Concept Clearance (Reissue): Dissertation and Postdoctoral Fellowship Grants for the Analysis of Publicly Accessible ECHO Data

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Concept Clearance

Concept: Reissue RFAs OD-23-019 and OD-23-020

Title: Maximizing the Scientific Value of Data Generated by the Environmental influences on Child Health Outcomes (ECHO) Program (R36/F32)

Objective/Purpose: Expand research in high-priority areas of maternal and child health by stimulating analyses of ECHO data by investigator trainees using two companion RFAs: - R36 Dissertation Grant

- F32 Individual Postdoctoral Fellowship Award

Funds Available and Anticipated Number of Awards: ECHO plans to commit ~$1,260,000 total costs over FYs 2026-2028 for up to 8 two- to three-year awards

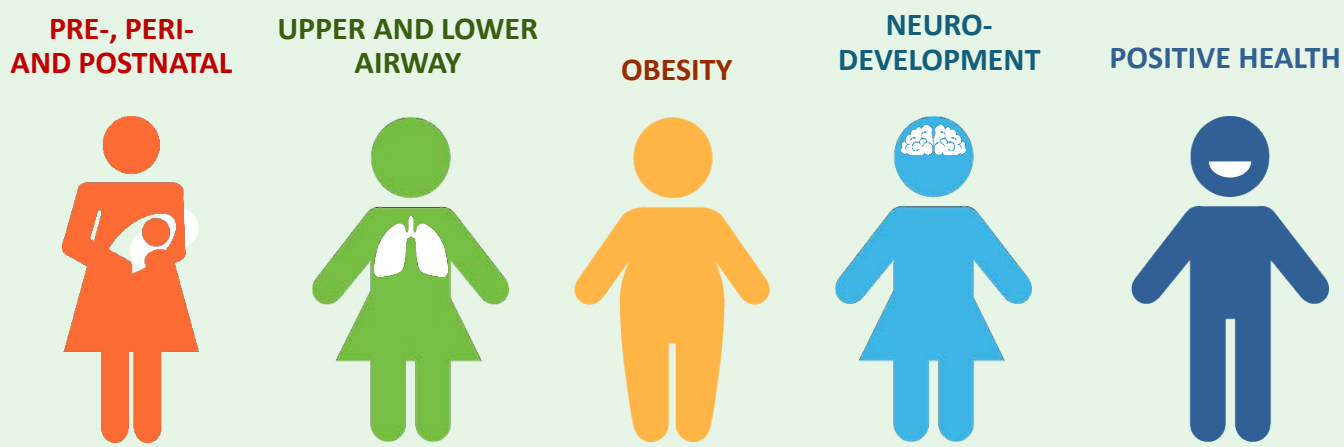
Award Project Period: 2-3 years

Council Action: Vote for approval of reissuance of the concept for Maximizing the Scientific Value of Data Generated by the ECHO Program

ECHO Misson and Focus Areas

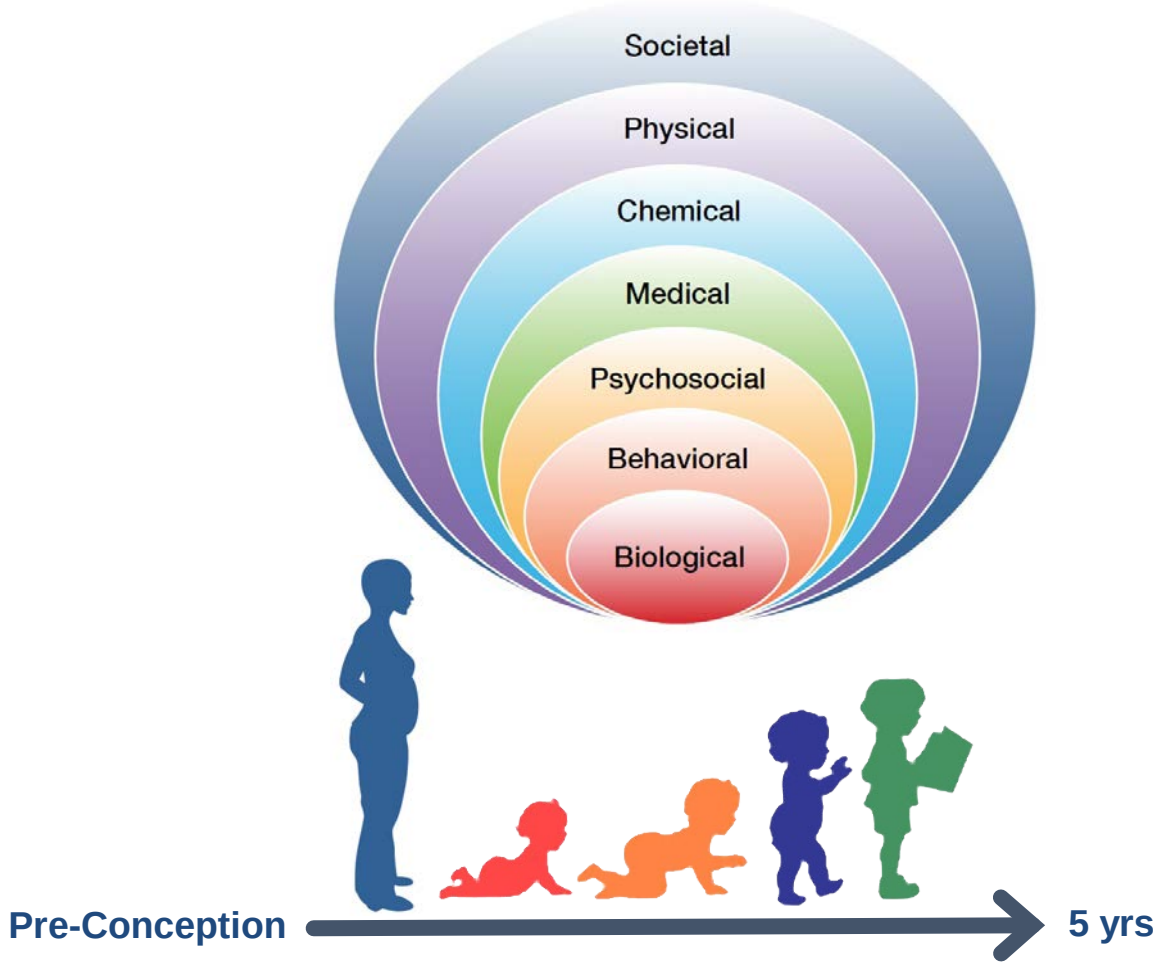
To enhance the health of children for generations to come

5 Key Areas with High Public Health Impact

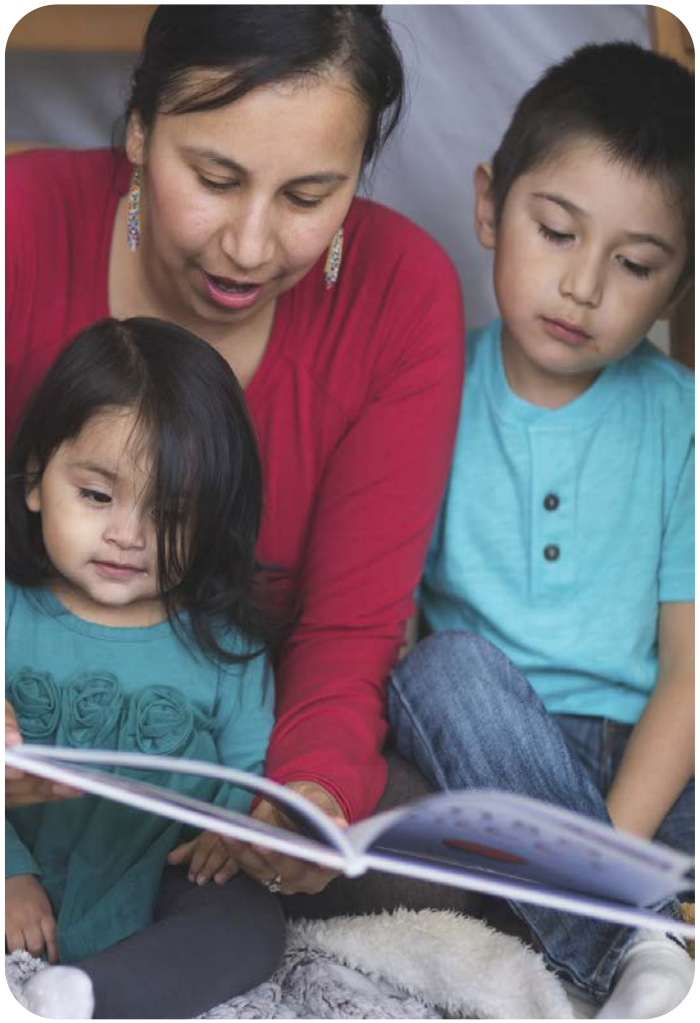


Broad Range of Early Environmental Exposures

From society to biology



ECHO Cohort Resource After Eight Years



- September 2016 – August 2023
  - Harmonized data from 107,000+ participants from ~70 pre-existing, ongoing longitudinal maternal-child studies
    - ~65,000 children
    - Extant assay data
    - >100,000 biospecimens in biorepository
- September 2023 – May 2030
  - Following up >30,000 kids
  - Recruiting >30,000 new pregnancies
    - Postpartum = preconception
      - Including partners when possible
  - Rapidly expanding data platform and biorepository
  - New biospecimen assays

ECHO Data Access

ECHO Program

- **Who:** ECHO investigators
- **What:** Contribute and access identifiable data and biospecimens
- **Where:** ECHO Data Platforms + ECHO Cohort Biorepository

UG3/UH3

Ancillary Studies

- **Who:** ECHO and non-ECHO investigators
- **What:** Can access identifiable data and biospecimens
- **Where:** ECHO Data Platforms + ECHO Cohort Biorepository

X01

NOFOs

- **Who:** Non-ECHO pre- & post doctoral trainees
- **What**: Can access de-identified ECHO data
- **Where**: NICHD Data and Specimen Hub (DASH)

R36/F32

Purpose of Concept

- This concept seeks to advance research in high-priority areas of child health outcomes by stimulating the use of ECHO data on its publicly accessible repository by the broad scientific community.
- The opportunities support training of new investigators in the analysis of large longitudinal data sets to investigate child health outcomes.

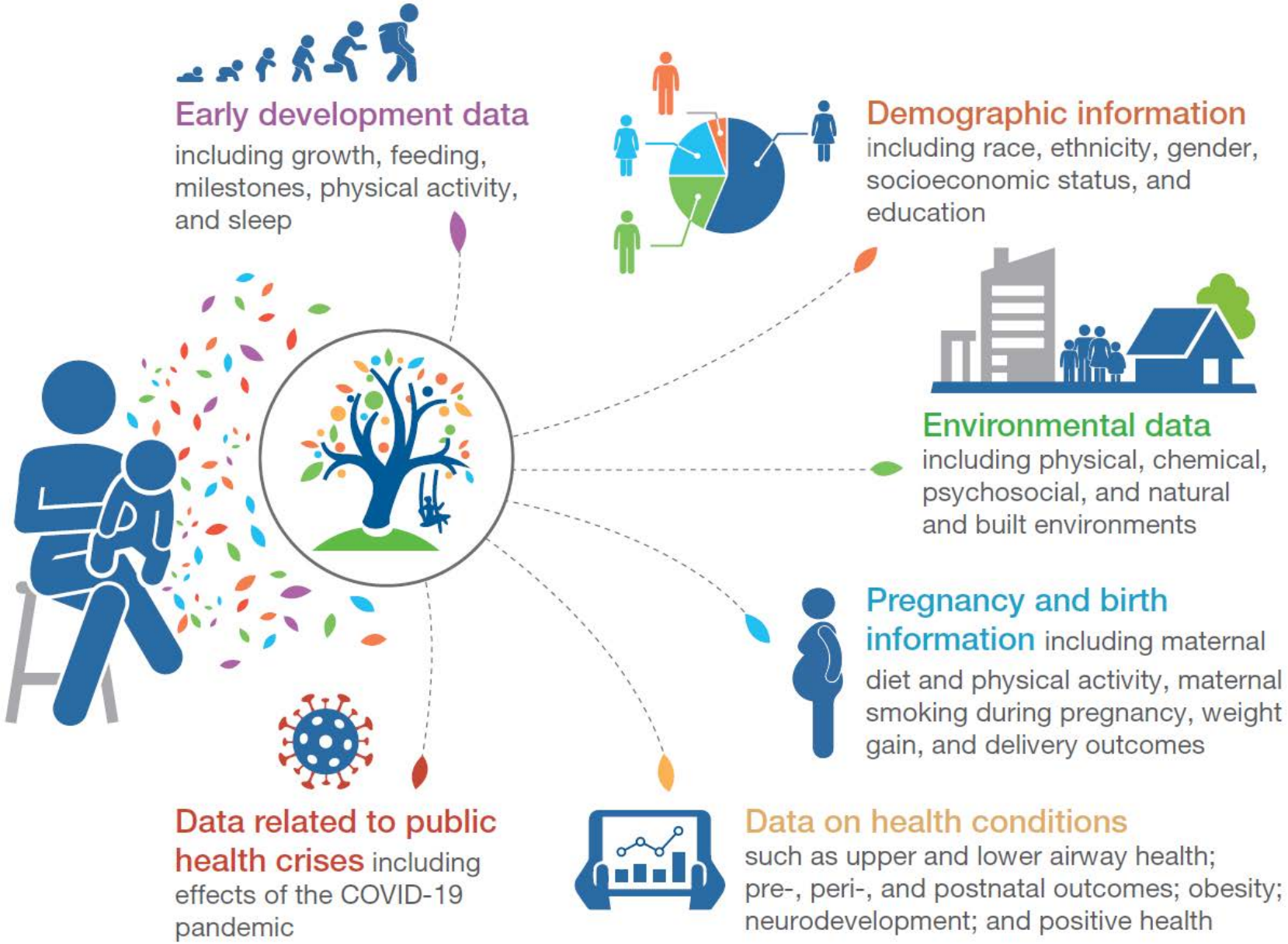
ECHO as a National Resource

Harmonized, de-identified data from the ECHO Cohort are now available in the **NICHD Data and Specimen Hub** (DASH).

- Centralized resource that allows researchers to access data from ECHO and other studies via a controlled-access mechanism
- Contains data on ~32,000 pregnancies and ~31,000 child participants
- ECHO Data Analysis Center posts new data at regular intervals

DASH Data and Specimen Hub

ECHO Cohort Data on DASH



2023 NOFOs

Maximizing the Scientific Value of Data Generated by the ECHO Program

- **RFA-OD-23-020** Dissertation Grant (R36)
- **RFA-OD-23-019** Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (F32)

Experience with 2023 NOFOs

- Applications reviewed by CSR Special Emphasis Panel 3/19/2024
- ECHO Program funded six awards (5 R36, 1 F32)

Applications Awarded for 2023 NOFOs (1)

- Charles Alvarado, Pennsylvania State University
  - Identifying neurocognitive correlates of reading impacted by adversity exposure (R36)

- Hannah Appleseth, Oklahoma State University
  - Tracing the impact of evolving environmental exposure to tobacco, cannabis, and nicotine smoke and vapor emissions on children's mental health symptom trajectories (R36)

- Mia Campbell, Johns Hopkins University
  - Understanding longitudinal trajectories of environmental factors and depression among minoritized adolescents (R36)

Applications Awarded for 2023 NOFOs (2)

- Jessie Gleason, Drexel University
  - Prenatal per- and polyfluoroalkyl substances (PFAS) exposure and associations with common childhood infections and allergies: A study of risks and resiliencies in the ECHO Program (R36)

- Mary Webb, University of Delaware
  - Influences of prenatal phthalate exposure on early childhood overweight/obesity and potentially protective dietary strategies (R36)

- Jiwon Oh, PhD, University of California at Davis
  - Prenatal exposure to endocrine disrupting chemicals and child neurodevelopmental disorders: Mediation by cytokines and DNA methylation (F32)

Program Consultation with Grantees

Biannual grantee meetings with Program Officer

- Assist with orientation to ECHO data and preparing data for analysis
- Liaison with ECHO Measurement Core and Data Analysis Center when necessary

Ongoing Evaluation of Grantees' Progress

- Completion of degree or fellowship
- Presentations at professional meetings
- Authorship on publications
- Transition to employment in field of training

Funding Opportunity Reissue

R36 Dissertation Grant

- Eligibility: Dissertation students who will have an approved proposal by start of award
- Budget: stipend and research-related costs
- Duration: 1-2 years

F32 Postdoctoral Fellowship Award

- Eligibility: Recent graduates of doctoral programs in relevant fields
- Budget: stipend, training costs, research-related costs
- Duration: 2-3 years

Examples of Potential Analyses

- Exposure-outcome associations
  - Contaminants of emerging concern during pregnancy or early childhood in relation to neurodevelopmental outcomes
  - Mother's diet and weight trajectory during pregnancy in relation to childhood obesity
  - Maternal experiences of racial discrimination in relation to preterm birth
  - Infant sleep health in relation to development of asthma, obesity, neurocognitive, and positive health outcomes
  - Early media use in relation to mental health outcomes
- Development of new methodologies for etiology and prediction

Funding Level

- Total anticipated funding ~$1,260,000
  - Inviting other institutes, centers, and offices to sign on
- Up to 8 two-year awards funded by ECHO beginning in FY2026
  - R36 award for $45,000 per year total costs for 2 years
  - F32 award for $75,000 per year total costs for 3 years

Summary

- Good response to the initial opportunities
- Reissuance of these opportunities will
  - Stimulate wider use of ECHO data
  - Increase research on high-priority areas of maternal and child health
  - Facilitate research experience and career entry of new investigators

Council Action

Council vote for approval of reissuance of the concept for Maximizing the Scientific Value of Data Generated by the ECHO Program (R36/F32)