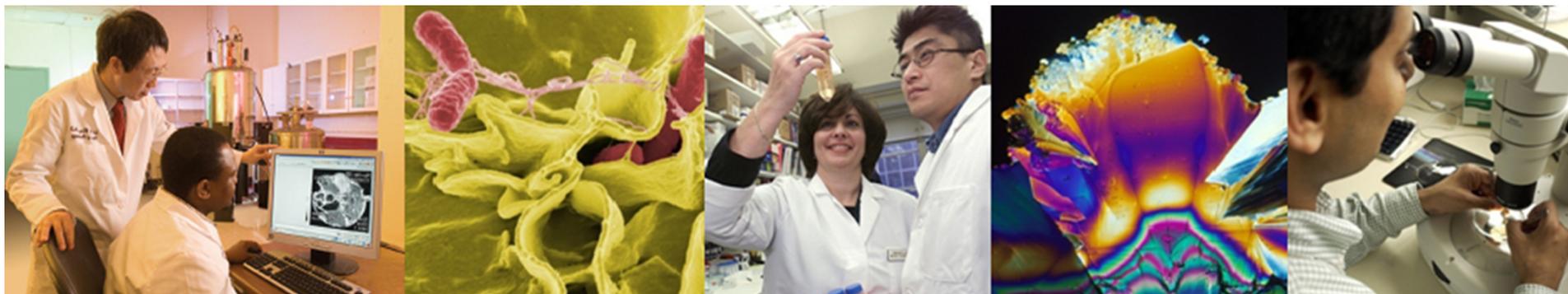


Environmental influences on Child Health Outcomes (ECHO) Program

Funding Opportunity Announcements Webinar

February 1, 2016



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Department of Health and Human Services



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ECHO Program: Overview

■ **Overarching Goal**

- Investigate the longitudinal impact of pre-, peri-, and postnatal environmental exposures on pediatric development and health outcomes with high public health impact through leverage of extant cohorts and other available resources

■ **Core Elements to be Collected From all Participants**

- Demographics
- Typical early health and development descriptors
 - Optional Sub-Element: Microbiome
- Genetic influences on early childhood health and development
 - Optional Sub-Element: Epigenetics
- Environmental exposures (e.g., behavioral, biological, chemical, social)
- Patient/Person (parent and child) Reported Outcomes (PROs)

ECHO Plan: Overview (cont'd)

- **Pediatric Health Outcome Focus Areas**
 - Upper and lower airway
 - Obesity
 - Pre-, peri-, and postnatal outcomes
 - Neurodevelopment
- **Additional Opportunity**
 - Create an IDeA States Pediatric Clinical Trials Network
 - Address access gaps for rural and medically underserved children through a national network for pediatric research embedded at IDeA locations
 - Link institutions in IDeA states with experts in clinical trials

ECHO Plan: Potential Research Questions that Could be Addressed

- What are the specific relative contributions of genetic and environmental (behavioral, biological, chemical, social, etc.) influences on child health?
- What factors render individuals or populations subjected to the same exposures as resilient or susceptible to disease? Do these differ over time, and by sex/gender, race/ethnicity, and/or SES?
- What are the inflection points at which the body's normal physiologic homeostasis becomes dysregulated, leading to chronic disease(s)?
- What are the molecular and behavioral mechanisms involved in maintaining a healthy weight across the lifespan?
- What are the genetic, biomarker, and environmental predictors of risk for the key focus areas of childhood outcomes?

ECHO Program Elements

- Pediatric Cohorts
- Coordinating Center (CC)
- Data Analysis Center (DAC)
- PRO Core – leveraging PEPR
(started in FY15 with NCS funds)
- CHEAR Core – leveraging CHEAR
(started in FY15 with NCS funds)
- Genetics Core (FY17)
- IDeA States Pediatric Clinical Trials Network
 - IDeA Clinical Sites
 - IDeA Data Coordinating and Operations Center (DCOC)



ECHO Program Element: Pediatric Cohorts [RFA-OD-16-004]

- **Characteristics of cohorts (not limited to):**
 - Cohorts initiated in pregnancy or post-partum that continue to follow offspring outcomes
 - Cohorts that ended data collection on pregnant women and offspring, but can demonstrate the capability to recontact
 - Cohorts that are currently recruiting and/or assessing pregnant or post-partum women and their offspring
- **Additional items that may be considered by applicants:**
 - Electronic Health Records are encouraged, but not required
 - Basic mechanistic studies that can only be done using extant pediatric cohorts are encouraged
- **Two phases: UG3/UH3**
- **Anticipated Combined Cohort Size: ~50,000**

ECHO Program Element: Coordinating Center [RFA-OD-16-006]

- Responsible for:
 - Administrative coordination, training, and communication
 - Developing standard Core Elements
 - Coordinating statistical analysis with DAC/CHEAR/PRO Cores
 - Assisting DAC administratively
 - Developing and implementing policies (e.g., data sharing)
 - Coordinating with existing bio-repositories
 - Administering the Opportunities and Infrastructure Fund
 - Coordinating the functions of the Steering Committee and the External Scientific Board
- 4 Components
- Applicants are encouraged to apply for the CC and DAC

ECHO Program Element: Data Analysis Center [RFA-OD-16-005]

- Responsible for:
 - Developing and applying novel analytic methods for combining and analyzing existing and new longitudinal data from disparate extant cohorts
 - Data quality control and assurance, and validation
 - Conducting multi-level analyses on pooled consortium data
 - Bioinformatics and statistical analysis with the help of the CC to coordinate with the CHEAR, PRO, and Genetics Cores
 - Building and maintaining data dictionaries and databases
 - Developing a data sharing, security, and dissemination plan
- Applicants are encouraged to apply for the CC and DAC

ECHO Program Element: PRO Core [RFA-OD-16-003]

- Responsible for:
 - Providing expertise in selecting, developing, and validating child PROs (cPROs)
 - Updating existing and validating emerging cPROs
 - Assisting with the incorporation of cPROs into study design (i.e., Core Elements)
 - Coordinating the mode of administration
 - Performing initial quality control and assessment of cPRO data
 - Assisting the DAC with cPRO data analysis, where applicable
 - Integrating Validation of Pediatric Patient Reported Outcomes in Chronic Diseases (PEPR) derived knowledge and resources with the ECHO PRO Core

ECHO Program Element: CHEAR Core

[PA-16-046]

- Expand upon an existing resource – Children’s Health Exposure Analysis Resource (CHEAR)
 - Network of laboratory hubs supporting comprehensive exposure analysis of biological samples
- Responsible for:
 - Conducting targeted and untargeted analysis of stored and prospectively collected biological samples
 - Providing statistical and data flow support and coordination with the DAC
 - Assisting with the incorporation of exposure assessment into study design (i.e., Core Elements)
 - Coordinating workflow with the CC and DAC
- Use strongly encouraged, but standardized methods will be required
- Very low cost or free to ECHO investigators

ECHO Program Element: Genetics Core

- Responsible for:
 - Coordinating the standardized collection and measurement of genetic samples for SNP-chip analysis through state-of-the-art techniques
 - Collaborating with the CC and DAC on data workflow
 - To be released in FY17

ECHO Program Element: IDeA Clinical Sites and DCOC [RFA-OD-16-001/002]

IDeA Clinical Sites

- Expand pediatric clinical trials initiated by other entities
- Studies initiated within the Network are encouraged
- Local teams will receive training on conducting trials
- Open to organizations in IDeA states

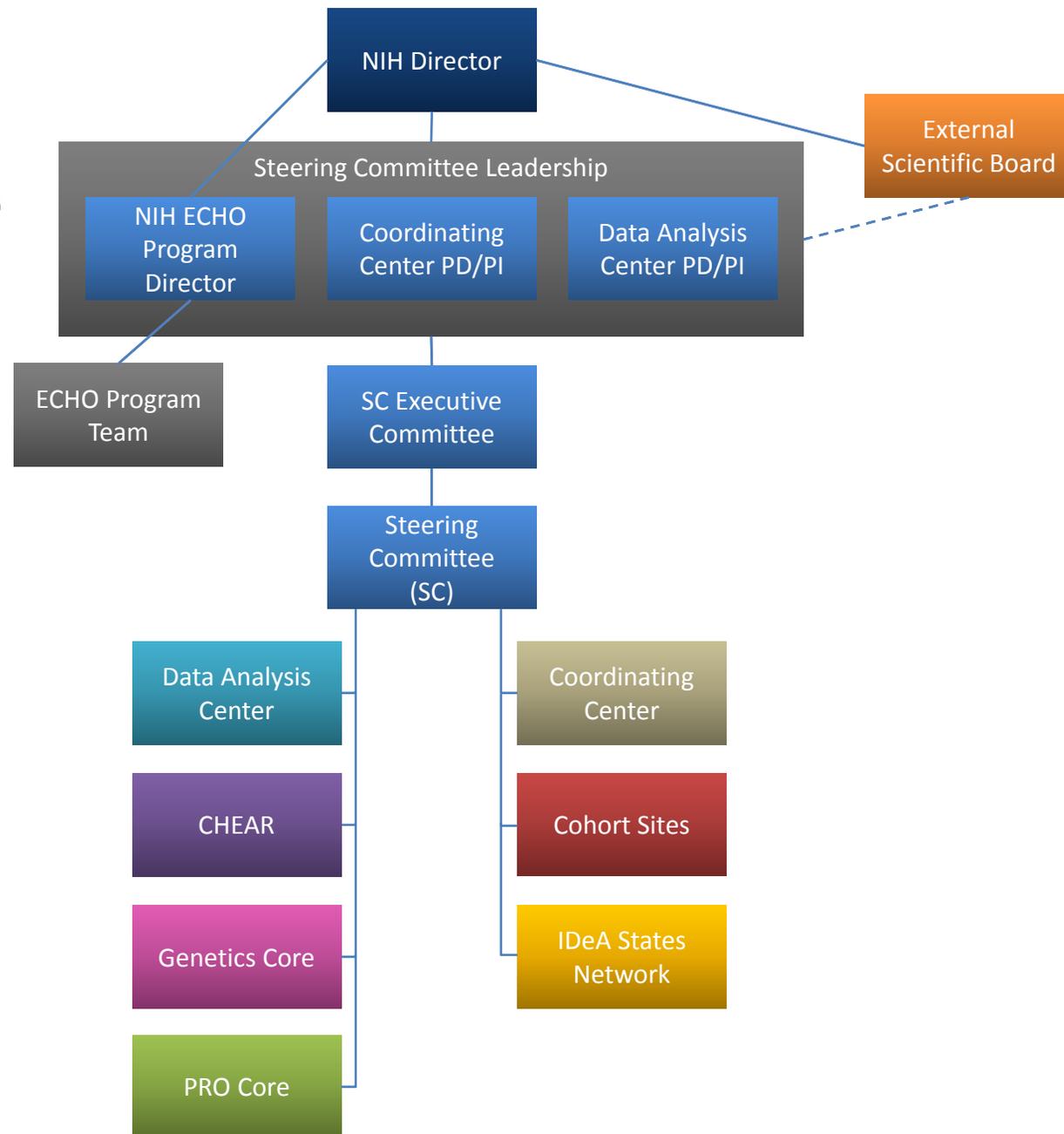
IDeA DCOC

- Point of contact, and oversight and training responsibilities
- Function as an informatics, data coordinating, and operations center for clinical trial implementation
- Funding for capitation fees and expenses
- Steering Committee
- Open to organizations with a partner in an IDeA state

ECHO Program Elements: IDeA States Pediatric Clinical Trials Network

- Linkage to ECHO
 - Prioritize research investigating the four ECHO Focus Areas
 - Prospective data collection encouraged to address the ECHO Core Elements
 - Representatives on ECHO Steering Committee and subcommittees

Structure and Governance



ECHO Program Timeline

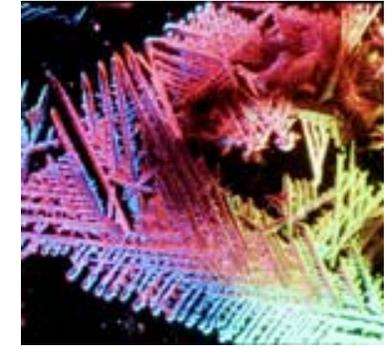
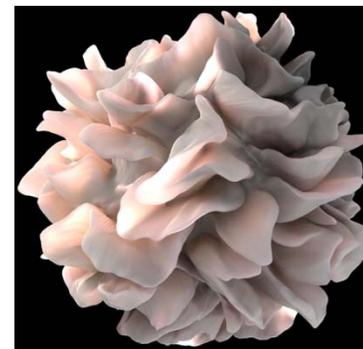
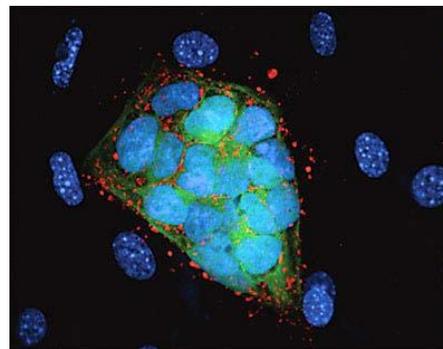
Action	Timeframe
<i>Call with HHS</i>	<i>July 10th</i>
<i>Meet with stakeholder groups to solicit input</i>	<i>July</i>
Stakeholder Roundtables	July 14-15
<i>Conduct webinars</i>	<i>July 22, 27, 29</i>
<i>Craft and analyze RFI</i>	<i>July</i>
Release/Publish RFI	July 13
Analyze RFI	Early August
<i>Craft RFA concept/plan</i>	<i>By 9/1/15</i>
<i>Present concept for clearance by Council of Councils</i>	<i>9/1/2015</i>
<i>Craft FOAs</i>	<i>September - October 2015</i>
<i>All FOAs with OER for review</i>	<i>11/1/2015</i>
Publish notices, if necessary	December-15
<i>RFAs published in the Guide</i>	<i>December 2015</i>
<i>Letters of Intent due</i>	<i>3/15/2016</i>
<i>Applications due</i>	<i>4/15/2016</i>
<i>Peer review of applications</i>	<i>Summer 2016</i>
<i>Council review of applications completed</i>	<i>9/30/2016</i>



NIH...

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Turning Discovery Into Health



Development Process

ICO Working Group

- 16 ICOs with at least one representative
 - NCI, NHLBI, NIAAA, NIAID, NIAMS, NIBIB, NICHD, NIDA, NIDCR, NIDDK, NIEHS, NIGMS, NIMH, NINDS, OBSSR, ORWH
- Co-led by Dr. Lawrence Tabak, NIH Principal Deputy Director and Dr. Janine Clayton, Director, ORWH
- Helped develop the details of the plan, coordinate outreach activities, craft the FOAs, address questions from applicants

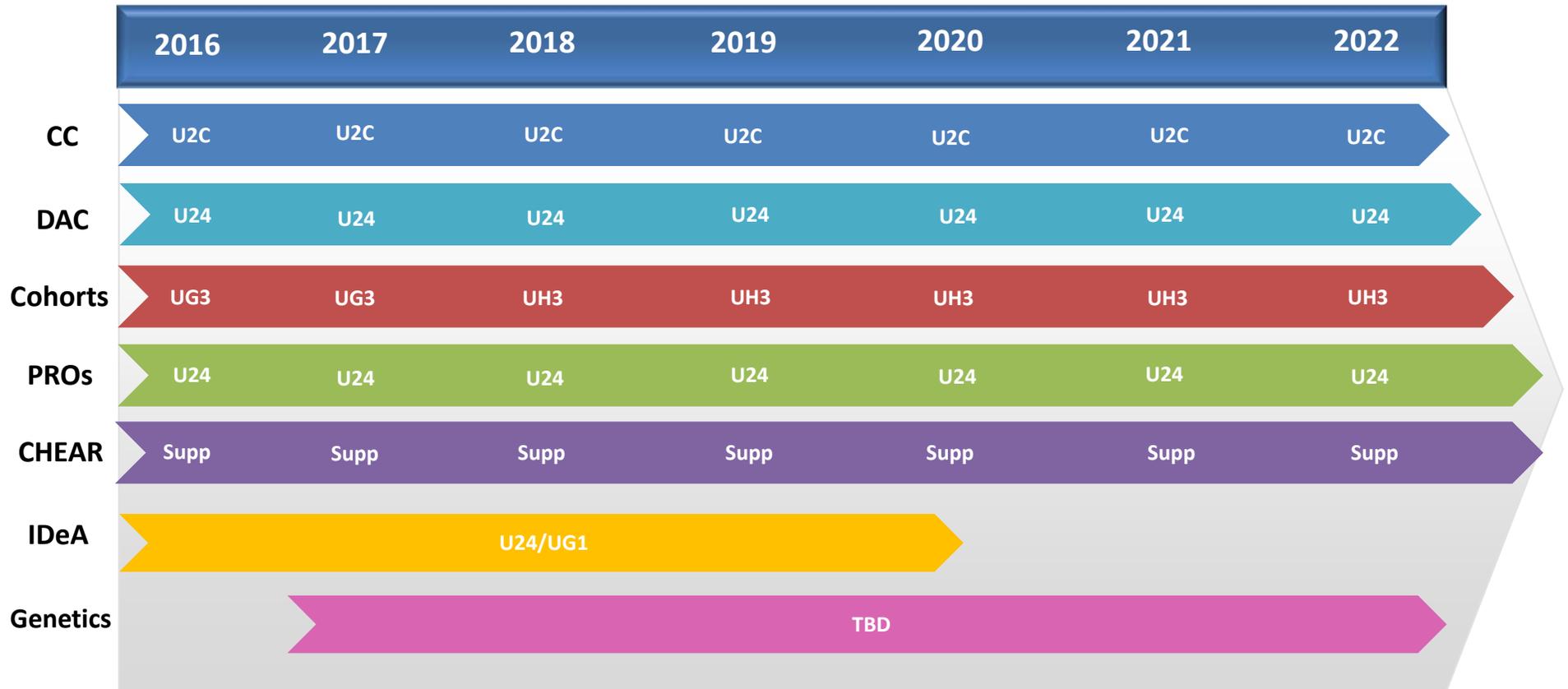
Feedback from the Community

- **Stakeholder Roundtables – July 2015**
 - Over 20 pediatric, environmental health, epidemiology, and other advocacy groups
- **Webinars (3) – July 2015**
 - ~400 participants total
- **RFI – Closed August 2015**
 - ~190 responses
- **Summary of Comments**
 - Pregnancy/prenatal time period should be a key feature
 - Include basic research and training
 - Importance of standardizing and harmonizing data
 - Generally positive about IDeA States network
 - Many questions on eligibility of specific cohorts

ECHO Program: Structure and Governance

- **Steering Committee Subcommittees**
 - **Data Measurement and Sharing** – cohort sites, CC, DAC, PRO Core
 - **Biostatistics and Design** – cohort sites, CC, DAC, PRO Core
 - **Publications** – cohort sites, CC, DAC, PRO Core
 - **Focus Areas** – cohort sites, CC
 - **Project Coordinators** – cohort site coordinators, CC
 - **IDeA States Network** – IDeA states sites, IDeA states DCOC, CC

ECHO Program Projected Timeline



ECHO Program Office

- **Program Director/Office**
 - Interim Program Director – Larry Tabak, DDS, PhD
 - Interim Associate Program Director – Tara Schwetz, PhD
 - Recruiting a permanent Program Director
 - Additional program staff (analysts)