

# Homework 1

Research Methods, Spring 2025

## Answer Key

My answers to the homework questions are described below. Note that I do the analysis for these answers in a separate R script. You can read in the full data as part of your markdown file, but that takes some time to compile to pdf. So I run the analysis separately, save the workspace with only the summary stats, figures, and tables that I need, and then load the workspace in the final qmd. My analysis file is available in the analysis folder. The GitHub repository for this work is available [here](#). Enjoy!

## Building the Data

Answer the following based on our initial, simplified dataset of enrollments, plan types, and service areas:

1. Provide a table of the count of plans under each plan type in each year.

See [Table 1](#).

Table 1: All plan types in 2015

Plan Type	Count
Medicare Prescription Drug Plan	991,457
Local PPO	704,993
HMO/HMOPOS	479,275
Employer/Union Only Direct Contract PDP	25,630
Regional PPO	17,578
PFFS	13,658
1876 Cost	7,157
MSA	6,518
Medicare-Medicaid Plan HMO/HMOPOS	4,130
National PACE	1,216
HCPP - 1833 Cost	9
Pilot	2

2. Remove all special needs plans (SNP), employer group plans (eghp), and all “800-series” plans. Provide an updated table after making these exclusions.

I remove the relevant plans just by applying the relevant filter to the full ma data and then creating the table of plan types. Counts of different plan types with these exclusions are presented in Table 2.

Table 2: Revised plan types in 2015

Plan Type	Count
Medicare Prescription Drug Plan	269,153
HMO/HMOPOS	36,588
Local PPO	16,728
Regional PPO	8,531
1876 Cost	6,329
PFFS	4,232
Medicare-Medicaid Plan HMO/HMOPOS	4,130
National PACE	1,216
MSA	232

3. Provide a table of the average enrollments for each plan type in 2015.

To do this, I need to collapse the data to the plan-type level and form the average enrollments across all counties in which that plan type operates. The resulting table is presented in Table 3.

Table 3: Enrollments by plan type in 2015

Plan Type	Count	Avg Enrollments
Medicare Prescription Drug Plan	269,153	312
HMO/HMOPOS	36,588	849
Local PPO	16,728	311
Regional PPO	8,531	202
1876 Cost	6,329	228
PFFS	4,232	125
Medicare-Medicaid Plan HMO/HMOPOS	4,130	624
National PACE	1,216	140
MSA	232	108