

# Joseph-J-hwk1-3

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## Answers:

### 1. How many observations exist in your current dataset?

The total number of observations is 19,126,783.

### 2. How many different plan types exist in the data?

There are 27 different plan types that exist in this data set

Below is a table of the different plan types for reference:

Table 1: Plan Types

plan_type	n
Medicare Prescription Drug Plan	8250429
Local PPO	4034639
HMO/HMOPOS	3686201
PFFS	2216821
NA	305038
Employer/Union Only Direct Contract PDP	250081
Regional PPO	206473
MSA	65574
1876 Cost	59615
Employer/Union Only Direct Contract PFFS	16651
HCPP - 1833 Cost	7618
National PACE	7212
Medicare-Medicaid Plan HMO/HMOPOS	5714
MSA Demo	3274
Employer Direct PFFS	3247
RFB PFFS	3006
PSO (State License)	1513
SHMO	1125
MN Senior Health Options	968
Continuing Care Retirement Community	517
ESRD I	437
Pilot	293
PSO (Federal Waiver of State License)	162
MA Health Senior Care Options	73
WI Partnership Program	42

plan_type	n
ESRD II	39
MN Disability Health Options	21

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

Table 2: Plan Types

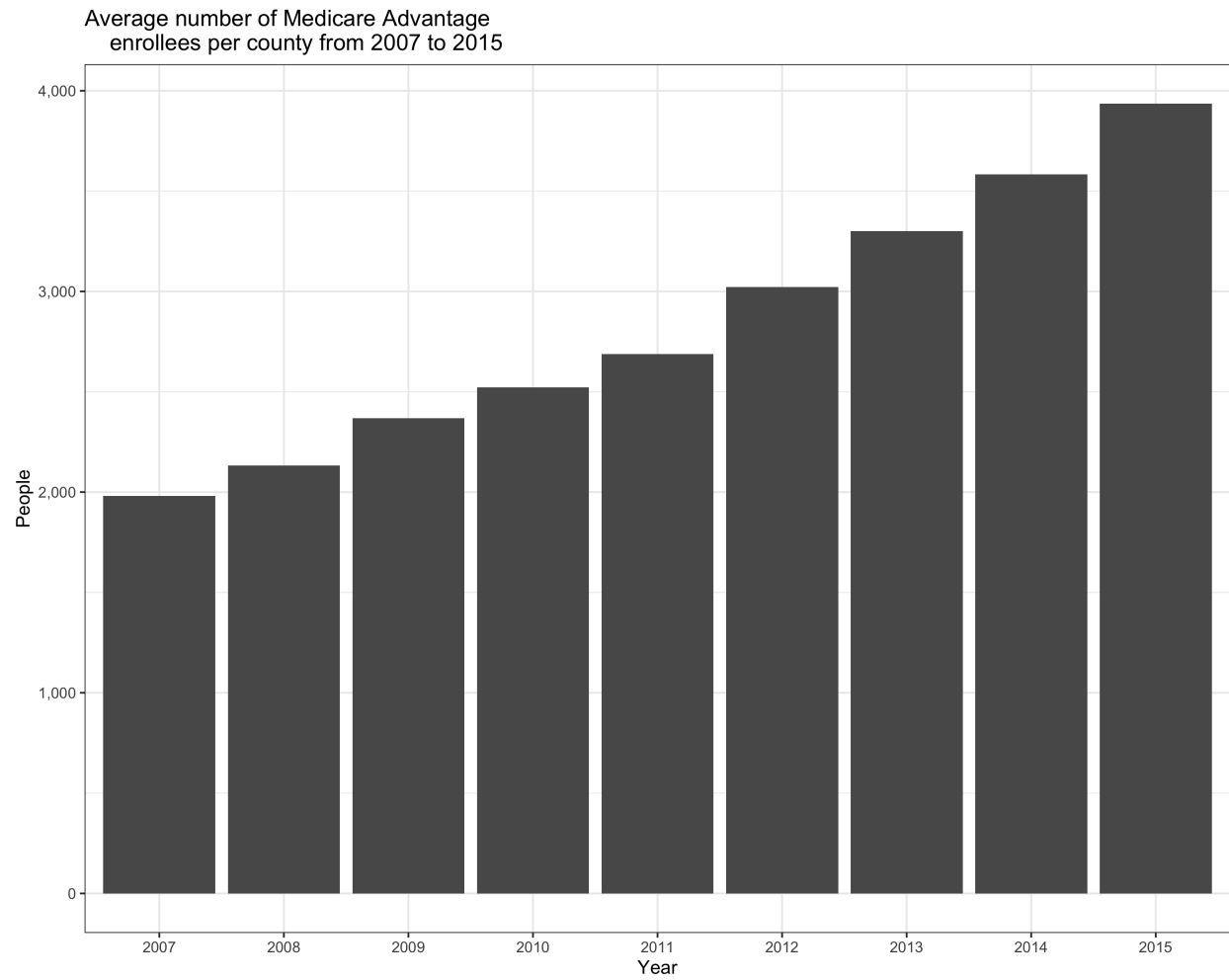
plan_type	2007	2008	2009	2010	2011	2012	2013	2014	2015
Medicare Prescription Drug Plan	920058	963478	945794	893609	771694	815223	826907	1122209	991457
PFFS	364285	630756	683361	385733	45781	36423	31919	24905	13658
HMO/HMOPOS	60012	70176	479978	506802	528473	507272	530909	523304	479275
Employer/Union Only Direct Contract PDP	32358	29113	25860	28700	28697	28669	25526	25528	25630
Regional PPO	26402	27990	25943	24442	22773	21602	19970	19773	17578
Local PPO	17427	38470	405197	417551	515700	636701	633884	664716	704993
1876 Cost	5855	5459	5825	6035	6851	7633	7731	7069	7157
MSA	4422	16515	12267	135	6421	6416	6431	6449	6518
MSA Demo	3274	NA	NA	NA	NA	NA	NA	NA	NA
Employer Direct PFFS	3247	NA	NA	NA	NA	NA	NA	NA	NA
SHMO	1125	NA	NA	NA	NA	NA	NA	NA	NA
MN Senior Health Options	968	NA	NA	NA	NA	NA	NA	NA	NA
PSO (State License)	421	535	87	123	176	171	NA	NA	NA
National PACE	405	548	616	717	781	858	953	1118	1216
PSO (Federal Waiver of State License)	162	NA	NA	NA	NA	NA	NA	NA	NA
Continuing Care Retirement Community	95	122	158	142	NA	NA	NA	NA	NA
ESRD I	75	122	123	117	NA	NA	NA	NA	NA
MA Health Senior Care Options	73	NA	NA	NA	NA	NA	NA	NA	NA
WI Partnership Program	42	NA	NA	NA	NA	NA	NA	NA	NA
MN Disability Health Options	21	NA	NA	NA	NA	NA	NA	NA	NA
Pilot	15	12	201	53	3	3	2	2	2
HCPP - 1833 Cost	13	13	3938	3604	11	11	10	9	9
ESRD II	12	12	7	8	NA	NA	NA	NA	NA
Employer/Union Only Direct Contract PFFS	NA	3332	3335	3332	3329	3323	NA	NA	NA
RFB PFFS	NA	NA	3006	NA	NA	NA	NA	NA	NA
Medicare-Medicaid Plan	NA	NA	NA	NA	NA	NA	265	1319	4130
HMO/HMOPOS									

**4. Remove all special needs plans (SNP), employer group plans (eghp), and all “800-series” plans. Provide an updated version of Table 1**

Table 3: Plan Types

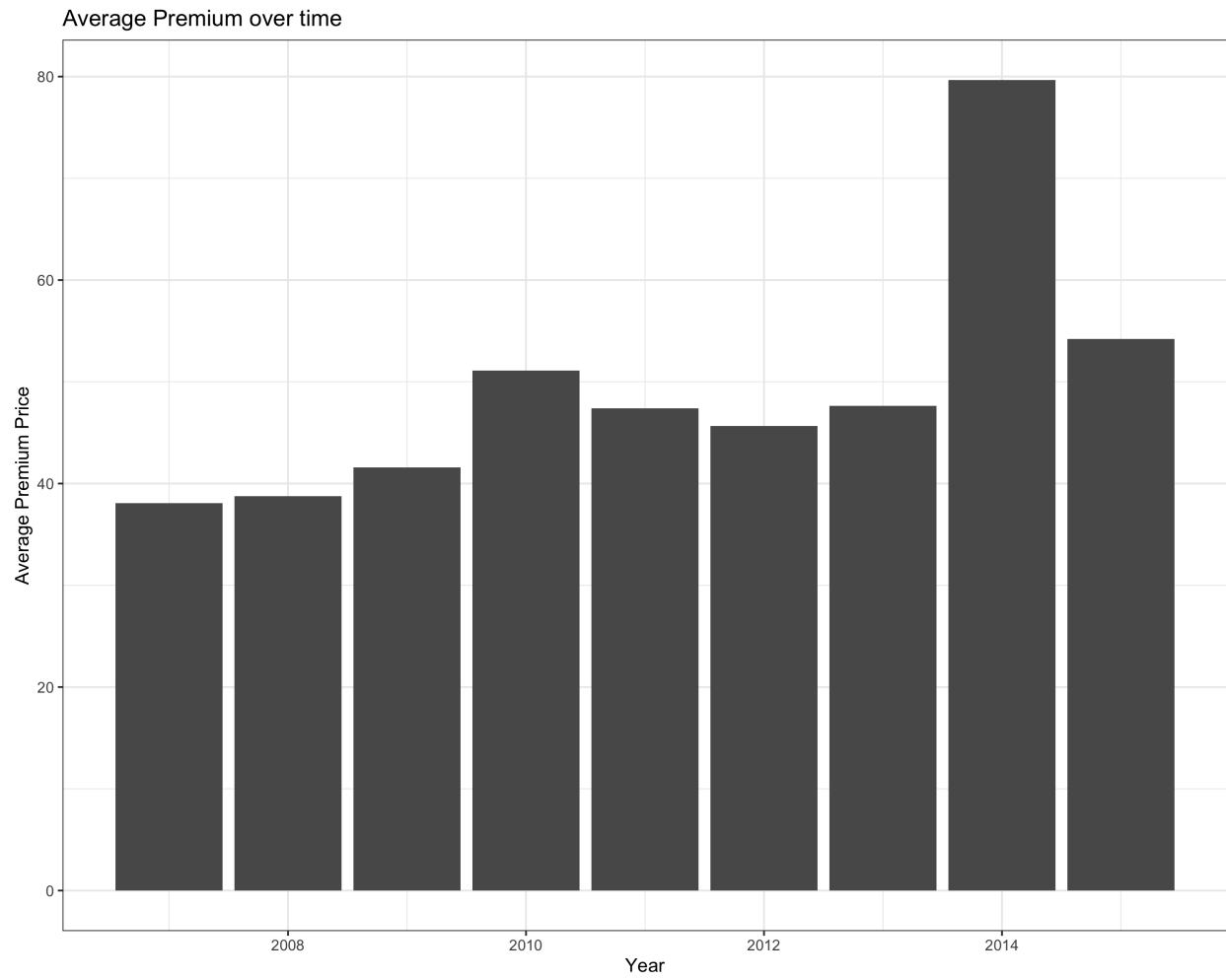
plan_type	Count_2007	Count_2008	Count_2009	Count_2010	Count_2011	Count_2012	Count_2013	Count_2014	Count_2015
Medicare Prescription Drug Plan	398167	428936	415027	391205	295458	289044	278091	301082	269153
PFFS	51987	105859	89586	54119	22038	17449	12945	6053	4232
HMO/HMOPOS	30670	34545	36166	34460	33931	37551	37179	38893	36588
Regional PPO	7254	7794	8470	10659	10995	11279	9660	10420	8531
Local PPO	6116	7612	9929	11652	13874	17030	17089	17169	16728
1876 Cost	5048	4577	4781	4923	5829	6647	6759	6207	6329
MSA	2177	3303	2459	68	131	132	145	163	232
SHMO	458	NA	NA	NA	NA	NA	NA	NA	NA
National PACE	395	548	615	717	781	858	953	1118	1216
PSO (State License)	376	394	75	97	141	143	NA	NA	NA
MSA Demo	129	NA	NA	NA	NA	NA	NA	NA	NA
PSO (Federal Waiver of State License)	110	NA	NA	NA	NA	NA	NA	NA	NA
ESRD I	75	122	123	117	NA	NA	NA	NA	NA
Continuing Care	68	66	60	64	NA	NA	NA	NA	NA
Retirement Community									
NA	NA	NA	13619	29733	NA	NA	NA	NA	NA
RFB PFFS	NA	NA	3006	NA	NA	NA	NA	NA	NA
Medicare-Medicaid Plan HMO/HMOPOS	NA	NA	NA	NA	NA	NA	265	1319	4130

5. Provide a graph showing the average number of Medicare Advantage enrollees per county

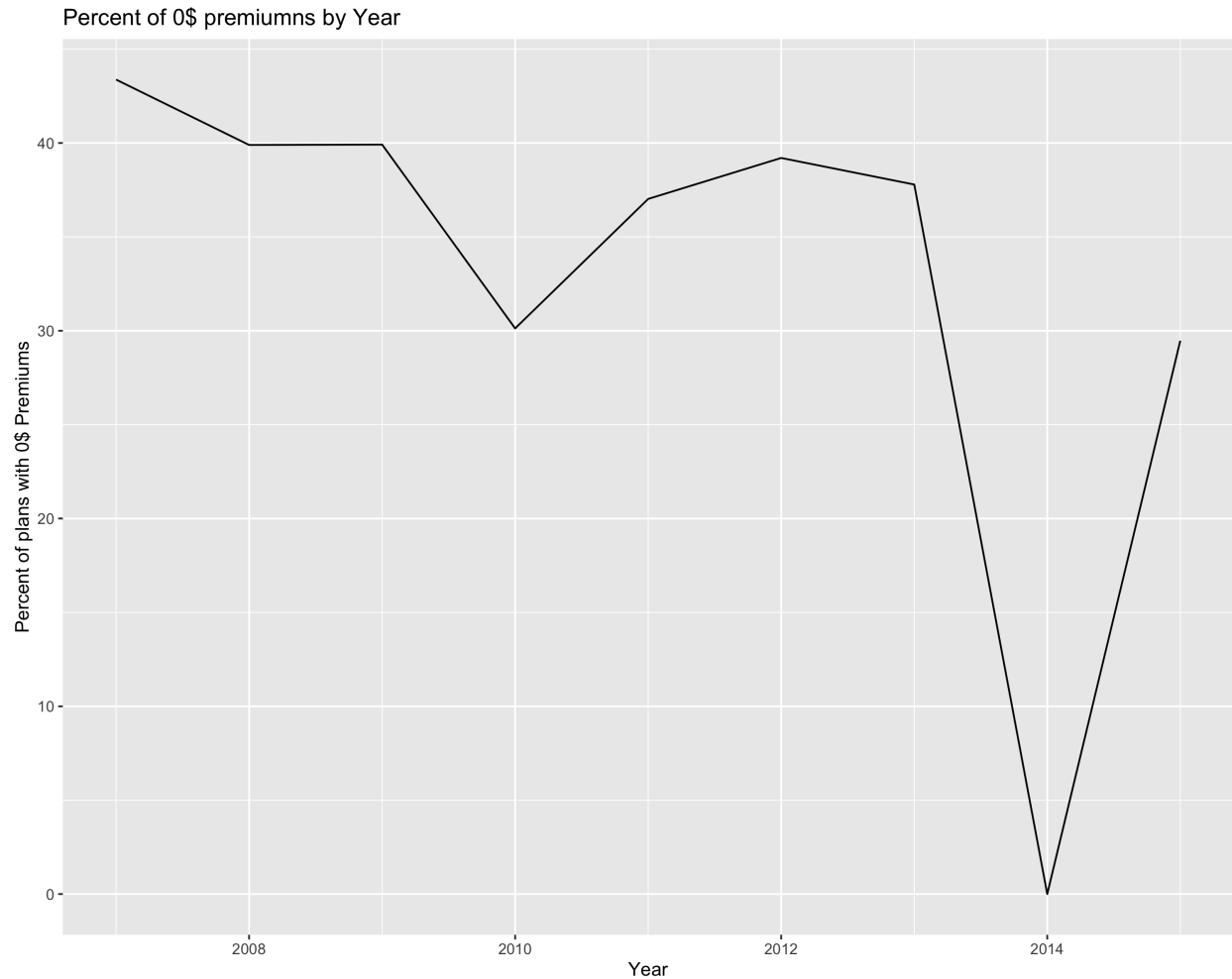


fig\_avg\_enrollment.png

6. Provide a graph showing the average premium over time.



7. Provide a graph showing the percentage of \$0 premium plans over time.



8. Why did we drop the “800-series” plans?

The reason we are dropping 800-series plans because these are insurance plans offered by employers/unions given to retired beneficiaries and specifically 800 plans are managed through third party companies such as medicare advantage organizations. This is removed because they are different from plans from traditional medicare or Medicare advantage not through one’s employer.

9. Why do so many plans charge a \$0 premium? What does that really mean to a beneficiary?

So many plans may be \$0 dollars because these are medicare plans and have no premiums or some medicare advantage plans may have 0 dollar premiums but can be offset by high cost sharing in terms of greater deductibles

10. Briefly describe your experience working with these data (just a few sentences). Tell me one thing you learned and one thing that really aggravated you.

This was quite the journey to say the least. In terms of positives I did like that this experience was a bit like riding a bike where I was able how to clean some data and read your data and still understand whats going

on. In addition, i do need to learn more about combining and using for loops to make my processes more efficient. However, the biggest area of trouble was having an old computer that made my life very difficult as well as having a lot of trouble with Git hub. I think i spent more time trying to figure out git than the actual code itself which is little bit depressing and frustrating. However, funny enough in the last 15 minutes of the first submission i was able to figure it out which was really amazing and made me feel really proud I was able to figure it out on my own. Ultimately, moving forward I hope to get more confident in my skills with playing with the data and troubleshooting some of the errors faster and more efficiently