
Project Examples

Project Examples

You're embarking on a research project to learn about health care and insurance in today's economy.

- ▶ What's the public spending and who's spending more?
- ▶ Does self-employment affect health care expenditures and insurance coverage?
- ▶ Who's covered by health insurance?

Project 1: Annual health care expenditures by various demographics/income (exploring the sample)

Project 1

Let's take a look at the sample and what's available in the **FMLI file** related to health care expenditures

In this project you will:

- ▶ Learn about summary variables
- ▶ Learn about income and income ranking
- ▶ Calculate sample means, percent reporting, and sample aggregates
- ▶ Understand some limitations of the Interview survey

Summary Level Expenditures

- “Summary Level Expenditures” (see section III.G.1.a in the Interview user’s documentation for detailed information)
 - ▶ Why PQ and CQ? – to assist with creating calendar year estimates (more on this later)
 - PQ → previous calendar quarter expenditures (compared to interview date)
 - CQ → current quarter expenditures
 - For total reference period expenditures $PQ + CQ$

Income and Ranking

- Income is collected only in the 2nd and 5th interviews
- Reported income from the 2nd is carried over to 3rd and 4th interviews
- Missing values are imputed quarterly
- **INC_RNKM** - Weighted income rank from 0 to 1 based on **FINCBTXM** (total before tax income – includes imputed values)
 - ▶ Ranks are calculated independently per quarter
 - ▶ We can use this variable to assign families to income quartiles

Project 1 Steps

1. Concatenate ("Set" "Append") 4 quarterly FMLI files to obtain collection year of data
2. Calculate quarterly health and health insurance expenditures for each household:
 $HEALTH = HEALTHPO + HEALTHCO$
 $HLTHINS = HLTHINPO + HLTHINCO$
3. Create demographic groups to estimate by: Age and Income quartile (see next slide for groups)
4. Aggregates: Calculate aggregates for each of the groups for all quarters.
5. Means: Calculate annual means for each of the groups
 - ▶ Multiply quarterly aggregates by 4 to get annual aggregate, divide by sample
6. Percent reporting: Create an indicator for CUs that had expenditures > 0 , find the mean of the indicator to determine the percent that reported

Demographic groups

AGE groups:

AGE_REF

- ▶ Under 35
- ▶ 35 to 64
- ▶ 65 and older

Quartiles:

INC_RNKM

- ▶ $0 - 0.25 = 1^{\text{st}}$ quartile
- ▶ $0.25 - 0.5 = 2^{\text{nd}}$ quartile
- ▶ $0.5 - 0.75 = 3^{\text{rd}}$ quartile
- ▶ 0.75 and over = 4^{th} quartile

Project 1 Results

Stacked data and created variables (first 15 observations sorted by NEWID)

| | NEWID | HEALTH | HLTHINS | AGEGROUP | QUARTILE | COUNT |
|----|---------|--------|---------|------------|----------|-------|
| 1 | 2377165 | 2920.0 | 2080.0 | 35 to 64 | 4th | 1 |
| 2 | 2377175 | 2780.0 | 0.0 | 35 to 64 | 3rd | 1 |
| 3 | 2377225 | 4432.0 | 960.0 | 65 & Up | 2nd | 1 |
| 4 | 2377235 | 2000.0 | 0.0 | 35 to 64 | 4th | 1 |
| 5 | 2377265 | 0.0 | 0.0 | 34 & Under | 3rd | 1 |
| 6 | 2377275 | 5548.8 | 4896.8 | 65 & Up | 1st | 1 |
| 7 | 2377335 | 1300.0 | 800.0 | 34 & Under | 2nd | 1 |
| 8 | 2377345 | 1280.0 | 1240.0 | 35 to 64 | 4th | 1 |
| 9 | 2377355 | 4000.0 | 4000.0 | 35 to 64 | 2nd | 1 |
| 10 | 2377365 | 1344.0 | 1164.0 | 35 to 64 | 3rd | 1 |
| 11 | 2377385 | 6400.0 | 4800.0 | 35 to 64 | 3rd | 1 |
| 12 | 2377405 | 2164.0 | 0.0 | 35 to 64 | 2nd | 1 |
| 13 | 2377455 | 2560.0 | 1656.0 | 34 & Under | 3rd | 1 |
| 14 | 2377475 | 680.0 | 480.0 | 35 to 64 | 2nd | 1 |
| 15 | 2377485 | 1740.0 | 0.0 | 35 to 64 | 4th | 1 |

Project 1 Results

Means

| | AGEGROUP | COUNT | HEALTH_MEAN | HLTHINS_MEAN |
|---|------------|-------|-------------|--------------|
| 1 | 34 & Under | 6027 | 1620.910 | 975.4477 |
| 2 | 35 to 64 | 14909 | 3426.845 | 2028.0379 |
| 3 | 65 & Up | 6057 | 4829.207 | 3143.2888 |

| | QUARTILE | COUNT | HEALTH_MEAN | HLTHINS_MEAN |
|---|----------|-------|-------------|--------------|
| 1 | 1st | 6807 | 1660.556 | 1057.943 |
| 2 | 2nd | 6681 | 2798.131 | 1740.077 |
| 3 | 3rd | 6612 | 3625.655 | 2235.387 |
| 4 | 4th | 6893 | 5243.001 | 3125.880 |

Project 1 Results

Percent reporting

| | Category | PCTRPT_HLTH | PCTRPT_INS |
|---|------------|-------------|------------|
| 1 | 34 & Under | 60.59399 | 42.87373 |
| 2 | 35 to 64 | 79.81756 | 61.68757 |
| 3 | 65 & Up | 94.91497 | 90.67195 |

| | Category | PCTRPT_HLTH | PCTRPT_INS |
|---|----------|-------------|------------|
| 1 | 1st | 62.96460 | 46.31996 |
| 2 | 2nd | 76.57536 | 62.37090 |
| 3 | 3rd | 84.51301 | 70.05445 |
| 4 | 4th | 91.55665 | 77.19426 |

Project 1 notes

- Interview not designed to capture smaller, frequently purchased items.
 - ▶ EX: *Topicals and Dressings* and *Non-prescription drugs* are included in total expenditures for the CE tables, but aren't collected in the Interview.
 - ▶ Supplement Diary data to include (we'll do this in Project 4)