Concept Clearance
Environmental influences on Child Health Outcomes (ECHO)
IDeA States Pediatric Clinical Trials Network (ISPCTN)
Network Renewal for 3rd Cycle (2025-2030)

Purpose

To develop, implement, and disseminate results from high-impact multicenter clinical trials to enhance the health of children living in rural or underserved communities in Institutional Development Awards (IDeA) states, and to enhance research capacity among institutions in IDeA states.

Background

Children living in rural and underserved communities are less likely than other children to participate in state-of-the-art clinical trials, thus hampering the generalizability of pediatric research in the United States. To address this gap, the ECHO IDeA States Pediatric Clinical Trials Network (ISPCTN) aims to enhance access to clinical trials among children living in IDeA states, i.e., states with historically low NIH funding, and to build research capacity in IDeA state institutions to conduct these trials. ISPTN trials focus on one or more of ECHO's 5 key health outcome areas: pre-, peri-, and postnatal conditions; upper and lower airways; obesity; neurodevelopment; and positive health.

During its 1st cycle (2016-2020), ISPCTN funded clinical sites in each of 17 IDeA states and 1 Data Coordinating and Operations Center (DCOC). During the 2nd cycle (2020-2025), ISPCTN added an additional clinical site, bringing the current total to 18 clinical sites and the DCOC.

ISPCTN Accomplishments

1. *Clinical Trials.* In Cycles 1 and 2, the Network has implemented 9 research protocols, from which it has published 23 papers, including one each in The *New England Journal of Medicine*, *JAMA Network Open*, and *American Journal of Public Health*. Two examples of completed studies:
    - Under the NIH Helping End Addiction Long-term (HEAL) initiative, ISPCTN collaborated with a NICHD network to compare the effectiveness and safety of the novel Eat, Sleep, and Console approach with usual care for newborns with neonatal opioid withdrawal syndrome (NOWS) in 26 US hospitals. The new approach reduced average hospital length of stay from about 2 weeks to 1 week, and medication use from over 50% to fewer than 20% of babies (Young et al., N Engl J Med 2023; Jun22;388(25):2326-2337). The findings of this study, led by 3 Early Stage Investigators, will likely lead to substantial improvement in care for infants with NOWS.
    - In a 2-phase study of the pharmacokinetics of vitamin D supplementation among 112 children and adolescents with asthma and obesity from 17 ISPCTN sites, Network investigators found that a loading dose followed by a relatively high daily dose was necessary to achieve adequate blood levels of vitamin D (Lang et al, Clin Pharmacol Ther, in press). These results inform the necessary dose for any future full-scale trial of vitamin D supplementation among children with obesity.

2. *Capacity Building*
    a. *Fostering the next generation of a diverse scientific workforce.* ISPCTN has supported
        i. 5 pilot studies developed by early-stage investigators (ESIs)
        ii. Salary and training for 37 ESIs to serve as lead or co-investigators
        iii. 7 Research Supplements to Promote Diversity for pre- and post-docs
        iv. 1 Opportunities and Infrastructure Fund award for an ESI.
    b. *Maximizing organizational function.* ISPCTN adopted a continuous quality improvement framework to monitor progress and achieve goals in clinical trial development/implementation/dissemination, capacity building, and community engagement.
    c. *Enhancing quantity and quality of Network trials.* ISPCTN enhanced its pipeline of Network investigator-initiated proposals through didactic and experiential approaches to maximize rigor, relevance, feasibility, and potential impact.

Rationale for a 3rd Cycle of ISPCTN: The only clinical trials network focused on enhancing health of children living in rural or underserved communities, ISPCTN has continued to mature in its 2nd cycle and has produced results with high impact. The Network is poised to increase its return on investment in a 3rd cycle, during which foci would include

- Completing ongoing trials:
    - MoVeUP: To examine the effect of a COVID-19 vaccine education phone app on children's COVID-19 vaccine series completion compared to a general health app
    - BREATHE: To compare the efficacy of high efficiency in-home particulate air filters vs. sham filters to reduce symptoms following hospitalization for bronchiolitis
    - Weaning Trial: Among infants with NOWS who require medication, to examine whether more vs. less rapid weaning can safely reduce opioid exposure.
    - Eat, Sleep, and Console Trial: 2-year developmental assessments.
- Implementing the Network's first FDA-regulated trial, to treat adolescent children with overweight or obesity.
- Developing and implementing up to 5 new multicenter clinical trials.
- Continuing and refining capacity building approaches
    - Expanding mentoring of ESIs by clinical site PIs
    - Encouraging collaboration with subject matter experts within and outside IDeA programs
    - Refining clinical trials training for ESIs and extending training to research staff, e.g., coordinators
    - Enhancing diversity in research workforce
- Facilitating engagement of relevant stakeholders at several points in the research process