In [ ]:
```
# Import necessary packages
import pandas as pd
import numpy as np
```

In [ ]:
```
with open("/Users/sushmitarajan/econ470spring2025/Homework1/Submission2/analysis/hwk-1-analysis.py") as file:
    exec(file.read())

# My answers to the homework questions are described below. The GitHub repository for this work is available
#[here](https://github.com/sarajan03/econ470spring2025/tree/main/Homework1/Submission2).

# My file did not want to download as a pdf so have to use a html to download as pdf
```

```
<string>:8: DtypeWarning: Columns (10) have mixed types. Specify dtype option on import or set low_memory=False
.
```

In [ ]:
```
# Sort the pivot table by the sum of the counts across all years (descending)
plans_per_type_sorted = plans_per_type.loc[plans_per_type.sum(axis=1).sort_values(ascending=False).index]

# Rename columns for clarity, such as 'Plan Type' for the index column and 'Year' for the year columns
plans_per_type_sorted.index.name = 'Plan Type'  # Label for the index (rows)

# Format the table with commas in counts for readability
plans_per_type_sorted = plans_per_type_sorted.style.format("{:,}")

# Display the formatted table
plans_per_type_sorted
```

Out[ ]:

year	2015
Plan Type	
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

In [ ]:
```
# Sort the pivot table by the sum of the counts across all years (descending)
plans_per_type2_sorted = plans_per_type2.loc[plans_per_type2.sum(axis=1).sort_values(ascending=False).index]

# Rename columns for clarity, such as 'Plan Type' for the index column and 'Year' for the year columns
plans_per_type2_sorted.index.name = 'Plan Type'  # Label for the index (rows)

# Format the table with commas in counts for readability
plans_per_type2_sorted = plans_per_type2_sorted.style.format("{:,}")

# Display the formatted table
plans_per_type2_sorted
```

Out[ ]:

year	2015
Plan Type	
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

In [ ]:
```
# Sort the enrollment_per_type table by 'count' in descending order
enrollment_per_type_sorted = enrollment_per_type.sort_values(by='count', ascending=False)

# Rename the index for clarity if needed
enrollment_per_type_sorted.index.name = 'Plan Type'
enrollment_per_type_sorted = enrollment_per_type_sorted.rename(columns={'mean': 'Average Enrollment'})
enrollment_per_type_sorted = enrollment_per_type_sorted.rename(columns={'count': 'Count'})
```

```
# Format the table with commas for readability in both count and mean
enrollment_per_type_sorted = enrollment_per_type_sorted.style.format({
    'count': "{:,}",
    'mean': "{:,.2f}"  # Format mean to show two decimal places
})

# Display the formatted table
enrollment_per_type_sorted
```

Out[ ]:

Plan Type	Count	Average Enrollment
Medicare Prescription Drug Plan	60236	311.750481
HMO/HMOPOS	9115	848.737795
Local PPO	6126	310.741267
Regional PPO	4853	201.502988
PFFS	2052	124.583821
1876 Cost	2019	228.126300
Medicare-Medicaid Plan HMO/HMOPOS	522	623.963602
National PACE	213	139.976526
MSA	111	107.792793