</p> <p>Rapid cycle, data-based process checks</p>
Outcomes	<p>Quality of life</p> <p>Clinical outcomes (utilization, clinical variables)</p>	<p>Electronic patient survey (Nemours)</p> <p>Retrieval of Clinical Data</p>



# Goal 5

**Disseminate the findings** of the demonstrations in a variety of formats, including direct recommendations to guideline developers and IT vendors.

Scheduled and planned dissemination activities

Website <http://nutmeg.med.yale.edu/glides> (private and external)

AAP Partners for Policy Implementation (2/08)

Meeting of national professional societies-AHRQ (3/08)

New York City Dept. of Health (5/08)

Interim Report to CCHIT (9/08)

Guidelines International Network (9/08)

AMIA panel (11/08)

Final Report to CCHIT (6/09)

***THANK YOU***

<http://gem.med.yale.edu/glides>

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