

2018 National Study of Long-Term Care Providers
Adult Day Services Center (ADSC) Public-Use Data File
August 2021
Data Description and Usage

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Please Read Carefully Before Using NCHS Public Use Survey Data

The National Center for Health Statistics (NCHS), Centers for Disease Control and Prevention (CDC), conducts statistical and epidemiological activities under the authority granted by the Public Health Service Act (42 U.S.C. § 242k). NCHS survey data are protected by Federal confidentiality laws including Section 308(d) Public Health Service Act [42 U.S.C. 242m(d)] and the Confidential Information Protection and Statistical Efficiency Act or CIPSEA [Pub. L. No. 115-435, 132 Stat. 5529 § 302]. These confidentiality laws state the data collected by NCHS may be used only for statistical reporting and analysis. Any effort to determine the identity of individuals and establishments violates the assurances of confidentiality provided by federal law.

Terms and Conditions

NCHS does all it can to assure that the identity of individuals and establishments cannot be disclosed. All direct identifiers, as well as any characteristics that might lead to identification, are omitted from the dataset. Any intentional identification or disclosure of an individual or establishment violates the assurances of confidentiality given to the providers of the information. Therefore, users will:

1. Use the data in this dataset for statistical reporting and analysis only.
2. Make no attempt to learn the identity of any person or establishment included in these data.
3. Not link this dataset with individually identifiable data from other NCHS or non-NCHS datasets.
4. Not engage in any efforts to assess disclosure methodologies applied to protect individuals and establishments or any research on methods of re-identification of individuals and establishments.

By using these data, you signify your agreement to comply with the above-stated statutorily based requirements.

Sanctions for Violating NCHS Data Use Agreement

Willfully disclosing any information that could identify a person or establishment in any manner to a person or agency not entitled to receive it, shall be guilty of a class E felony and imprisoned for not more than 5 years, or fined not more than \$250,000, or both.

This document describes the data and some of the processes involved in creating the adult day services center (ADSC) provider public-use data file (PUF). NCHS recommends that data users read this document prior to working with the data.

The National Study of Long-Term Care Providers (NSLTCP) was renamed the National Post-acute and Long-term Care Study (NPALS) in January 2020. For the remainder of this document NPALS will be referred to as NSLTCP in order to correctly match the name of the study when the 2018 surveys were fielded.

Data files

The 2018 NSLTCP ADSC PUF data are distributed in two data files: (1) a provider-level data file and (2) a services user (participant)-level data file. This describes the ADSC provider PUF. The provider PUF file contains one record for each sampled and eligible ADSC that completed a provider questionnaire. The provider file contains characteristics about ADSCs, services they provided, types of staff employed, and aggregate participant characteristics. The provider file contains 672 records and 152 variables. Each record contains a primary identifier (ADSCID). The records in the provider file are sorted in the order of the primary identifier.

The PUF data are provided in ASCII format, with fixed-length records. In addition to an ASCII file, separate data files are provided in SAS and STATA formats. PUFs can be downloaded from the NPALS website as separate files. The individual files for separate download are:

Data files	
SAS	ftp://ftp.cdc.gov/pub/HealthStatistics/NCHS/Datasets/NPALS
STATA	ftp://ftp.cdc.gov/pub/HealthStatistics/NCHS/Datasets/NPALS
ASCII	ftp://ftp.cdc.gov/pub/HealthStatistics/NCHS/Datasets/NPALS
Documentation files	
Survey method documentation	https://www.cdc.gov/nchs/data/npals/NSLTCP-2018-survey-methodology-documentation.pdf
Data dictionary	Will be available upon request

Provider Questionnaire	https://www.cdc.gov/nchs/data/nsltcp/2018-NSLTCP-ADSC-Questionnaire-Center.pdf
This document (ReadMe file)	https://www.cdc.gov/nchs/data/npals/NSLTCP-2018-ADSC-Readme-RDC.pdf
Restricted Variables	Will be available upon request

Documentation

This ADSC Readme file is part of the documentation package accompanying the release of the 2018 ADSC provider PUF. The package also includes the broader NCLTCP survey methodology document, a data dictionary or codebook, the provider questionnaire, and a list of variables available in the restricted data file.

Brief description of survey

The survey on ADSCs was conducted between July 2018 and February 2019. To be eligible for the study, an ADSC must (a) have been licensed or certified by the state specifically to provide adult day services, or accredited by the Commission on Accreditation of Rehabilitation Facilities (CARF), or authorized or otherwise set up to participate in Medicaid (Medicaid state plan, Medicaid waiver, or Medicaid managed care), or part of a Program of All-Inclusive Care for the Elderly (PACE); (b) have had an average daily attendance of one or more participants based on a typical week; and (c) have had one or more participants enrolled at the ADSC at the designated location at the time of the survey. Data were collected by mail, web, and computer-assisted telephone interviews (CATI).

From a frame of 6,361 ADSCs, 1,650 were randomly selected for the survey. Of the 1,650 sampled ADSCs, eligibility could not be determined for 543. Among those cases where eligibility could be determined (1,107), 917 (83%) were eligible and 190 (17%) were ineligible because they did not meet the survey criteria or were out of business. However, 543 ADSCs (33%) could not be contacted; therefore, the final eligibility status of these centers

was unknown. Using the eligibility rate of 83%,¹ a proportion of these centers of unknown eligibility was estimated to be eligible; thus, 450 ADSCs of unknown eligibility were assumed as eligible. The total number of eligible adult day services centers was estimated as 1,367(917 + 450). Of the 1,367 in-scope and presumed in-scope ADSCs, 672 of them completed the provider questionnaire, for a weighted response rate (for differential probabilities of selection) of 50% (this is calculated by using AAPOR's Response Rate 4). To account for ADSCs of unknown eligibility, the weights of the ADSCs with known eligibility were adjusted upward based on the proportion of ADSCs that were actually known to be eligible. Adjustments were also made to account for non-response.

Data dictionary

The 2018 ADSC provider data dictionary or codebook for the PUF is provided as a single file containing all four sections of information in the provider questionnaire: A) Background Information; B) Participant Profile; C) Services Offered; and D) Staff Profile. Each variable in the PUF has its own codebook entry.

If a question or a series of questions in the survey were legitimately skipped for selected respondents, then the skipped responses were coded as “-1= INAPPLICABLE” in the data dictionary. The questionnaire skip pattern is specified in the data dictionary beside the question text and code categories. Data users are advised to consult the questionnaire to better understand the questionnaire skip patterns. Missing responses were coded as “-9=MISSING.” The data dictionary will be uploaded later and available upon request (ltsbfeedback@cdc.gov) until then.

Provider questionnaire

The Provider questionnaire is included in the data release package and available at:

<https://www.cdc.gov/nchs/data/nsitcp/2018-NSITCP-ADSC-Questionnaire-Center.pdf>

The questionnaire includes all the questions asked in the provider module. There may be some differences in how questions were asked in the questionnaire and how they were coded in the

¹ The eligibility rate is calculated by the number of known eligible ADSCs divided by the total number of ADSCs with known eligibility status. ADSCs that were invalid or out of business and centers that screened out as ineligible were classified as known ineligibles.

PUF. Also, answers to some questions may not be available in the public-use file. These differences are largely related to efforts to reduce disclosure risk. For instance, the PUF may provide percentages for some variables (e.g., percent of male and female participants, percent of participants with some or all of their long-term care services paid by Medicaid), while the questionnaire asked for specific numbers (e.g., number of male and female participants, number of residents with some or all of their long-term care services paid by Medicaid). The variables included in the list of restricted variables are available to users through the NCHS Research Data Center (<http://www.cdc.gov/rdc/index.htm>).

Data processing activities to create the public-use file

The raw data received from the field were reviewed and edited prior to releasing the PUF. Data were reviewed for accuracy, logic, consistency and completeness. Additionally, extensive disclosure risk review was conducted to prevent the identity of any facilities who participated in the survey from being made known to the public. NCHS staff used various methods to perturb the data to minimize disclosure risk, and then ensured that the perturbation did not affect the estimates. The following methods were employed on the restricted, in-house file to create the PUF:

Consistency checks

1. To ensure internal consistency of the data, for some questions, edit checks were programmed into the web questionnaire and CATI system and applied during data collection. These edits were programmed based on the expected range of responses for given questions and the logical consistency between questions. For instance, the web questionnaire and CATI system prompted respondents and interviewers, respectively, to verify if the total number of male and female participants provided by the respondent was accurate when it was not within $\pm 10\%$ range of the total number of participants reported earlier.
2. The variables for sex and age distribution of participants were edited if the values did not add to the total number of participants (Question 16). For example, when values for the age breakdown of an ADSC (Question 18) did not equal the total number of participants currently enrolled, values were adjusted to sum to the total number of participants

currently enrolled based on the proportion of values reported for different age categories for the case. In the PUF, a categorical variable (SIZE2) is the number of currently enrolled participants at the location. The age and sex variables are converted into percentages using the total number of participants currently enrolled as the denominator.

3. Ownership (Question 3 OWNERSHPRC): When a case was missing a response for ownership in the survey data file, but had a value for ownership in the sampling frame, the missing value on the survey data file was recoded to the value of ownership on the sampling frame.

Changes in data because of respondent comments

The NSLTCP Web and CATI provider questionnaires allowed respondents to enter comments by clicking an icon provided for each question on each screen. For hard-copy questionnaires, keyers entered any notes respondents wrote in the margins or in response boxes as they keyed the data. These comments were compiled and reviewed. The original response was changed if it was determined that the comment changed the substance of the recorded answer.

Masked variables

To protect the confidentiality of the information respondents provided, a number of variables have been masked, or simply not included in the PUF. In making these modifications, NCHS staff tried to maintain a balance between the need for data confidentiality and the needs of data users.

1. Direct identifiers are not included in the PUF, such as names, addresses, and geographic information (region, state, metropolitan statistical area). There were other variables that were not included in the PUF. For a full list, see the list of restricted variables document included in the data release package.
2. Modified variables:
 - a. Some variables have been modified to minimize disclosure risk. For instance, (i) the maximum allowable number of participants (Question 2) and the current number of participants (Question 16) in an ADSC are not provided in the PUF

but replaced by a 2-category occupancy rate variable (OCCUPANCY). (ii) Instead of providing all the different providers with which an ADSC has a computerized system that supports electronic health information exchange (Question 14a-f), two variables were derived to indicate any exchange (ANYEX, ANYEXOTH). (iii) Instead of providing the number of full-time and part-time employees in January 2017 (Question 30) and number of full-time and part-time employees who left between January and December 2017 (Question 31), a turnover variable was calculated for each full and part-time employee staff type.

Edited/ Derived variables

- 1 . Number of full-time and part-time, by employee staff type (Question28a-f):
 - a . Number of full-time and the number of part-time employees for a given staff type were edited to address the cases with missing data. Instruction was provided in the questionnaire to enter “0” if the center had no employees for a given staff type. Yet, there were cases where respondents indicated the number of staff in the response box only when specific staff categories were applicable, while leaving inapplicable response boxes blank. Thus, when editing full-time/part-time (FT/PT) variables, these were coded missing as “0” unless responses to all ten response boxes for all employee staff type were blank or missing (e.g., for employees, the number of full-time RN employees, the number of part-time RN employees, the number of full-time LPN employees, the number of part-time LPN employees, the number of full-time aide employees, the number of part-time aide employees, the number of full-time social worker employees, the number of part-time social worker employees, the number of full-time activities staff employees, and the number of part-time activities staff employees). Otherwise, the missing (-9) were kept as missing (-9). This coding scheme was similar to the scheme used in 2016, but different from the coding scheme used in 2014. When editing the FT/PT variables in 2014, they were coded missing as “0” unless responses to all four response boxes for a given staff type were blank

or missing (e.g., the number of full-time RN employees, the number of part-time RN employees, the number of full-time RN contract staff, the number of part-time RN contract staff). Otherwise, the missing (-9) were kept as missing (-9). In the 2014 scheme, each staff type was grouped and included both employees and contract staff.

- 2 . Hours per participant day, by employee staff type (i.e., RNHPPD1, LPNHPPD1, AIDEHPPD1, SOCWHPPD1, and ACTHPPD1):
 - a . Hours per participant day were derived from the number of full-time equivalents for each staff type and the current number of participants (Question 16). In the previous waves of the NSLTCP, the average daily attendance was used instead of the current number of participants. This may lead to differences in the hours per participant day between 2018 and the previous waves of NSLTCP. Number of full-time and the number of part-time employees for a given staff type were converted into the number of full-time equivalents (FTEs) with an assumption that full-time is 1 FTE and part-time is 0.5 FTE.
 - b . Outliers for the FTE variables were defined as values that are 2 standard deviations above or below the size-specific mean for a given staff type, where size was defined as the number of participants served based on average daily attendance (1= 1-25 participants; 2=26-100 participants; 3=101 or more participants). Outliers were coded as the size-specific mean. When calculating the size-specific mean for a given staff type, cases were coded as missing if the number of FTE registered nurse employees/contract staff was greater than 999; if the number of FTE licensed practical/vocational nurse employees was greater than 999; if the number of FTE personal care aide employees was greater than 999; if the number of FTE social work employees was greater than 99; and if the number of FTE activities employees was greater than 99.
 - c . The number of FTEs for a given employee staff type was converted into

hours by multiplying the FTEs by the average number of hours in a work week (based on a 35 hour work week), and dividing the total number of hours per staff type by the average daily attendance at the center and by the number of days in a work week (5 days). When HPPD variables had values greater than 24, these values were coded as 24.

3. Any employees (ANYRN_EMP, ANYLPN_EMP, ANYAIDE_EMP, ANYSOCW_EMP, ANYACT_EMP), by staff type
 - a. These variables were derived from the FTE variables for employees (e.g., RNFTE1 to derive ANYRN_EMP) indicating whether the adult day services center had any RNs who are employees.
4. Categorized, Top or bottom coded variables
 - a. Some continuous variables were categorized. For example, the FT/PT variables explained in 1a above were categorized (RNFT1_cat, RNPT1_cat, etc.). Likewise, number of hours of staff training (TRAINHOURS2, EDUCHOURS2) were also categorized in the PUF
 - b. Some other variables were top coded. For example, the staff turnover variables (TORNPT, TORNFT, etc.) were top coded at 60% in the PUF.

Converting numbers to percentages

The provider PUF file included several participant variables aggregated at the provider level (for example, AGE, SEX, Number of participants who stopped using the ADSC, etc.). Instead of providing the exact number, these variables were converted into percentages using the number of current participants (Question 16) as the denominator.

Item nonresponse

Item nonresponse is a source of missing data that occurred when a respondent did not know the answer to a question or refused to answer a question; or if the respondent submitted the questionnaire before all the questions were answered. The variables with the highest item-nonresponse were the staff turnover variables followed by the age of participants. However,

item nonresponse (weighted) was less than 10% for all variables.

List of restricted variables

A complete list of the ADSC provider PUF variables that are masked or restricted will be uploaded later and available upon request (ltcsbfeedback@cdc.gov) until then. Users wishing to access these restricted variables or link the provider PUF to the services PUF or non-NCHS data files (e.g., Area Resource File) need to contact the National Center for Health Statistics (NCHS) Research Data Center (<http://www.cdc.gov/rdc/index.htm>).

Reliability of estimates

Estimates published by NCHS must meet reliability criteria based on the relative standard error (RSE or coefficient of variation) of the estimate and on the number of sampled records on which the estimate is based. Proportion estimates are not presented or are flagged based on the procedure specified in “National Center for Health Statistics Data Presentation Standards for Proportions,” available from: https://www.cdc.gov/nchs/data/series/sr_02/sr02_175.pdf. For all estimates other than estimates of proportions in the tables: estimates are not presented if they are based on fewer than 30 cases in the sample data, in which case only an asterisk (*) appears. Estimates based on 30 or more cases include an asterisk if the relative standard error of the estimate exceeds 30%.

The data collected in the 2018 NSLTCP were obtained through a complex, multistage sample design that involves stratification and clustering. The final weights provided for analytic purposes have been adjusted in several ways to yield valid national estimates for adult day services centers in the U.S. Users are reminded that the use of standard statistical procedures that are based on the assumption that data are generated via simple random sampling (SRS) generally will produce incorrect estimates of variances and standard errors when used to analyze data from the NSLTCP provider PUF. The clustering protocols that are used in the multistage selection of the NSLTCP sample require other analytic procedures, as described below. Users who apply SRS techniques to the data generally will produce standard error estimates that are, on average, too small, and are likely to produce results that are subject to excessive Type I error.

In this document, examples of SUDAAN computer code are provided for illustrative purposes. Examples are provided also for the SAS and STATA software packages. However, the appropriate application of these procedures is the ultimate responsibility of users. NCHS strongly recommends that NSLTCP data analyzed under the direction of or in consultation with a statistician who is cognizant of sampling methodologies and techniques for the analysis of complex survey data. The ADSC provider PUF includes design variables that designate each record's stratum marker and the first-stage unit (or cluster) to which the record belongs. Examples follow for using these design variables with SUDAAN, STATA, and SAS survey procedures.

Table 1a. Computations using SUDAAN

PROC statement	NEST statement	TOTCNT statement	WEIGHT statement
PROC x FILE = y DESIGN = WOR;	NEST PUFSTRATA;	TOTCNT PUFPOPFAC;	WEIGHT FACWT;

Table 1b. Computations using STATA

Design description in STATA
svyset adscid [pweight=facwt], strata(pufstrata) fpc(pufpopfac) vce(linearized) singleunit(missing)

Table 1c. Computations using SAS

PROC	STRATA	CLUSTER	WEIGHT
PROC SURVEY_ DATA = Y TOTAL = SECONDFILE;	STRATA PUFSTRATA;	CLUSTER ADSCID;	WEIGHT FACWT;

Obtaining the data

The ADSC 2018 provider PUF is available free of charge to users and analysts and can be downloaded from the NSLTCP web site. There are a few conditions or restrictions for data use which include:

1. Use the data in this dataset for statistical reporting and analysis only.
2. Make no use of the identity of any person or establishment discovered inadvertently and advise the Director, NCHS, of any such discovery.
3. Report apparent errors in the ADSC provider data or documentation files to the Long-Term Care Statistics Branch (LTCSB).

We also request the user inform LTCSB of any publications or presentations produced based on the 2018 NSLTCP data and cite relevant NSLTCP documentations/ data products in their work when appropriate.

Contact information

For questions, suggestions, or comments concerning NSLTCP data, please contact the LTCSB at:

Long-Term Care Statistics Branch (LTCSB), NCHS,

3311 Toledo Road, Hyattsville, MD 20782

E-mail: lcsbfeedback@cdc.gov

Phone: 301-458-4747.