

# HBCD

PROTOCOL SUMMARY

VISIT 7: 16-32 MONTHS



HEALthy Brain and Child Development  
*Babies · Brains · Bright Futures*

[HBCDStudy.org](http://HBCDStudy.org)



# The HEALthy Brain and Child Development Study

The HBCD Study is the largest longitudinal study of early brain and child development in the United States. Knowledge gained from this research will have lasting impacts on future generations of children.

This ambitious project will enroll over 7,000 participating families from across the United States and follow them from pregnancy through early childhood. The HBCD Research Consortium consists of the HBCD Consortium Administrative Core (HCAC), the HBCD Data Coordinating Center (HDCC), and 27 recruitment sites across the country (see map).

Leading researchers in the fields of child development and neuroscience will work with participating families and their children to understand how the brain develops and how exposure to substances and other environmental, social, and biological factors during pregnancy and after birth impact outcomes.

## HBCD Open Science Model

The data generated in the study will be made broadly available to the research community through an open science model and serve as a resource to support numerous additional studies and foster new hypotheses to be explored.

### Locations of HBCD Recruitment Sites in the United States

**Recruitment Sites**

- Arkansas Children's Hospital Research Institute
- Boston Children's Hospital | Harvard Medical School
- Cedars-Sinai Medical Center
- Children's Hospital of Los Angeles
- Children's Hospital of Philadelphia
- Cincinnati Children's Hospital
- Emory University
- Johns Hopkins University/Kennedy Krieger Institute
- New York University School of Medicine
- Northwestern University
- Oklahoma State University Center for Health Sciences
- Oregon Health & Science University
- Pennsylvania State University-University Park
- Pennsylvania State University College of Medicine
- University of Alabama at Birmingham
- University of Alabama at Tuscaloosa
- University of Arkansas for Medical Sciences
- University of Maryland
- University of Minnesota
- University of New Mexico
- University of North Carolina Chapel Hill
- University of Vermont
- University of Wisconsin-Madison
- University of California, San Diego
- Vanderbilt University
- Virginia Tech
- Washington University

**HCAC**

- University of California San Diego
- Boston Children's Hospital | Harvard Medical School

**HDCC**

- University of California San Diego
- University of Minnesota
- Washington University

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# 16–32 Months of Age

HBCD Measure	What it Measures	Child (min)	Adult (min)
<b>Social and Environmental Determinants</b>			
<b>Baby's First Years (BFY) Services/ Support</b>	Use of benefit programs and services during the past 12 months		2
<b>Baby's First Years (BFY) Economic Stress</b>	Experiences with economic stress during the past 12 months		2
<b>Caregiver Occupations and Employment</b>	Occupations and employment schedules of caregivers during the past 12 months		2
<b>Environmental Exposures</b>	Household environmental and chemical exposures		5
	Lead exposures		2
	Second-hand smoke		5
<b>Incarceration Questionnaire</b>	Caregiver incarceration, probation, or parole in the past year		2
<b>PhenX Discrimination</b>	Experiences with unfair and discriminatory treatment during the past 12 months		3
<b>PhenX Neighborhood Safety</b>	Perceptions about safety and crime in the neighborhood		1
<b>Residential History for Geocoded Data Linkage</b>	Home, work, or other frequented addresses for linking to external data sets		5
<b>Transitions in Care</b>			
<b>Transitions in Care Screener</b>	Survey to assess whether there were changes in child's main caregiver since the last visit		3

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# 16–32 Months of Age

HBCD Measure	What it Measures	Child (min)	Adult (min)
<b>Physical Health</b>			
<b>Pediatric Quality of Life Inventory (PEDsQL)</b>	Physical functioning, emotional functioning, social functioning, and school functioning		4
<b>Neurocognition and Language</b>			
<b>MacArthur Bates CDI-2 Language</b>	Early language and communication skills		10
<b>MacArthur Bates CDI-I</b>	Early language and communication skills		10
<b>Behavior and Caregiver-Child Interactions</b>			
<b>Early Child Care and Education</b>	Early caregiving and preschool experiences, before the child enrolls in kindergarten		3
<b>Modified Checklist for Autism in Toddlers (MCHAT)</b>	Screening for autism in toddlers		5
<b>Early Childhood Behavior Questionnaire (ECBQ Very Short Form) + Behavioral Inhibition</b>	Child temperament, including surgency, negative affect, effortful control, and behavioral inhibition/shyness		10
<b>Multidimensional Assessment Profile Temper Loss Scale (MAPS-EASI Toddler)</b>	Child temperament and temper modulation		2
<b>Patient-Reported Outcome Measurement Information System (PROMIS) Early Childhood</b>	Child-Caregiver Interactions		2
	Peer Relationships		2
	Self-Regulation Flexibility Scale		2
<b>Total Visit Time (min)</b>		<b>82</b>	





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