

Homework 1

Research Methods, Spring 2026

Answer Key

My answers to the homework questions are described below. Note that I build the data in a separate script. Any remaining analysis is hidden from the output. Separating the data work from the analysis and output (or sometimes all three) is good practice as it avoids loss of data should things crash. All the necessary code files are available on the GitHub repository [here](#). Instructions for working with the code files are included in the ReadMe file. 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.

See [Table 1](#).

Table 1: All plan types in 2018

Plan Type	Count
Medicare Prescription Drug Plan	989,936
Local PPO	906,543
HMO/HMOPOS	508,649
Regional PPO	25,783
PFFS	16,663
Employer/Union Only Direct Contract PDP	9,581
1876 Cost	8,439
Medicare-Medicaid Plan HMO/HMOPOS	7,312
National PACE	1,949
MSA	254
HCPP - 1833 Cost	9

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 filters to the plan 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 2018

Plan Type	Count
Medicare Prescription Drug Plan	310,801
HMO/HMOPOS	89,772
Local PPO	41,759
Regional PPO	14,883
1876 Cost	7,583
Medicare-Medicaid Plan HMO/HMOPOS	7,312
PFFS	4,048
National PACE	1,949
MSA	198

3. Provide a table of the average enrollments for each plan type in 2018 after limiting to approved service areas.

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 2018

Plan Type	Count	Avg Enrollments
Local PPO	38,574	331
HMO/HMOPOS	33,236	756
Regional PPO	6,797	189
1876 Cost	4,872	252
PFFS	2,726	94
National PACE	902	144
Medicare-Medicaid Plan HMO/HMOPOS	418	989
MSA	183	58