

ECHO Program

Partnering with Stakeholder Organizations

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Office of the Director, NIH
April 21, 2021

Focus Questions

- How can we best collaborate and share information?
 - How can we best work with you to highlight our researchers' successes and sustain the momentum of ECHO?
- What are your priorities regarding child health in 2021?
 - Are there research gaps that ECHO might be positioned to address?



Agenda

- Partnering with Stakeholder Organizations
- About ECHO
 - Progress of the ECHO-wide Cohort
- Sharing ECHO Science
 - Methods and Outcomes
 - Advancing Clinical Trials in Neonatal Opioid Withdrawal (ACT NOW) Initiative
 - ECHO's COVID-19 Research: Preliminary Findings
- Discussion and Questions





Partnering with Stakeholder Organizations



How You Help Advance ECHO Research

Front End:

Identify research gaps that ECHO can address



Back End:

Disseminate results of solution-oriented research to relevant audiences,
to inform programs, policies, & practices



Upcoming Request for Information

- New RFI to be released tomorrow, April 22
- Aims to gather public input on expansion of ECHO Program science
- Need your input, and that of your members/communities
- Please
 - Provide comments by May 25
 - Help us publicize RFI
- We value your insight!



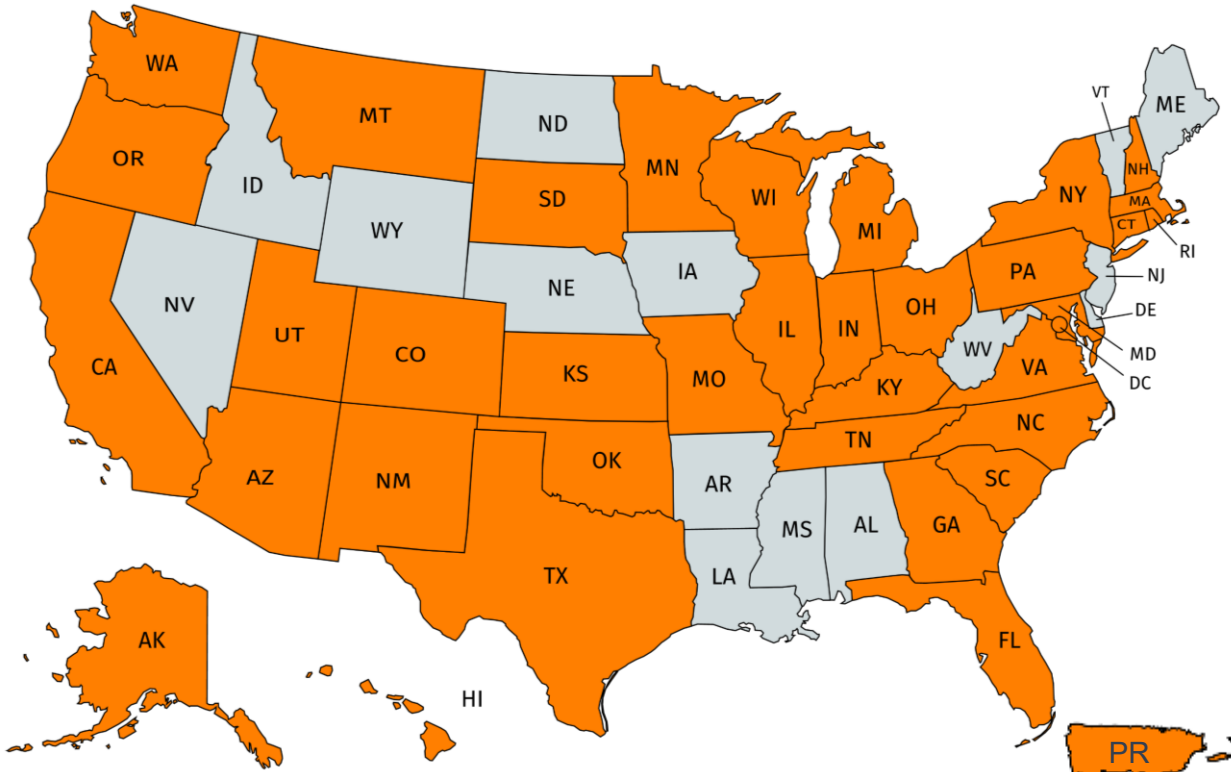
ECHO Mission

Enhance the health of children for generations to come

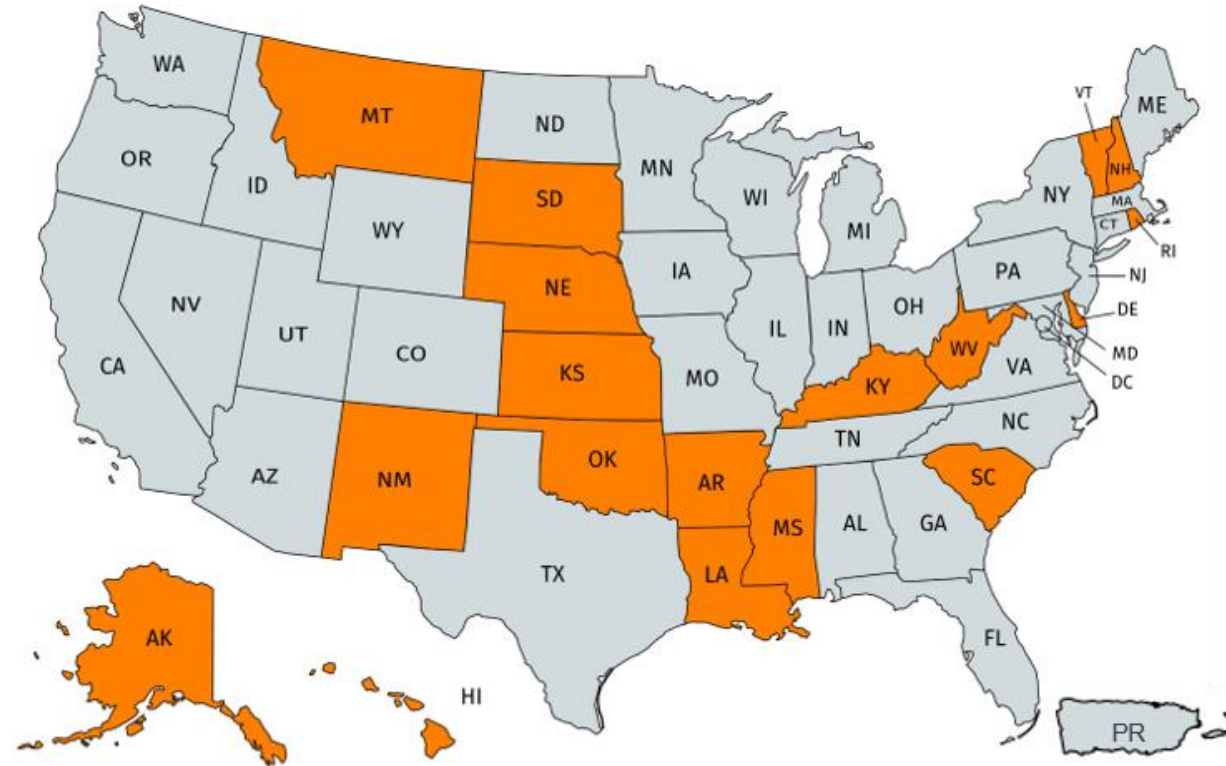


Observational & Intervention Research

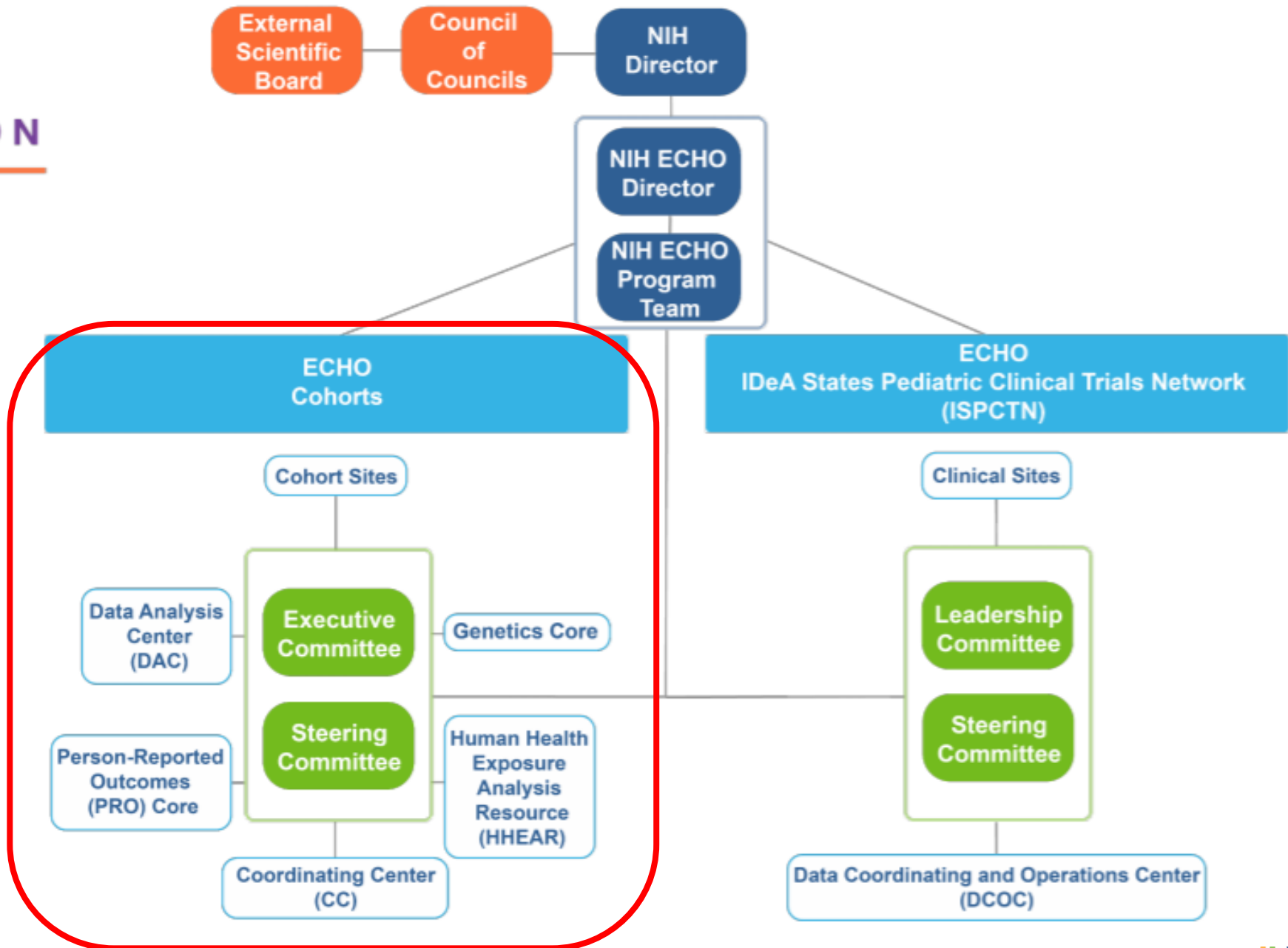
ECHO Cohorts



ECHO IDeA States Pediatric Clinical Trials Network

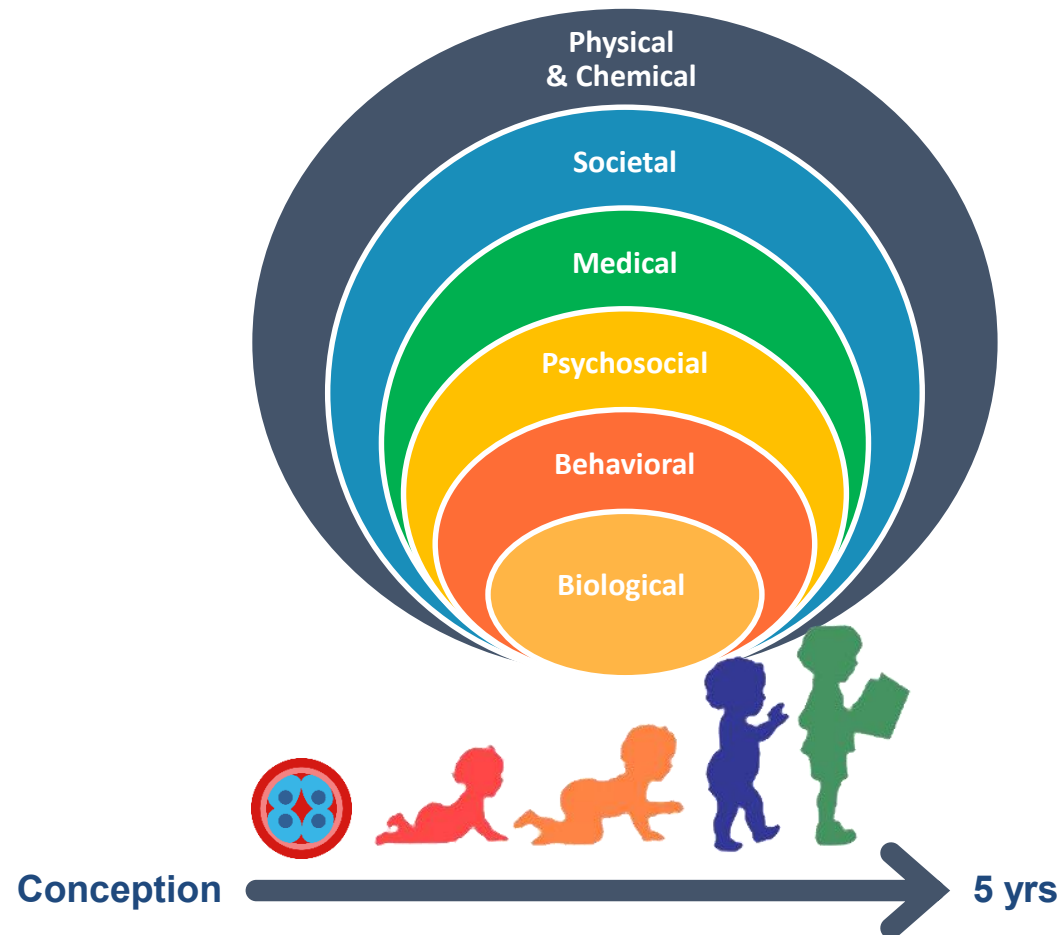


ECHO PROGRAM ORGANIZATION



Broad range of early environmental exposures

From
society
to
biology



Child Health and Development

5 key pediatric outcomes with high public health impact

PRE-, PERI- AND POSTNATAL



UPPER AND LOWER AIRWAY



OBESITY



NEURO-DEVELOPMENT



Throughout childhood and adolescence

POSITIVE CHILD HEALTH





Progress of the ECHO-wide Cohort





ECHO-wide Cohort

Weaving together
data from **72**
ongoing maternal-
child cohort studies

ECHO Cohorts First 4.5 Years Progress

- ECHO-wide Cohort Data Platform
 - Data from over 90,000 participants
 - 57,000+ children
 - 22,000+ active follow up (growing)
 - Diversity in age, SES, race/ethnicity, geography
- Publications
 - Over 650+ total publications
 - 27 ECHO-wide Cohort



Goals for 2020-21 (Year 5 of 7)

Critical Year for ECHO-wide Cohort Sustainability

- Continue to enroll participants even during pandemic
- Usable harmonized data
- Usable biospecimens and assay results
- More and high-quality publications



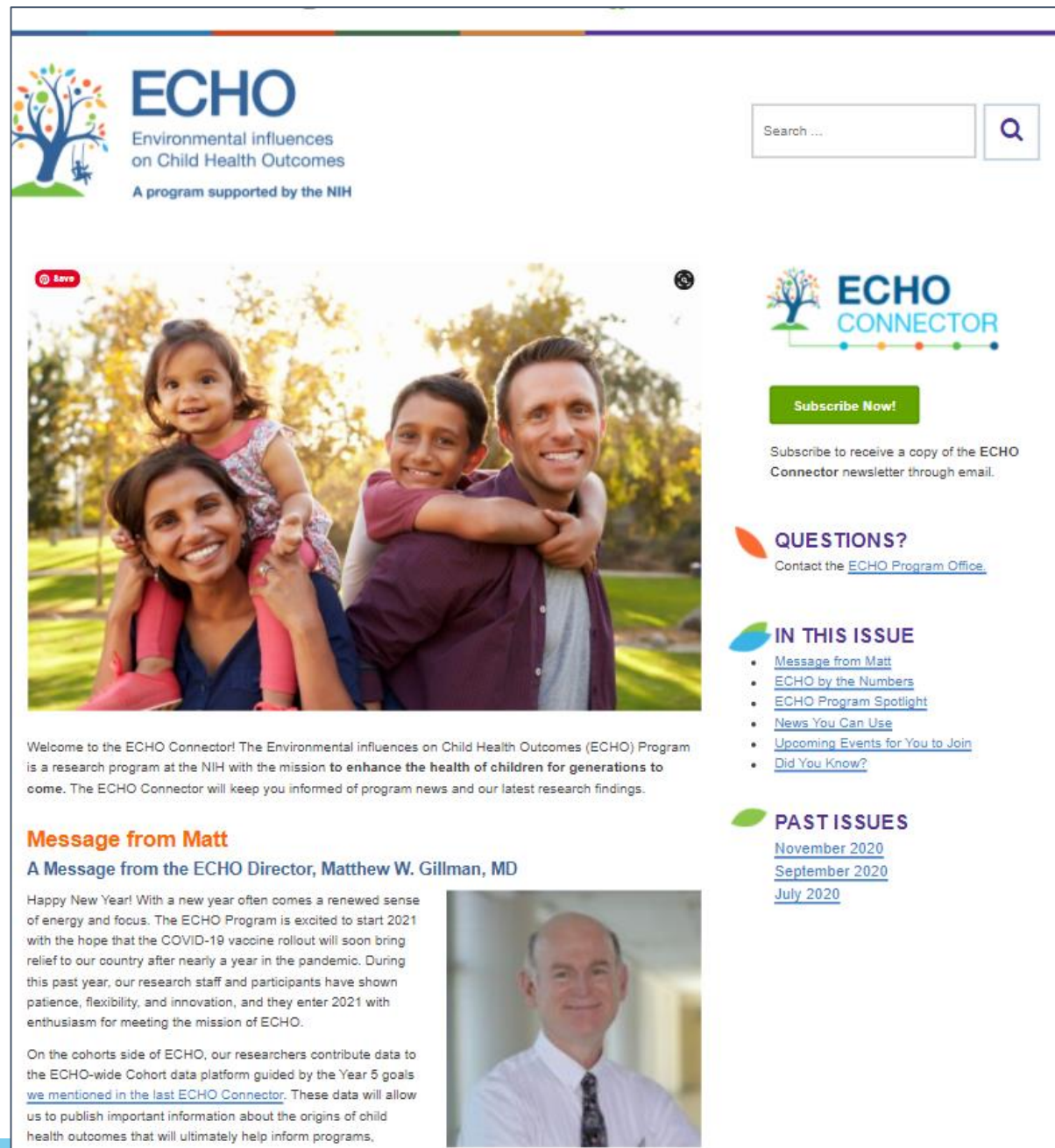


Sharing our Science



ECHO Connector

- Latest information about ECHO research and findings
- Lay language
- Sent bimonthly to 90+ stakeholder organizations



The screenshot shows the ECHO Connector website homepage. At the top left is the ECHO logo, which includes a stylized tree with colorful leaves and a person climbing a rope. To the right of the logo is the text "ECHO Environmental influences on Child Health Outcomes" and "A program supported by the NIH". On the top right, there is a search bar with the text "Search ..." and a magnifying glass icon. Below the logo and search bar is a large photograph of a smiling family: a woman carrying a young girl on her shoulders, a boy, and a man. To the right of this photo is a "Subscribe Now!" button and a text box that says "Subscribe to receive a copy of the ECHO Connector newsletter through email." Below the photo is a "Welcome to the ECHO Connector!" message. To the right of the welcome message are sections for "QUESTIONS?", "IN THIS ISSUE", and "PAST ISSUES". The "IN THIS ISSUE" section lists several articles with links. The "PAST ISSUES" section lists links for "November 2020", "September 2020", and "July 2020". At the bottom left of the page is a "Message from Matt" section, which includes a photo of Matthew W. Gillman, MD, and text about the ECHO program's mission and goals for 2021.

ECHO
Environmental influences
on Child Health Outcomes
A program supported by the NIH

Search ...

ECHO CONNECTOR

Subscribe Now!

Subscribe to receive a copy of the ECHO Connector newsletter through email.

QUESTIONS?
Contact the [ECHO Program Office](#).

IN THIS ISSUE

- [Message from Matt](#)
- [ECHO by the Numbers](#)
- [ECHO Program Spotlight](#)
- [News You Can Use](#)
- [Upcoming Events for You to Join](#)
- [Did You Know?](#)

PAST ISSUES

- [November 2020](#)
- [September 2020](#)
- [July 2020](#)

Message from Matt
A Message from the ECHO Director, Matthew W. Gillman, MD

Happy New Year! With a new year often comes a renewed sense of energy and focus. The ECHO Program is excited to start 2021 with the hope that the COVID-19 vaccine rollout will soon bring relief to our country after nearly a year in the pandemic. During this past year, our research staff and participants have shown patience, flexibility, and innovation, and they enter 2021 with enthusiasm for meeting the mission of ECHO.

On the cohorts side of ECHO, our researchers contribute data to the ECHO-wide Cohort data platform guided by the Year 5 goals [we mentioned in the last ECHO Connector](#). These data will allow us to publish important information about the origins of child health outcomes that will ultimately help inform programs.



New ECHO One-Pager “At a Glance”

Customizable to call out relevant publications and areas of focus



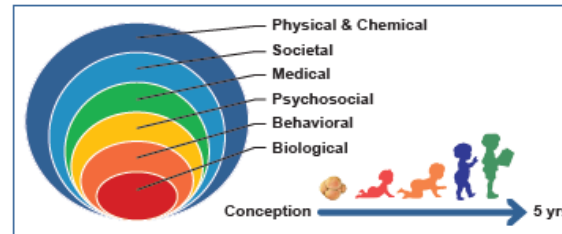
ECHO At A Glance

The NIH ECHO Mission is to enhance the health of children for generations to come.

ECHO has the potential to answer big questions about how influences in early human development—even before birth—affect us throughout our lives and across generations.

The ECHO program allows many of the nation’s leading researchers, who work across multiple disciplines, to come together to explore how a broad range of early environmental influences—from society to biology—affect child health.

EARLY ENVIRONMENT: FROM SOCIETY TO BIOLOGY



ECHO BY THE NUMBERS



ABOUT THE ECHO PROGRAM

- NIH launched the ECHO program, a seven-year initiative, in September 2016.
- ECHO is dedicated to learning what factors affect child growth and development and how to enhance them.
- ECHO’s teams of researchers perform observational and intervention research that may inform programs, policies, and practices.



ECHO Lay Summaries

Both Cohorts and
ISPCTN

[https://echochildren.org/
research-summaries/](https://echochildren.org/research-summaries/)

The screenshot shows the top navigation bar of the ECHO website. It consists of six colored buttons: Home (dark blue), About ECHO Research (medium blue), Information For ECHO Participants And Families (red), Information For Researchers (green), Sharing Our Science (orange), and a purple button. Below the navigation bar is the ECHO logo, which features a stylized tree with colorful leaves and a child swinging on a swing set. To the right of the logo, the text reads "ECHO Environmental influences on Child Health Outcomes A program supported by the NIH". On the right side of the page, there is a vertical menu with several items: News And Events, Featured Videos, ECHO Discovery, Research Summaries (highlighted with a yellow oval), and ECHO Program Publications. Below the navigation and logo area is a large photograph of four diverse children smiling.





ECHO

Environmental influences
on Child Health Outcomes

A program supported by the NIH

Lay Summaries

- Plain language
- Break down key information and findings
- Web versions and downloadable PDFs
- Sidebar highlights other research on similar topics

[<< Back to Research Summaries](#)

Assessment of Chemical Exposures During Pregnancy Using Silicone Wristbands

Author(s): Brett Doherty and Megan Romano

Who sponsored this study?

Research reported in this publication was supported by the Environmental influences on Child Health Outcomes (ECHO) program, Office of The Director, National Institutes of Health, and grant funding.*

Why was this study needed?

Pregnant women are exposed to chemicals that may be bad for their health or their babies' health. At the same time, the types of chemicals and their co-occurrence are not well understood. The researchers used [silicone wristbands](#) that capture chemicals in the environment to learn more about these exposures in a group of pregnant women in northern New England.

Who was involved?

This study included 255 women enrolled in the [New Hampshire Birth Cohort Study \(NHBCS\)](#) between 2017 and 2019. The NHBCS began in 2009 and includes more than 2,000 mother and child pairs.

What happened during the study?

During early pregnancy, the women wore the wristbands and went about their normal activities while chemicals in their environment became trapped in their wristbands. The women then returned the wristbands after one week and researchers measured the captured chemicals. This provided information about the chemicals in the women's environments.

What were the study results?

Researchers found 199 unique chemicals in the wristbands worn by women in the study. There were 16 chemicals, including chemicals in personal care products and consumer goods, which were found most often. Most women had comparatively low amounts of exposures to these chemicals but others had more unique combinations of chemical exposures. Education and behaviors, such as nail polish use, helped predict the level of chemical exposures.

DOWNLOAD THIS SUMMARY

[Assessment of Chemical Exposures During Pregnancy Using Silicone Wristbands](#)

READ MORE CHEMICAL EXPOSURE SUMMARIES HERE:

[Review of Prenatal Air Pollution Exposure and Brain Development](#)

Author(s): Heather E. Volk, Frederica Perera, Joseph M. Braun, Samantha L. Kingsley, Kim Gray, Jessie Buckley, Jane E. Clougherty, Lisa A. Croen, Brenda Eskenazi, Megan Herting, Allan C. Just, Itai Kloog, Amy Margolis, Leslie A. McClure, Rachel Miller, Sarah Levine, Rosalind Wright

[Do chemicals that break down slowly in the environment affect how long it takes to become pregnant?](#)

Author(s): Linda Kahn, Alison Hipwell, Kim Harley, Pam Factor-Litvak, Michele Klein-Fedyshin, Christine Porucznik, Eva Siegel, Yeyi Zhu

[A review of studies that look at whether exposure to common non-persistent chemicals in consumer products delays the](#)

ECHO Program Publications

Both Cohorts and ISPCTN

<https://echochildren.org/echo-program-publications/>



Selected Recent Publications

Measurement and Methods

- Doherty BT et al. [Assessment of Multipollutant Exposures During Pregnancy Using Silicone Wristbands](#). Front Public Health 2020;8:547239.
- Lyall K et al. [Distributional Properties and Criterion Validity of a Shortened Version of the Social Responsiveness Scale: Results from the ECHO Program and Implications for Social Communication Research](#). J Autism Dev Disord 2020; 10.1007/s10803-020-04667-1
- Hamra GB et al. [Combining Effect Estimates Across Cohorts and Sufficient Adjustment Sets for Collaborative Research: A Simulation Study.](#) Epidemiology 2021; 32.3: 421-424.



Selected Recent Publications

ECHO Child Health Outcomes



Blackwell CK et al. [Better sleep, better life? How sleep quality influences children's life satisfaction](#). Qual Life Res 2020;29:2465-74



Dunlop AL et al. [Racial and geographic variation in effects of maternal education and neighborhood-level measures of socioeconomic status on gestational age at birth: Findings from the ECHO cohorts](#). PLoS One 2021;16:e0245064.



Volk HE et al. [Prenatal air pollution exposure and neurodevelopment: A review and blueprint for a harmonized approach within ECHO](#). Environ Res 2020.110320



Johnson CC et al. Childhood asthma incidence rate patterns from the echo consortium: identifying high-risk groups for primary prevention. JAMA Pediatrics 2021; *in press*





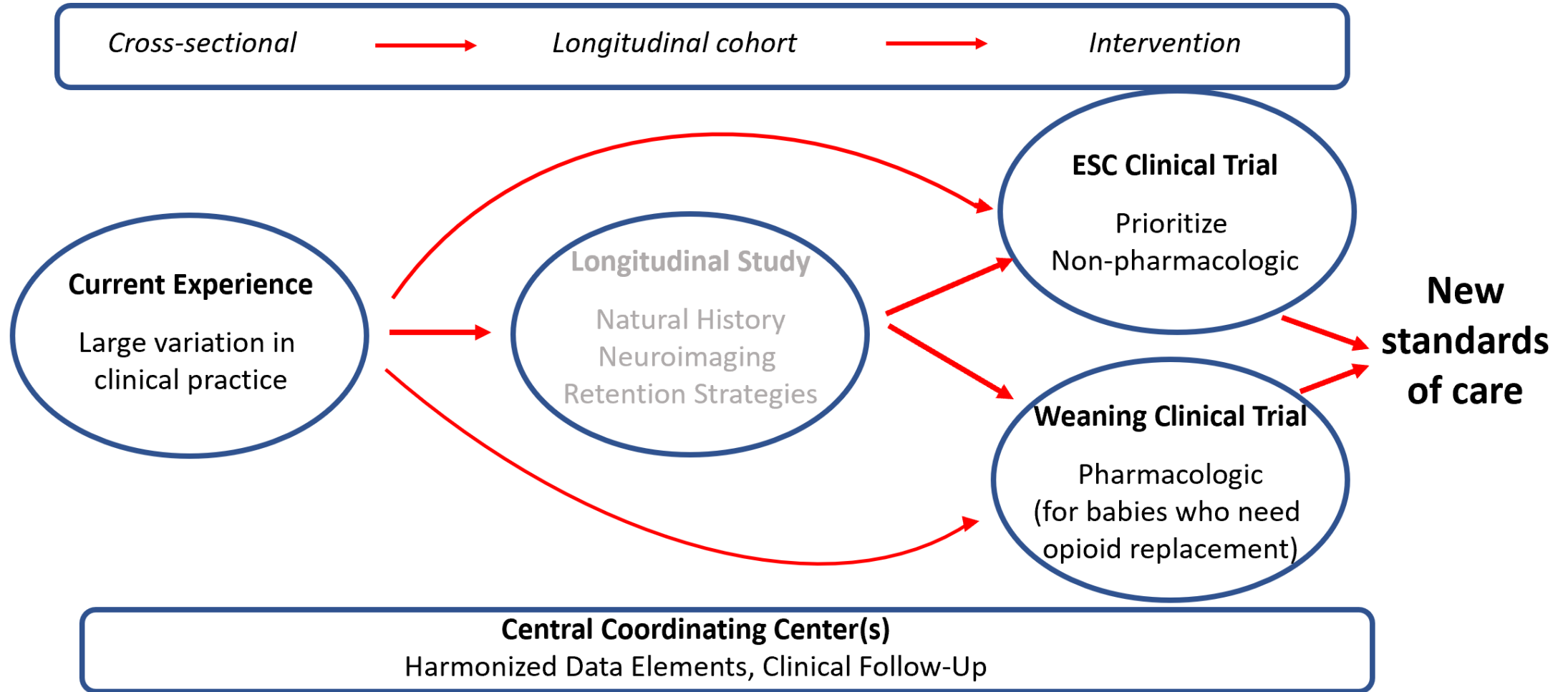
ISPCTN: Advancing Clinical Trials in Neonatal Opioid Withdrawal (ACT NOW) Initiative





ACT NOW Initiative

From no standard of care to evidence base for best practices



ACT NOW Current Experience

Recent Publications

- Young LW, et al. [Site-Level Variation in the Characteristics and Care of Infants With Neonatal Opioid Withdrawal](#). Pediatrics 2021;147
- Merhar SL, et al. [Phenobarbital and Clonidine as Secondary Medications for Neonatal Opioid Withdrawal Syndrome](#). Pediatrics 2021;147





ECHO COVID-19 Research: Preliminary Findings



ECHO's Response to COVID-19

- Remote data collection/mobile technology
- Examine how COVID-19—both infection & pandemic—affects pregnant women and children
 - Questionnaires part of ECHO-wide Cohort data collection protocol <https://disasterinfo.nlm.nih.gov/search/id:21805>
 - 6 supplemental grants for time-sensitive COVID-19 research in ECHO Cohorts
 - [Post-Acute Sequelae of SARS-CoV-2 Infection (PASC) application]
- COVID-19 Working Group
 - Kaja LeWinn and Leo Trasande





Questions and Discussion



Focus Questions

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 - How can we best work with you to highlight our researchers' successes and sustain the momentum of ECHO?
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**Please enter your questions or comments
in Chat**

