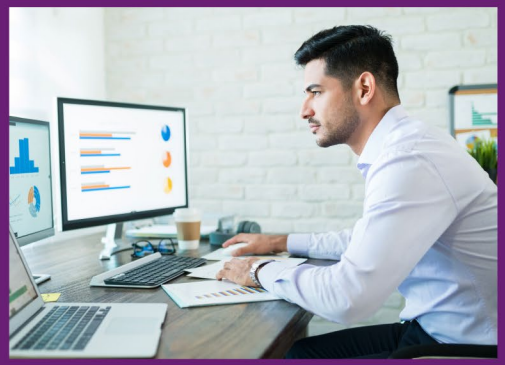



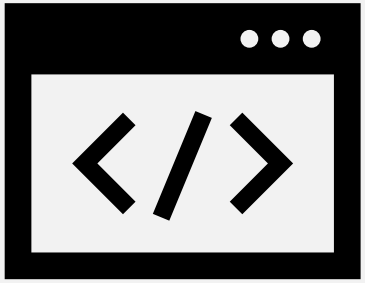
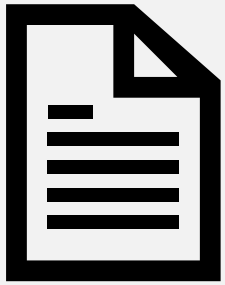

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

35TH AHRQ ANNIVERSARY
Today's Research, Tomorrow's Healthcare

MEPS-HC Programming Overview

Henry Olaisen, PhD

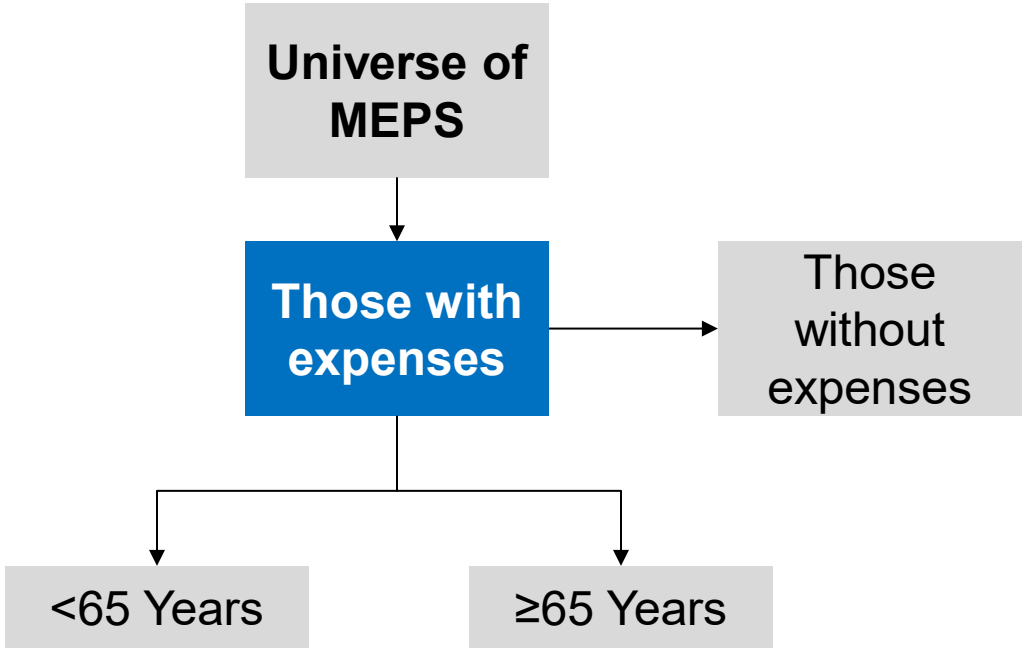
Tools to Help with Programming

MEPS website	Data Tools	GitHub	Statistical Briefs
			

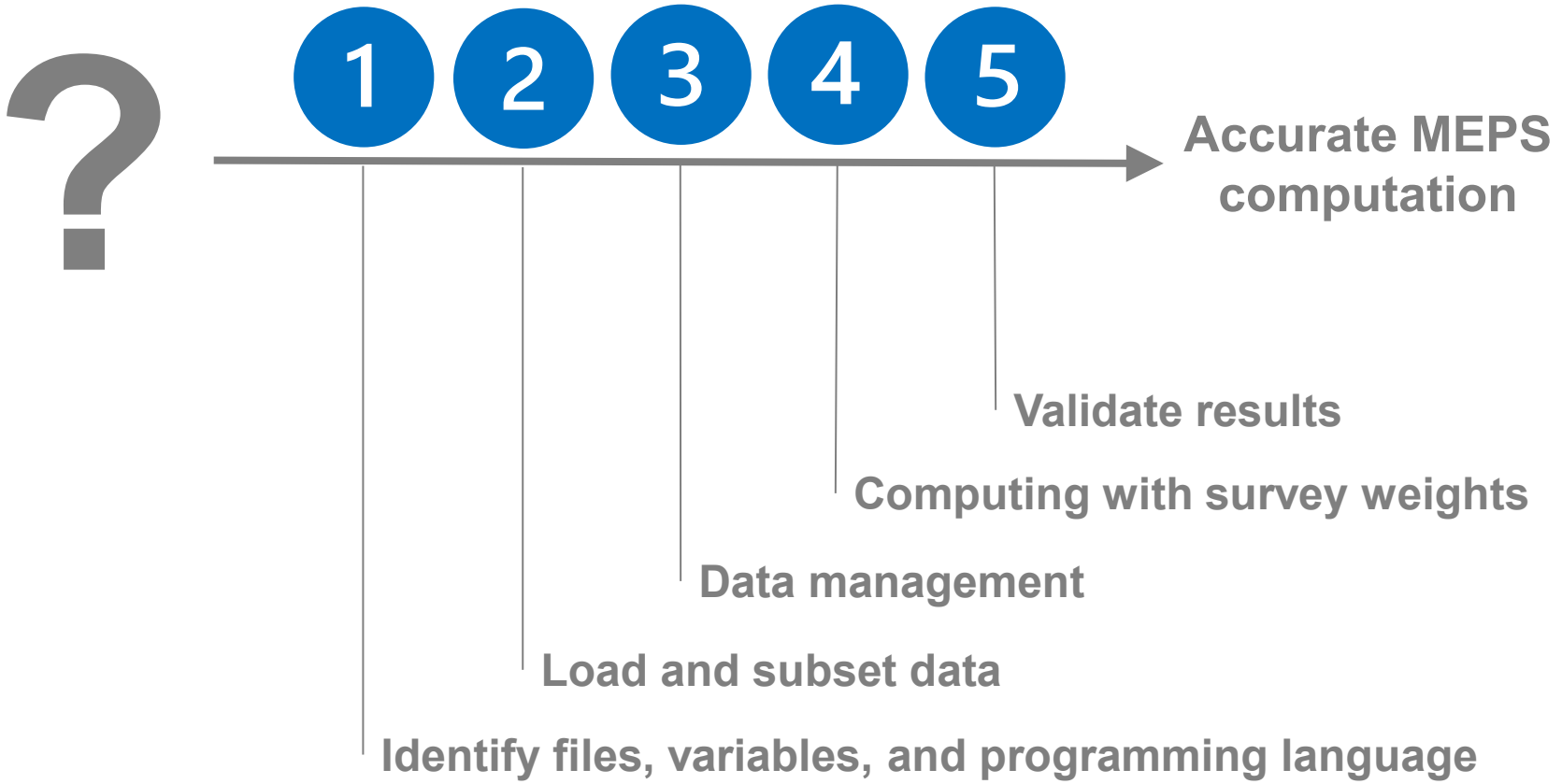
MEPS Programming Example

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

Subset: Not including people that have $0 in expenses



Programming Steps



1 Research Question

Comparing average medical expenses for persons aged 64 and younger vs. 65 and older in 2021

The research question calls for cross-sectional analysis involving people (2021)

Choose the consolidated person-level file

1 Identify Files

Person-level	Event-level	Condition-level	Job/Insurance-level
Consolidated and longitudinal files Organizations: Medical organizations survey	Visits (ER; inpatient, outpatient, outpatient, office-based, dental), prescribed medicines, other medical expenses, home health	Medical conditions files	Jobs file Round-specific plan files

1 Identify Files

https://meps.ahrq.gov/mepsweb/data_stats/download_data_files.jsp

Select by year and/or data file type

Year: All available years

Data file types to include in search (check all that apply). Click information icon for file details. Click link for full list of file types in category.

- Search all data files
- Household Component Full-Year files

  Expenditure and utilization data for the calendar year from several rounds of data collection.
  - Full-Year Consolidated Data files
  - Full-Year Population Characteristics files
  - Full-Year Medical Organizations Survey Final file
  - Full-Year Medical Organizations Survey Preliminary file
  - Medical Conditions files
  - Risk Adjustment Scores files
  - Employment Variables file
  - Jobs files
  - Person Round Plan files

1 Identify Variables

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

The research question calls an outcome (medical expenses) and a stratifier (age group)

↓

Locate the key variables (using MEPS tools).

1 Identify Variables: Documentation

MEPS Home

About MEPS
- Survey Background
- Workshops & Events
- Data Release Schedule

Survey Components
- Household
- Insurance/Employer
- Medical Provider
- Survey Questionnaires

Data and Statistics
- Data Overview
- MEPS Topics
- Publications Search
- MEPS Data Tools (HC/IC)
- Data Files
- Data Centers

Communication
- What's New
- Mailing List
- Discussion Forum
- Participants' Corner

Documentation	File type
Documentation	PDF (1.5 MB) / HTML
Codebook	PDF (3.7 MB) / HTML*
SAS Programming Statements	TXT (512 KB)
SPSS Programming Statements	TXT (305 KB)
STATA Programming Statements	TXT (373 KB)
R Programming Statements	TXT (49 KB)

Data	File type**
Data File, ASCII format	ZIP (8.0 MB)
Data File, SAS transport format	ZIP (9.9 MB)
Data File, SAS V9 format	ZIP (13 MB)
Data File, Stata format	ZIP (7.4 MB)
Data File, XLSX format	ZIP (81 MB)

Questionnaires — see **Survey Questionnaires**

*The PDF version of the codebook is recommended for printing; the HTML version is database driven and lets you navigate quickly to details on each variable.

**Right-click on the data file link, then select Save Target As or Save Link As to download the file.

1 Identify Variables: Crosswalk

https://meps.ahrq.gov/data_stats/download_data/pufs/h233/h233doc.pdf

VARIABLE	DESCRIPTION	SOURCE
AGE31X	Age - R3/1 (Edited/Imputed)	RE80, 650, 680, 750
AGE42X	Age - R4/2 (Edited/Imputed)	RE80, 650, 680, 750
AGE53X	Age - R5/3 (Edited/Imputed)	RE80, 650, 680, 750
AGE21X	Age as of 12/31/21 (Edited/Imputed)	RE80, 650, 680, 750
AGELAST	Person's Age Last Time Eligible	AGE21X, AGE42X, AGE31X

RE80 (REA1156)

BLAISE NAME: AgeRnd

Question Text:

What is {your/{PERSON}'s} age?

Responses: 1 BOX_60 (REA1170)

REFUSED RF BOX_60 (REA1170)

DON'T KNOW DK BOX_60 (REA1170)

Programmer Instructions: Prefill entry field with RU members' age (PL_Person.AgeRnd) when available if age cannot be calculated. If preload has 'DK' (DON'T KNOW) or 'RF' (REFUSED), show that as empty.

Compare entry with preloaded data. Replacing 'real' data with RF or DK is disallowed. If the interviewer tries to do so, display the message "DO NOT REPLACE EXISTING INFORMATION WITH REFUSED OR DON'T KNOW."

1 Identify Variables: Codebook

Name	Start	End	Description
AGE21X	182	183	AGE AS OF 12/31/21 (EDITED/IMPUTED)
AGE31X	176	177	AGE - R3/1 (EDITED/IMPUTED)
AGE42X	178	179	AGE - R4/2 (EDITED/IMPUTED)
AGE53X	180	181	AGE - R5/3 (EDITED/IMPUTED)
AGELAST	184	185	PERSON'S AGE LAST TIME ELIGIBLE

All variables, in alphabetical order

VALUE	UNWEIGHTED	WEIGHTED
0-4 AGE	1,256	18,438,819
5-17 AGE	4,301	54,767,889
18-24 AGE	1,988	28,211,910
25-44 AGE	6,785	88,062,488
45-64 AGE	7,299	83,012,984
65-85 AGE	6,707	58,755,302
TOTAL	28,336	331,249,393

Values and unweighted and weighted counts, here AGELAST

1 Variable Naming Conventions

Example	Naming convention
Edited variables end in “X”	RACETHX
Year-specific variables use last 2 digits of year	TOTEXP21 PERWT21F
Round-specific variables use two-digit round	AGE31X AGE42X AGE53X
Design changes indicated by “_M[YY” suffix	JTPAIN31_M18 DENTHYG_M18
Variables without reference numbers (imputed)	AGELAST

1 Identify Variables: Variable Explorer

https://datatools.ahrq.gov/meps-hc/#varExp

MEPS-HC Variable Explorer Tool: Annual/Main Public Use Files (PUFs) 1996 - 2021

Quick Search

Search Table: AGE

Advanced Search

Variable | Data File: (All) | Description | Years (All)

Selecting a variable under the years will navigate to the codebook on the AHRQ Medical Expenditure Panel Survey website.

Variable	Data	Description	2021	2020	2019
AGE1X	PIT	AGE - (EDITED/IMPUTED)			
AGE2X	FYC	AGE-RD2 (EDITED/IMPUTED)			
AGE31X	FYC	AGE - R3/1 (EDITED/IMPUTED)	AGE31X	AGE31X	AGE31X
AGE42X	FYC	AGE - R4/2 (EDITED/IMPUTED)	AGE42X	AGE42X	AGE42X
AGE53X	FYC	AGE - R5/3 (EDITED/IMPUTED)	AGE53X	AGE53X	AGE53X
AGEDIAG	COND	AGE WHEN DIAGNOSED	AGEDIAG	AGEDIAG	AGEDIAG
AGEJUL01	FYC	SAQ/PAQ: AGE AS OF JULY 1, yyyy			
AGELAST	FYC	PERSON'S AGE LAST TIME ELIGIBLE	AGELAST	AGELAST	AGELAST
AGEyyX	FYC	AGE AS OF 12/31/yy (EDITED/IMPUTED)	AGE21X	AGE20X	AGE19X

1 Identify Programming Language

https://meps.ahrq.gov/mepsweb/data_stats/download_data_files_detail.jsp?cboPufNumber=HC-233

Data	File type**
Data File, ASCII format	ZIP (8.0 MB)
Data File, SAS transport format	ZIP (9.9 MB)
Data File, SAS V9 format	ZIP (13 MB)
Data File, Stata format	ZIP (7.4 MB)
Data File, XLSX format	ZIP (81 MB)

SAS V9, Stata, and XLSX available from 2017 onwards.

Documentation	File type
Documentation	PDF (1.0 MB) / HTML
Codebook	PDF (1.1 MB) / HTML*
SAS Programming Statements	TXT (497 KB)
SPSS Programming Statements	TXT (339 KB)
STATA Programming Statements	TXT (413 KB)
2007 Industry Codes File	PDF (238 KB) / HTML
2010 Occupation Codes File	PDF (236 KB) / HTML

For loading ASCII (.dat) fixed-widths files for 2016 and earlier.

2 Load the Data

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

R

```
install_github("e-mitchell/meps_r_pkg/MEPS")
library(MEPS)
h233 <- read_MEPS(file="h233")
```

SAS

```
DATA work.meps2021;
      SET 'C:/PUF/SAS/h233.sas7bdat';
RUN;
```

STATA

```
Copy
"https://meps.ahrq.gov/mepsweb/data_files/pufs/h233dta
.zip" "h233dta.zip", replace
unzipfile "h233dta.zip", replace

Use h233, clear
```

2 Original MEPS Database

```
> tail(h233[1:7])
# A tibble: 6 x 7
     DUID   PID DUPERSID   PANEL              FAMID31 FAMID42 FAMID53
    <dbl> <dbl> <chr>      <dbl+lbl>          <chr>   <chr>   <chr>
1 2689506   101 2689506101 26 [26 PANEL 26]   A       A       A
2 2689506   102 2689506102 26 [26 PANEL 26]   A       A       A
3 2689507   101 2689507101 26 [26 PANEL 26]   A       A       A
4 2689507   102 2689507102 26 [26 PANEL 26]   A       A       A
5 2689507   103 2689507103 26 [26 PANEL 26]   A       A       A
6 2689507   104 2689507104 26 [26 PANEL 26]   A       A       A
> dim(h233)
[1] 28336  1488
```

2 Subset the Data

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

R

```
vars<-c("DUPERSID", "VARPSU", "VARSTR", "PERWT21F", "AGELAST,
"TOTEXP21")]
h233b<-h233[vars] #only saving in local directory
```

SAS

```
LIBNAME mylib 'C:/analyses/meps_workshop/';*saving file here
DATA mylib.meps2021;
SET work.meps2021;
KEEP AGELAST TOTEXP21 VARPSU VARSTR PERWT21F
RUN;
```

STATA

```
Use h233, clear
preserve
keep dupersid varpsu varstr perwt21f agelast totexp21
save h233B, replace //only saved in local directory
restore
```

2 Subset of MEPS Database

```
> head(h233b)
# A tibble: 6 × 6
  DUPERSID   VARPSU VARSTR PERWT21F AGELAST TOTEXP21
  <chr>       <dbl>  <dbl>    <dbl>   <dbl>    <dbl>
1 2320005101      1   2079    6785.      74     4908
2 2320005102      1   2079    6177.      85    21257
3 2320006101      1   2028    1599.      48      827
4 2320006102      1   2028    1649.      23        0
5 2320006103      1   2028    2892.      22        0
6 2320012102      2   2069    1273.      81     9813
```

```
> summary(h233b)
   DUPERSID             VARPSU          VARSTR       PERWT21F          AGELAST         TOTEXP21
 Length:28336       Min.   :1.000   Min.   :2001   Min.   :    0   Min.   : 0.0   Min.   :      0
 Class :character   1st Qu.:1.000   1st Qu.:2026   1st Qu.: 5404   1st Qu.:23.0   1st Qu.:    242
 Mode  :character   Median :2.000   Median :2052   Median : 9201   Median :44.0   Median :   1504
                    Mean   :2.052   Mean   :2056   Mean   :11690   Mean   :43.2   Mean   :   7711
                    3rd Qu.:3.000   3rd Qu.:2085   3rd Qu.:15132   3rd Qu.:64.0   3rd Qu.:   6143
                    Max.   :8.000   Max.   :2117   Max.   :106959  Max.   :85.0   Max.   :2187290
```

3 Data Management – Reserve Codes

```
> table(h233$EDUCYR)

-15   -8   -7   -1    0    1    2    3    4    5    6    7    8    9   10   11   12   13   14   15   16   17
  1  162   29 1951  822  405  418  420  430  407  661  440  631  766  813 1028 6644 1395 2839  716 4364 2994
```

MEPS CODE	Analyst	MEPS label	Interpretation
-1	-1	Inapplicable	Question was not asked due to skip pattern
-7	-7	Refused	Question was asked and respondent refused to answer
-8	-8	Don't know	Question was asked and respondent did not know the answer
-9	-9	Not ascertained	Interviewer did not record the data
-15	-15	Cannot be	Value cannot be derived from the data
-10	-10	Top-coded	Value was top-coded due to confidentiality (e.g. hourly wage, age above 85 etc)
-	NA	Missing	When combining multiple years, not all variables exist in every year (such as COVID-vaccine in 2019)

We do not use -10 in this analysis, limited to restricted files.

3 Data Management: Unique Identifiers

Person-level files

PANEL	DUID	PID	DUPERSID
24	2490001	101	2490001101
24	2490001	102	2490001102
24	2490002	101	2490002101

Event files

DUPERSID	EVNTIDX
2490001101	2490001101003301
2490001101	2490001101003401
2490002101	2490002101002601
2490002101	2490002101205301

Conditions file

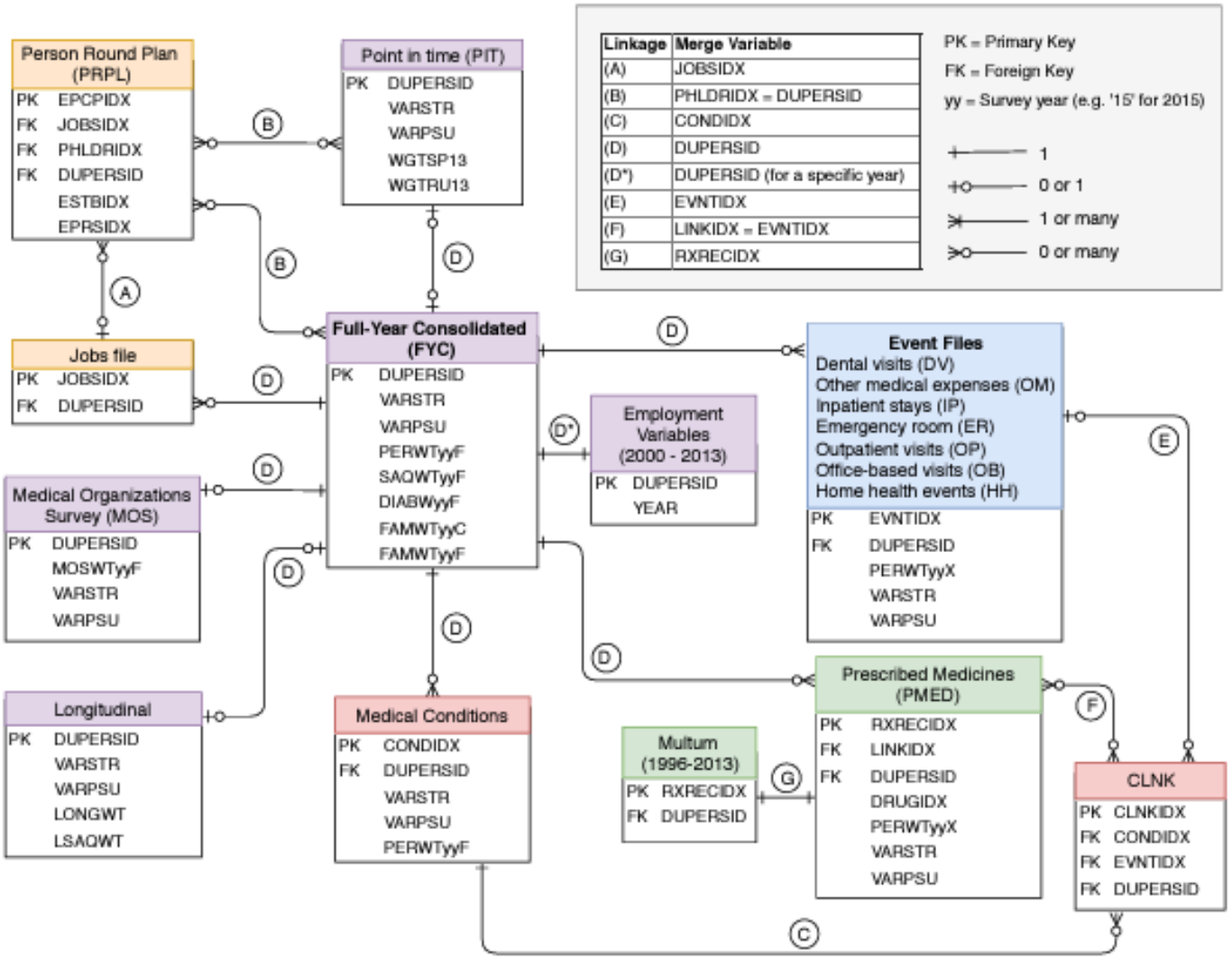
DUPERSID	CONDN	CONDIDX
2490001102	3	2490001102003
2490002101	2	2490002101002
2490002101	8	2490002101008
2490002101	11	2490002101011

Jobs file

DUPERSID	RN	JOBNUM	JOBSIDX
2490001101	3	101	2490001101 3101
2490001101	3	104	2490001101 3104
2490001101	4	104	2490001101 4104
2490001102	3	103	2490001102 3103

3 Data Management: Entity Diagram

https://github.com/HHS-AHRQ/MEPSblob/master/Quick_Reference_Guides/meps_erd.pdf



3 Data Management: Creating New Variables

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

R

```
install.packages("dplyr")#only once
library(dplyr)

h233B <- h233 %>% mutate(
    agecat = ifelse(AGELAST > 64,1, 0),
    has_exp = ifelse(TOTEXP21 <= 0, 0, 1) )
```

SAS

```
DATA mylib.meps2021; *recalling my subsetted data set;
       SET mylib.meps2021;
IF AGELAST <=64 THEN age_cat = 1;
       ELSE age_cat = 1;
IF TOTEXP21 <= 0 THEN has_exp = 0;
       ELSE has_exp = 1;
RUN;
```

STATA

```
gen agecat=.
replace agecat=1 if agelast>=0 & agelast<65
replace agecat=0 if agelast>=65

gen total_exp=totalexp21
gen has_exp=(total_exp>0)
```

3 Estimates without Survey Weights

Comparing average medical expenses for persons aged 64 and younger vs. 65 and older in 2021

agecat	AGELAST		
	Min	Mean	Max
0 (< 65)	0	33.7	64
1 (≥65+)	65	73.9	85

has_exp	TOTEXP21		
	Min	Mean	Max
0	0	0	0
1	0	**9,050**	2,187,290

agecat	has_exp	TOTEXP21 X agecat			
		Min	Mean	Max	N
0 (< 65)	1	0	6,832	2,187,290	21,629
1 (≥65+)	1	0	15,096	1,667,150	6,707

4 Computing with Survey Weights: Variables

Design variables	Type	MEPS examples
Weights	Person-level	PERWT21F, DIABW21F, SAQWT21F
	Family-level	FAMWT21F, FAMWT21C
	Longitudinal	LONGWT
Variance-estimation	Stratum	VARSTR
	Primary sampling unit	PSU

4 Applying Survey Procedures

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

R

```
#install.packages("survey")
library(survey)
mepsdsgn = svydesign(id = ~VARPSU, strata = ~VARSTR, weights = ~PERWT21F,
data = h233B,  nest = TRUE)
library(MEPS)
svyby(~TOTEXP21, by = ~agecat, FUN = svymean, design = subset(mepsdsgn,
has_exp==1))
```

SAS

```
PROC SURVEYMEANS DATA=mylib.meps2021;
WHERE has_exp = 1;
STRATA VARSTR;
CLUSTER VARPSU;
WEIGHT PERWT21F;
VAR TOTEXP21;
DOMAIN age_cat;
RUN;
```

STATA

```
svyset varpsu[pw=perwt21f], strata(varstr) vce(linearized)
singleunit(centered)

svy: mean subpop(has_exp==1);
svy: mean totexp21, over(agecat)
```

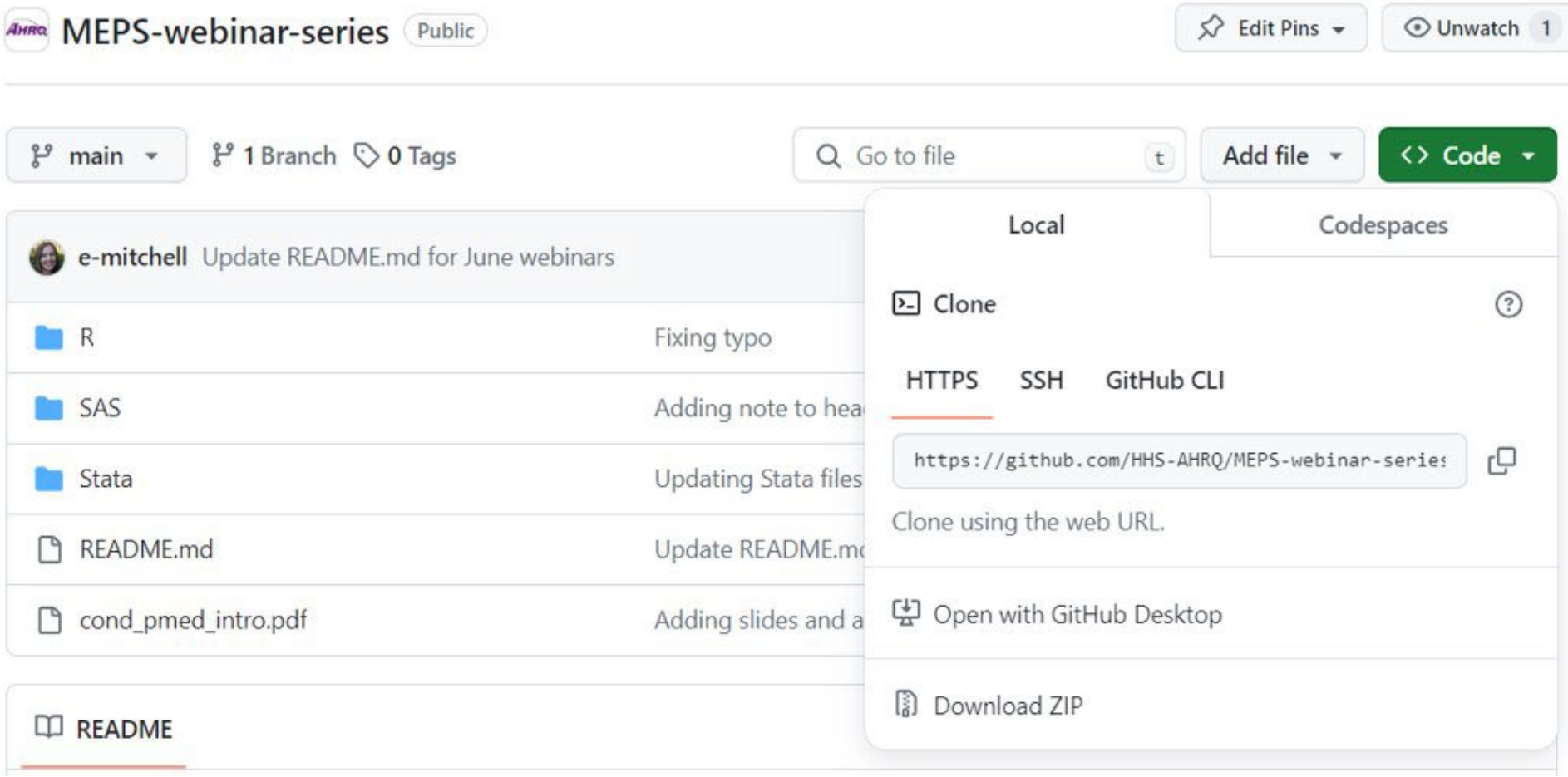
4 Estimates with Survey Weights

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

Data run	Has expense	Age group	Mean	Variability
Applying PERWT21F, VARSTR and VARPSU	1	0 (<65)	$6,386	210.2
		1 (≥65)	$14,683	526.9
Ignoring survey weights	1	0 (<65)	$6,832	25,418
		1 (≥65)	$15,096	37,404
Ignoring VARSTR, VARPSU	1	1 (≥65)	$6,386	195.7
		1 (≥65)	$14,683	522.8

4 Sample Code: MEPS Website & GitHub

meps.ahrq.gov/survey_comp/hc_samplecodes_se.shtml
https://github.com/HHS-AHRQ/MEPS



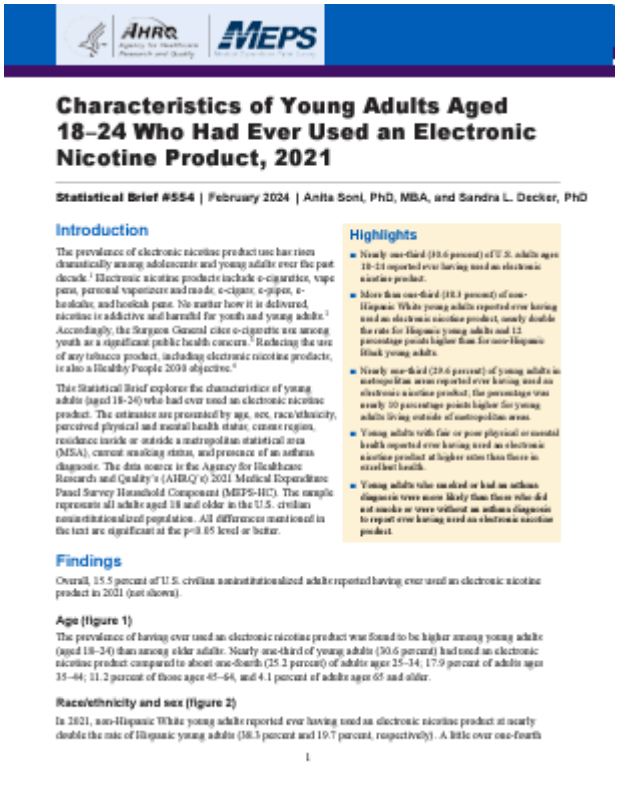
5 Validate Estimates

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

Does output make sense?	Are estimates reliable?	Consistent with other published results?
		
Well-defined research question; population estimates; price indices.	Sample size (n>60); Relative Standard Errors (RSE<0.3)	AHRQ statistical briefs; MEPS-HC Data Tools

5 Validate Estimates: Statistical Briefs

https://meps.ahrq.gov/mepsweb/data_stats/publications.jsp



Characteristics of Young Adults Aged 18–24 Who Had Ever Used an Electronic Nicotine Product, 2021

Statistical Brief #554 | February 2024 | Anita Soni, PhD, MBA, and Sandra L. Decker, PhD

Introduction

The prevalence of electronic nicotine product use has risen dramatically among adolescents and young adults over the past decade.[1] Electronic nicotine products include e-cigarettes, vape pens, personal vaporizers and mods, e-cigars, e-pipes, e-hookahs, and hookah pens. No matter how it is delivered, nicotine is addictive and harmful for youth and young adults.[2] Accordingly, the Surgeon General cites e-cigarette use among youth as a significant public health concern.[3] Reducing the use of any tobacco product, including electronic nicotine products, is also a Healthy People 2030 objective.[4]

This Statistical Brief explores the characteristics of young adults (aged 18–24) who had ever used an electronic nicotine product. The estimates are presented by age, sex, race/ethnicity, perceived physical and mental health status, census region, residence inside or outside a metropolitan statistical area (MSA), current smoking status, and presence of an asthma diagnosis. The data source is the Agency for Healthcare Research and Quality's (AHRQ's) 2021 Medical Expenditure Panel Survey Household Component (MEPS-HC). The sample represents all adults aged 18 and older in the U.S. civilian noninstitutionalized population. All differences mentioned in the text are significant at the p<0.05 level or better.

Highlights

- Nearly one-third (30.6 percent) of U.S. adults ages 18–24 reported ever having used an electronic nicotine product.
- More than one-third (38.1 percent) of non-Hispanic White young adults reported ever having used an electronic nicotine product, nearly double the rate for Hispanic young adults and 12 percentage points higher than for non-Hispanic Black young adults.
- Nearly one-third (29.6 percent) of young adults in metropolitan areas reported ever having used an electronic nicotine product; the percentage was nearly 10 percentage points higher for young adults living outside of metropolitan areas.
- Young adults with fair or poor physical or mental health reported ever having used an electronic nicotine product at higher rates than those in excellent health.
- Young adults who smoked or had an asthma diagnosis were more likely than those who did not smoke or were without an asthma diagnosis to report ever having used an electronic nicotine product.

Findings

Overall, 15.5 percent of U.S. civilian noninstitutionalized adults reported having ever used an electronic nicotine product in 2021 (not shown).

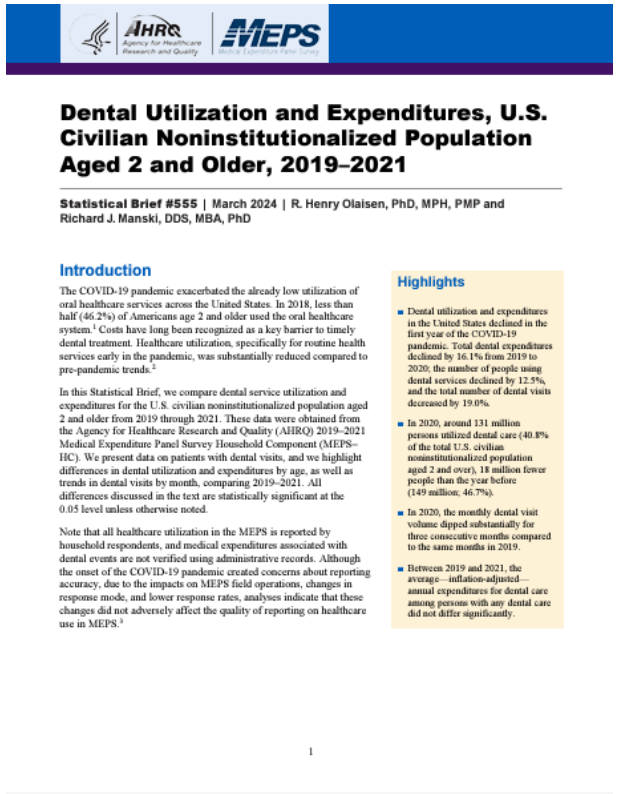
Age (figure 1)

The prevalence of having ever used an electronic nicotine product was found to be higher among young adults (aged 18–24) than among older adults. Nearly one-third of young adults (30.6 percent) had used an electronic nicotine product compared to about one-fourth (25.2 percent) of adults ages 25–34; 17.9 percent of adults ages 35–44; 11.2 percent of those ages 45–64; and 4.1 percent of adults age 65 and older.

Race/ethnicity and sex (figure 2)

In 2021, non-Hispanic White young adults reported ever having used an electronic nicotine product at nearly double the rate of Hispanic young adults (38.1 percent and 19.7 percent, respectively). A little over one-fourth

1



Dental Utilization and Expenditures, U.S. Civilian Noninstitutionalized Population Aged 2 and Older, 2019–2021

Statistical Brief #555 | March 2024 | R. Henry Olaisen, PhD, MPH, PMP and Richard J. Manski, DDS, MBA, PhD

Introduction

The COVID-19 pandemic exacerbated the already low utilization of oral healthcare services across the United States. In 2018, less than half (46.2%) of Americans age 2 and older used the oral healthcare system.[1] Costs have long been recognized as a key barrier to timely dental treatment. Healthcare utilization, specifically for routine health services early in the pandemic, was substantially reduced compared to pre-pandemic trends.[2]

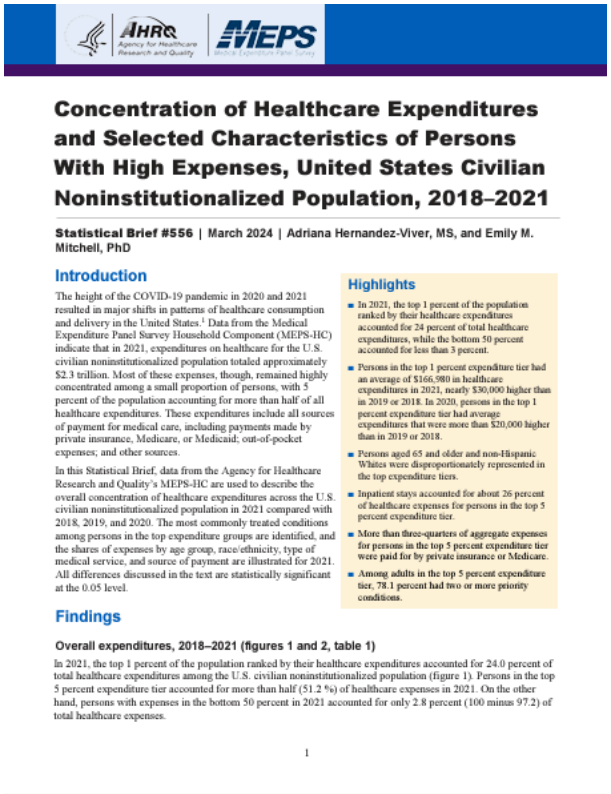
In this Statistical Brief, we compare dental service utilization and expenditures for the U.S. civilian noninstitutionalized population aged 2 and older from 2019 through 2021. These data were obtained from the Agency for Healthcare Research and Quality (AHRQ) 2019–2021 Medical Expenditure Panel Survey Household Component (MEPS–HC). We present data on patients with dental visits, and we highlight differences in dental utilization and expenditures by age, as well as trends in dental visits by month, comparing 2019–2021. All differences discussed in the text are statistically significant at the 0.05 level unless otherwise noted.

Note that all healthcare utilization in the MEPS is reported by household respondents, and medical expenditures associated with dental events are not verified using administrative records. Although the onset of the COVID-19 pandemic created concerns about reporting accuracy, due to the impacts on MEPS field operations, changes in response mode, and lower response rates, analyses indicate that these changes did not adversely affect the quality of reporting on healthcare use in MEPS.[3]

Highlights

- Dental utilization and expenditures in the United States declined in the first year of the COVID-19 pandemic. Total dental expenditures declined by 16.1% from 2019 to 2020; the number of people using dental services declined by 12.5%, and the total number of dental visits decreased by 19.0%.
- In 2020, around 131 million persons utilized dental care (40.8% of the total U.S. civilian noninstitutionalized population aged 2 and over), 18 million fewer people than the year before (149 million; 46.7%).
- In 2020, the monthly dental visit volume dipped substantially for three consecutive months compared to the same months in 2019.
- Between 2019 and 2021, the average—inflation-adjusted—annual expenditures for dental care among persons with any dental care did not differ significantly.

1



Concentration of Healthcare Expenditures and Selected Characteristics of Persons With High Expenses, United States Civilian Noninstitutionalized Population, 2018–2021

Statistical Brief #556 | March 2024 | Adriana Hernandez-Viver, MS, and Emily M. Mitchell, PhD

Introduction

The height of the COVID-19 pandemic in 2020 and 2021 resulted in major shifts in patterns of healthcare consumption and delivery in the United States.[1] Data from the Medical Expenditure Panel Survey Household Component (MEPS-HC) indicate that in 2021, expenditures on healthcare for the U.S. civilian noninstitutionalized population totaled approximately $2.3 trillion. Most of these expenses, though, remained highly concentrated among a small proportion of persons, with 5 percent of the population accounting for more than half of all healthcare expenditures. These expenditures include all sources of payment for medical care, including payments made by private insurance, Medicare, or Medicaid; out-of-pocket expenses; and other sources.

In this Statistical Brief, data from the Agency for Healthcare Research and Quality's MEPS-HC are used to describe the overall concentration of healthcare expenditures across the U.S. civilian noninstitutionalized population in 2021 compared with 2018, 2019, and 2020. The most commonly treated conditions among persons in the top expenditure groups are identified, and the shares of expenses by age group, race/ethnicity, type of medical service, and source of payment are illustrated for 2021. All differences discussed in the text are statistically significant at the 0.05 level.

Highlights

- In 2021, the top 1 percent of the population ranked by their healthcare expenditures accounted for 24 percent of total healthcare expenditures, while the bottom 50 percent accounted for less than 3 percent.
- Persons in the top 1 percent expenditure tier had an average of $166,980 in healthcare expenditures in 2021, nearly $30,000 higher than in 2019 or 2018. In 2020, persons in the top 1 percent expenditure tier had average expenditures that were more than $20,000 higher than in 2019 or 2018.
- Persons aged 65 and older and non-Hispanic Whites were disproportionately represented in the top expenditure tiers.
- Inpatient stays accounted for about 26 percent of healthcare expenses for persons in the top 5 percent expenditure tier.
- More than three-quarters of aggregate expenses for persons in the top 5 percent expenditure tier were paid for by private insurance or Medicare.
- Among adults in the top 5 percent expenditure tier, 78.1 percent had two or more priority conditions.

Findings

Overall expenditures, 2018–2021 (figures 1 and 2, table 1)

In 2021, the top 1 percent of the population ranked by their healthcare expenditures accounted for 24.0 percent of total healthcare expenditures among the U.S. civilian noninstitutionalized population (figure 1). Persons in the top 5 percent expenditure tier accounted for more than half (51.2 %) of healthcare expenses in 2021. On the other hand, persons with expenses in the bottom 50 percent in 2021 accounted for only 2.8 percent (100 minus 97.2) of total healthcare expenses.

1

5 Validate Estimates: Data Tools

https://datatools.ahrq.gov/meps-hc/

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

Use, Expenditures, and Population

Trends

Cross-sectional

Estimates: Mean expenditure per person...

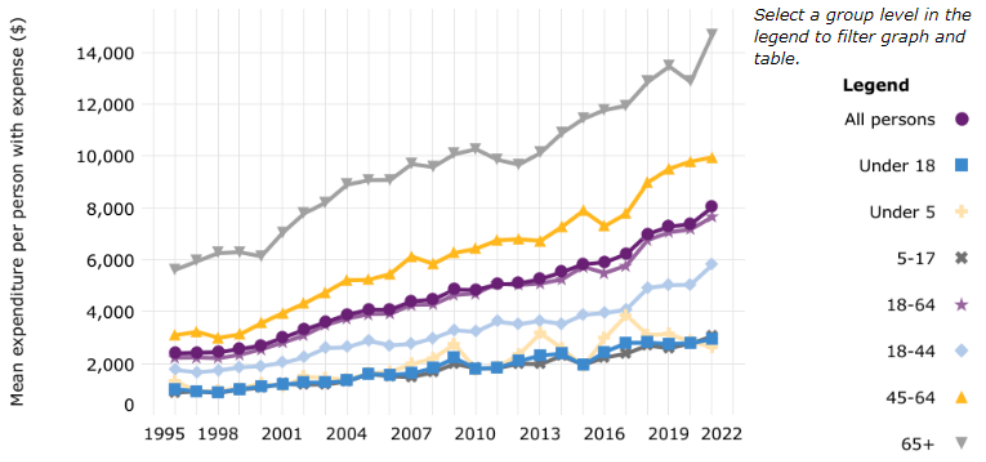
Groups: Age groups

Group Levels: (All)

Start Year 1996 **End Year** 2021

☐ **Show 95% CI**

Mean expenditure per person with expense by age groups, United States, 1996 to 2021



	18-64		18-44		45-64		65+	
Year	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
2021	,654	251.7	5,805	342.2	9,953	394.4	14,683	526.9
2020	,177	248.6	5,045	227.7	9,797	479.7	12,866	379.2
2019	,066	162.1	5,030	181.9	9,518	296.5	13,464	369.1
2018	,768	176.7	4,914	199	8,986	336.8	12,866	329
2017	,784	157.4	4,087	173.3	7,783	263.3	11,947	371.3
2016	,497	153.3	3,948	164.8	7,306	256.7	11,781	429.2
2015	,739	215.9	3,878	163.8	7,896	385	11,446	343

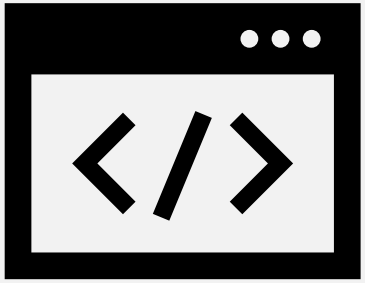
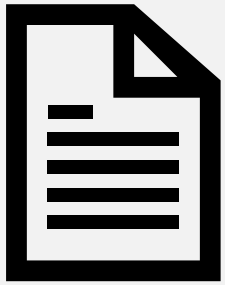
*Relative standard error is greater than 30%.
--Estimates suppressed due to inadequate precision.

5 Validated Estimates

Comparing average nationally representative medical expenses for persons aged 64 and younger vs. 65 and older in 2021

Data run	Has expense	Age group	Mean	Variability
Our programming example	yes	0 (<65)		
		1 (≥65)	**$14,683**	**526.9**
Benchmark (Data Tool)	yes	0 (<65)		
		1 (≥65)	**$14,683**	**526.9**

Summary of Resources

MEPS website	Data Tools	GitHub	Statistical Briefs
			
Documentation Codebook Variable source crosswalk Data files Programming code	Descriptive statistics Variable explorer tool	Programming code Data files Entity diagram	Methodology Descriptive statistics Published results

Thank you!

Henry.Olaisen@ahrq.hhs.gov