

ICPSR 21600

**National Longitudinal Study of  
Adolescent to Adult Health (Add  
Health), 1994-2018 [Public Use]**

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Data Guide

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# National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994-2018 [Public Use] (ICPSR 21600)

## I. Introduction

### About the Guide

This Data Guide is an overview of the National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994-2018 [Public Use] (ICPSR 21600) and provides specific instructions for obtaining the Add Health datasets, which you can download to your own computer from [DSDR](#) at ICPSR. Add Health users should also refer to the User Guide, which provides greater detail on the topics discussed below. The User Guide and this Data Guide are available for download from the study home page under the “Data & Documentation” tab as DS0: Study Level Files.

### About the Data

The National Longitudinal Study of Adolescent to Adult Health (Add Health) was developed in response to a mandate from the U.S. Congress to fund a study of adolescent health. Initiated in 1994, Add Health has been supported by program project grants from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) and National Institutes of Health (NIH) with co-funding from other federal agencies and foundations.

Designed by researchers at the University of North Carolina, Add Health is the largest, most comprehensive longitudinal survey of adolescents ever undertaken. Beginning with an in-school questionnaire administered to a nationally representative sample of

students in grades 7-12 during the 1994-95 school year, the study followed up with a series of in-home interviews conducted in 1995, 1996, 2001-02, 2008, and 2016-2018.<sup>1</sup> Other sources of data include questionnaires for parents, siblings, fellow students and school administrators, and interviews with romantic partners.<sup>2</sup> Pre-existing databases provide information about neighborhoods and communities.

Add Health consists of five waves of data. Each wave combines longitudinal survey data on respondents' social, economic, psychological and physical well-being with contextual data on the family, neighborhood, community, school, friendships, peer groups, and romantic relationships, providing unique opportunities to study how social environments and behaviors in adolescence are linked to health and achievement outcomes in young adulthood. Multiple datasets are available for study from each wave of data, providing opportunities to increase knowledge in the social and behavioral sciences and many theoretical backgrounds.

A brief summary of each wave follows:

**Waves I and II**, conducted in 1994-95 and 1996 respectively, focus on the forces that may influence adolescents' health and risk behaviors, including personal traits, families, friendships, romantic relationships, peer groups, schools, neighborhoods, and communities. As participants have aged into adulthood, the scientific goals of the study have expanded and evolved.

**Wave III**, conducted in 2001-02 when respondents were between 18 and 26<sup>3</sup> years old, focuses on how adolescent experiences and behaviors are related to decisions, behavior, and health outcomes in the transition to adulthood.

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<sup>1</sup> Add Health is still in the field doing data collection.

<sup>2</sup> Siblings, romantic partners, and school administrative data are only available with a restricted-use contract.

<sup>3</sup> 24 respondents were 27-28 years old at the time of the Wave III interview.

**Wave IV**, conducted in 2008 when respondents were ages 24-32<sup>4</sup> and assuming adult roles and responsibilities. Follow up at Wave IV has enabled researchers to study developmental and health trajectories across the life course of adolescence into adulthood using an integrative approach that combines the social, behavioral, and biomedical sciences in its research objectives, design, data collection, and analysis. The fourth wave of interviews expanded the collection of biological data in Add Health to understand the social, behavioral, and biological linkages in health trajectories as the Add Health cohort ages through adulthood.

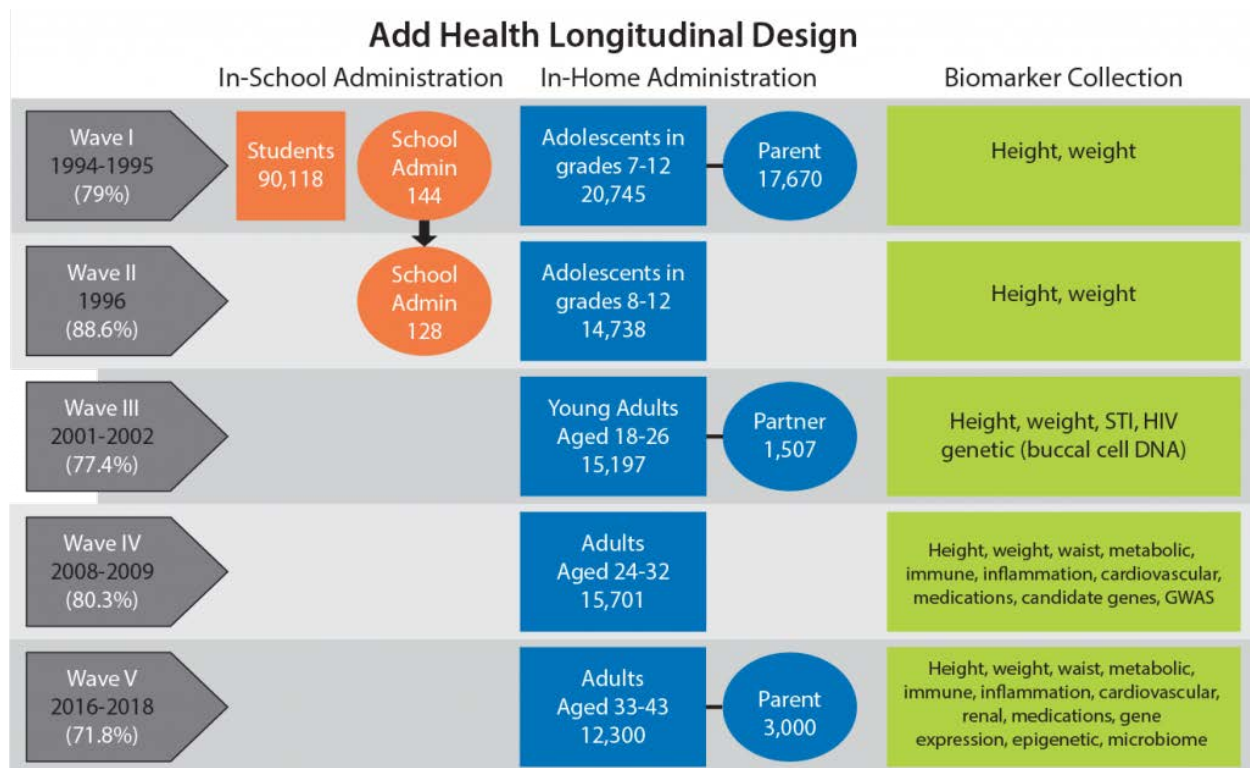
**Wave V**, conducted in 2016-2018 when respondents were ages 33-43, continued the biological data expansion that began in Wave IV. Social, environmental, behavioral, and biological data tracked the emergence of chronic disease as the cohort moved through their fourth decade of life.

## **II. Sample**

The following chart depicts the sampling structure for Add Health:

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<sup>4</sup> 52 respondents were 33-34 years old at the time of the Wave IV interview.



Detailed information on the sampling for each wave can be found on the [Add Health website](#). The [Add Health Research Design presentation](#) (pdf) provides additional information about study design for Waves I-V. Please note that the public-use datasets consist of one-half of the core sample, and one-half of the oversample of African-American adolescents with a parent who has a college degree, chosen at random. This is roughly 1/3 of the full sample. N's will not match between the restricted-use and public-use data.

Unless appropriate adjustments are made for sample selection and participation, estimates from analyses using the Add Health data can be biased when any factor used as a basis for selection as a participant in the Add Health Study also influences the outcome of interest. For example, black adolescents whose parents were college graduates comprise one of the many over-sampled groups. Parental education is a factor that affected selection of black youth in the Add

Health study and can also influence family income. Unless the analytic technique uses appropriate statistical methods to adjust for oversampling, estimates of the income of blacks will be biased. Any analysis that includes family income, or other variables related to family income, may produce biased estimates unless proper adjustments are made for oversampling.

To obtain unbiased estimates, it is important to account for the sampling design by using analytical methods designed to handle clustered data collected from respondents with unequal probability of selection. Failure to account for the sampling design usually leads to under-estimating standard errors and false-positive statistical test results. Please see the User Guide for a list of the attributes of the Add Health sampling design that should be taken into consideration during analysis.<sup>5</sup>

### **III. Data Elements**

The Add Health data are available in two forms—public-use (files listed in Table 1) and restricted-use. A central concern of the Add Health study is that the confidentiality of respondents be strictly protected. Deductive disclosure concerns prevent full access to all data sources. The [restricted-use dataset codebooks](#) and an online interactive [Add Health Codebook Explorer \(ACE\)](#) are available for further exploration. To apply for a restricted-use dataset, please see the [Add Health Contracts page](#).

Public-use data for Add Health are collected from multiple sources and made available in 42 data sets (see Table 1 below). Public-use data available for the study include:

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<sup>5</sup> The User Guide is available for download from the study home page under the “Data & Documentation” tab as a DS0: Study Level File.

- Wave I: In-home questionnaire, contextual data, network variables, weights (conducted from September 1994 through December 1995)
- Wave II: In-home questionnaire, contextual data, weights (conducted from April 1996 through August 1996)
- Wave III: In-home questionnaire, education data, graduation data, Peabody Picture Vocabulary Test, weights (conducted from August 2001 through April 2002)
- Wave IV: In-home questionnaire, biomarkers, weights (conducted from January 2008 through February 2009)
- Wave V: Mixed-mode survey, biomarkers, weights (conducted from 2016 through 2018)

**Table 1. List of Available Public-Use Data Files**

<b>PART NUMBER</b>	<b>FILE NAME</b>
DS1	Wave I: In-Home Questionnaire, Public Use Sample
DS2	Wave I: Public Use Contextual Database
DS3	Wave I: Network Variables
DS4	Wave I: Public Use Grand Sample Weights



DS5	Wave II: In-Home Questionnaire, Public Use Sample
DS6	Wave II: Public Use Contextual Database
DS7	Wave II: Public Use Grand Sample Weights
DS8	Wave III: In-Home Questionnaire, Public Use Sample
DS9	Wave III: In-Home Questionnaire, Public Use Sample (Section 17: Relationships)
DS10	Wave III: In-Home Questionnaire, Public Use Sample (Section 18: Pregnancies)
DS11	Wave III: In-Home Questionnaire, Public Use Sample (Section 19: Relationships in Detail)
DS12	Wave III: In-Home Questionnaire, Public Use Sample (Section 22: Completed Pregnancies)
DS13	Wave III: In-Home Questionnaire, Public Use Sample (Section 23: Current Pregnancies)

DS14	Wave III: In-Home Questionnaire, Public Use Sample (Section 24: Live Births)
DS15	Wave III: In-Home Questionnaire, Public Use Sample (Section 25: Children and Parenting)
DS16	Wave III: Public Use Education Data
DS17	Wave III: Public Use Graduation Data
DS18	Wave III: Public Use Education Data Weights
DS19	Wave III: Add Health School Weights
DS20	Wave III: Peabody Picture Vocabulary Test (PVT), Public Use
DS21	Wave III: Public In-Home Weights
DS22	Wave IV: In-Home Questionnaire, Public Use Sample
DS23	Wave IV: In-Home Questionnaire, Public Use Sample (Section 16B: Relationships)

DS24	Wave IV: In-Home Questionnaire, Public Use Sample (Section 16C: Relationships)
DS25	Wave IV: In-Home Questionnaire, Public Use Sample (Section 18: Pregnancy Table)
DS26	Wave IV: In-Home Questionnaire, Public Use Sample (Section 19: Live Births)
DS27	Wave IV: In-Home Questionnaire, Public Use Sample (Section 20A: Children and Parenting)
DS28	Wave IV: Biomarkers, Measures of Inflammation and Immune Function
DS29	Wave IV: Biomarkers, Measures of Glucose Homeostasis
DS30	Wave IV: Biomarkers, Lipids
DS31	Wave IV: Public Use Weights
DS32	Wave V: Mixed-Mode Survey, Public Use Sample

DS33	Wave V: Mixed-Mode Survey, Public Use Sample (Section 16B: Pregnancy, Live Births, Children and Parenting)
DS34	Wave V: Biomarkers, Anthropometrics
DS35	Wave V: Biomarkers, Cardiovascular Measures
DS36	Wave V: Biomarkers, Demographics
DS37	Wave V: Biomarkers, Measures of Glucose Homeostasis
DS38	Wave V: Biomarkers, Measures of Inflammation and Immune Function
DS39	Wave V: Biomarkers, Lipids
DS40	Wave V: Biomarkers, Medication Use
DS41	Wave V: Biomarkers, Renal Function
DS42	Wave V: Public Use Weights

## IV. Variables

Variable names are constructed to provide information regarding data collection method, wave of data collection, interview section title, and question number. Typically, the first two alphanumeric characters in the variable name indicate the data collection method (H=in-home interview, S=in-school questionnaire, and P=parent questionnaire) and wave (1-5) of data collection. The next two alphanumeric characters are an abbreviation for the interview section title. The question number is in the last 5 to 8 alphanumeric characters. However, there are exceptions. Non-interview data variables are usually mnemonic, such as SMPxx for sample. Lab results are often abbreviations for the test performed. Constructed variables usually begin with a C followed by a mnemonic or number.

Add Health restricted-use data variables from Wave I-IV can be explored through the [Add Health Codebook Explorer \(ACE\)](#). The ACE can be browsed by topic and instrument. Variable names, questions, and responses can also be searched to discover the rich volume of data collected by Add Health. Collections of variables were constructed specifically for the ACE to show similar questions asked across several waves of data collection and do not represent grouping for research purposes. The questions included in ACE are from the In-School and In-Home interviews. Variables in the Add Health public-use data can be searched and compared directly from the [DSDR Add Health study home page](#).

## V. Weights

The Add Health sampling weights are designed to turn the sample of adolescents interviewed into the population desired for study. These weights are available for the respondents who are members of the

Add Health probability sample. By using these sampling weights and a variable to identify clustering of adolescents within schools, unbiased estimates of population parameters and standard errors can be obtained from analysis. Please see Chapter 2 of the User Guide for descriptions and detailed tables of the sampling weights distributed with the Add Health data and instructions on which weight should be used in analysis.<sup>6</sup> The Add Health sampling weights were developed for analyzing combinations of data from the In-Home Interviews using a variety of techniques. Usage of these weights can be divided into three different categories of analyses: Single-Level (Population-Average) Model, Multilevel Model, and Single-Level Model for Special Subpopulations. The sampling weight selected for an analysis depends on both the type of analysis required to investigate a hypothesis and the interview or combination of interviews needed in the analysis. Weights are given for Cross-Sectional Analysis, Longitudinal Analysis, and Time-to-Event Analysis. The guidelines presented in Chapter 2 for choosing the correct sampling weight for most analyses can be summarized in three simple rules:

1. Cross-Sectional Analysis: Choose the weight created for everyone in the probability sample (see User Guide, Table 2.4) for the population of interest.
2. Longitudinal Analysis: Choose the weight from the Wave of data collected at the latest time-point (see User Guide, Table 2.5) for the population of interest.
3. Time-to-Event Analysis: Choose the weight from the Wave of data collected at the earliest time point (see User Guide, Table 2.6) for the population of interest.

These rules should allow the analyst to select the best sampling weight for most research endeavors. Additional information on the

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<sup>6</sup> The User Guide is available for download from the study home page under the “Data & Documentation” tab as a DSO: Study Level File.

longitudinal weights can be found in the Wave I, III, & IV Longitudinal Weight for Public-Use Sample User Guide, which is available for download as “User guide [PDF] MULTI” with any of the Wave I, III, or IV datasets.

The User Guide discusses how to correct for design effects and the unequal probability of selection to ensure that analysis results are nationally representative with unbiased estimates, but it refers to variables from the Add Health Restricted-Use Data.<sup>7</sup> For the public-use data, CLUSTER2 should be used in conjunction with the correct weight variable.

Chapter 3 of the User Guide addresses common errors that occur when analyzing Add Health data and provides instructions on how to avoid them. Common errors addressed in this section are:

- Ignoring clustering and unequal probability of selection when analyzing the Add Health data
- Including respondents who are missing sampling weights in analyses when your goal is to obtain national estimates
- Subsetting the probability sample (i.e., adolescents who have weights) when using the survey software
- Using the Sampling Weight as a Frequency or Analytical Weight during Analysis
- Normalizing the Sampling Weights

## **VI. Merging Data Files**

The public-use datasets should be merged using the variable AID. Public-use data doesn't contain ID numbers of friends, siblings, or romantic partners, so the data cannot be linked. The following is skeleton SAS and Stata code for merging the data:

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<sup>7</sup> The User Guide is available for download from the study home page under the “Data & Documentation” tab as a DSO: Study Level File.

## SAS Code

```
/* sorts the input data files */

proc sort data = < data file1>;
  by AID;
run;

proc sort data = < data file2>;
  by AID;
run;

/* merges the input data files and keeps only the variables of interest */

data < new file> (keep=var1 var2 var3 var4);
  merge < data file1> < data file2>;
  by AID;
run;
```

## Stata Code

```
use "wave1"

merge 1:1 aid using "wave2"

merge 1:1 aid using "wave3"

merge 1:1 aid using "wave4"
```

**Note** if the original data files are xpt format, use "fdause" and "save" to transform the data sets into Stata format first.

## VII. How to Obtain Data and Documentation Files

### Downloading Data and Documentation from DSDR

Public-use data from the National Longitudinal Study of Adolescent to Adult Health (Add Health), 1994-2018 are made available through [DSDR](#), a data archive within ICPSR.

Researchers interested in downloading analysis-ready data and documentation files can do so free of charge through the [DSDR](#)



[website](#). Data are available in four statistical package formats: SAS, SPSS, STATA, and R. Raw ASCII and Excel/TSV data are also provided with accompanying setup (syntax) files. Documentation is provided in PDF format.

To download the Add Health data and/or documentation, researchers must agree to the Terms of Use and provide the following required information:

- Name of Department Chair, Director, or Dean
- Email for Department Chair, Director, or Dean
- Topic of Research
- Name of University or Organization

To download all public-use files, select the [Data & Documentation tab](#). Click on the Download tab drop-down menu. Choose the file format you would like.

## First Steps toward Obtaining Your Analytic File

Before downloading the data or beginning analysis, it is important for the user to become familiar with the Add Health User Guide.<sup>8</sup>

## VIII. Learn More

### Additional Resources

- [Add Health Website](#)
  - [Add Health FAQ](#)
- [Add Health Publications Database](#)
- [ICPSR Abbreviated bibliography of Add Health-based Publications](#)
- [Sign up](#) for email updates from Add Health about data releases and upcoming events.

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<sup>8</sup> The User Guide is available for download from the study home page under the “Data & Documentation” tab as a DS0: Study Level File.

- [Add Health Research Twitter account](#)
- Questions regarding the Add Health project? [Email Add Health](#).
- Questions regarding this Data Guide or Add Health data files? [Email DSDR](#).

## Acknowledgements

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