```
import pandas as pd
import matplotlib.pyplot as plt
```

```
#Divide the data into the cols that we want and into two df's, one that has the CAD info and one that has the Stroke info

disease_df = pd.read_csv('SAHD_county_data.csv')

disease_df = disease_df[disease_df['Data_Value_Unit'] != '%']
cols_keep = ['Year', 'LocationID', 'LocationAbbr', 'LocationDesc', 'Topic', 'Data_Value', 'Stratification1']
disease_df = disease_df[cols_keep]
heart_df = disease_df[disease_df['Topic'] != "Stroke"]
stroke_df = disease_df[disease_df['Topic'] == "Stroke"]
```

```
<ipython-input-2-c150b298e0af>:3: DtypeWarning: Columns (11,12) have mixed types. Specify dtype option on import or set low_
  disease_df = pd.read_csv('SAHD_county_data.csv')
```

```
#Take the mean of the incidents for each type of cardiovascular disease per county

avg_heart_df = heart_df.groupby(['Year', 'Stratification1']).mean().reset_index()
avg_stroke_df = stroke_df.groupby(['Year', 'Stratification1']).mean().reset_index()
```

```
<ipython-input-5-dfb5eedd5280>:3: FutureWarning: The default value of numeric_only in DataFrameGroupBy.mean is deprecated. I
  avg_heart_df = heart_df.groupby(['Year', 'Stratification1']).mean().reset_index()
<ipython-input-5-dfb5eedd5280>:4: FutureWarning: The default value of numeric_only in DataFrameGroupBy.mean is deprecated. I
  avg_stroke_df = stroke_df.groupby(['Year', 'Stratification1']).mean().reset_index()
```

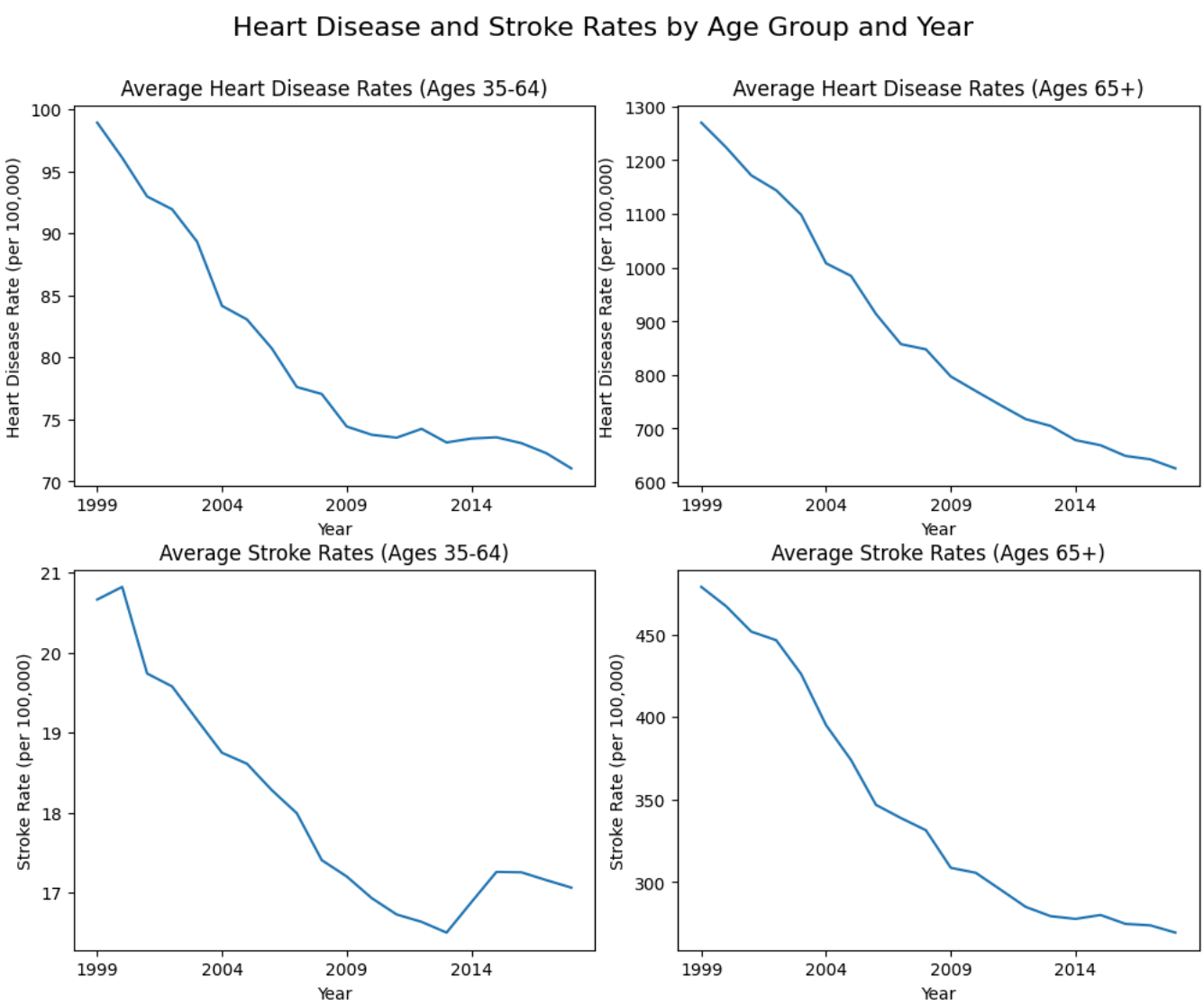
```
fig, [[ax1, ax2], [ax3, ax4]] = plt.subplots(2,2, figsize=(10,8))

avg_heart_df[avg_heart_df['Stratification1'] == 'Ages 35-64 years'].plot(x='Year', y='Data_Value', ax=ax1)
avg_heart_df[avg_heart_df['Stratification1'] != 'Ages 35-64 years'].plot(x='Year', y='Data_Value', ax=ax2)
avg_stroke_df[avg_stroke_df['Stratification1'] == 'Ages 35-64 years'].plot(x='Year', y='Data_Value', ax=ax3)
avg_stroke_df[avg_stroke_df['Stratification1'] != 'Ages 35-64 years'].plot(x='Year', y='Data_Value', ax=ax4)

ax1.set(title='Average Heart Disease Rates (Ages 35-64)', xlabel='Year', ylabel='Heart Disease Rate (per 100,000)')
ax2.set(title='Average Heart Disease Rates (Ages 65+)', xlabel='Year', ylabel='Heart Disease Rate (per 100,000)')
ax3.set(title='Average Stroke Rates (Ages 35-64)', xlabel='Year', ylabel='Stroke Rate (per 100,000)')
ax4.set(title='Average Stroke Rates (Ages 65+)', xlabel='Year', ylabel='Stroke Rate (per 100,000)')

ax1.legend().remove()
ax2.legend().remove()
ax3.legend().remove()
ax4.legend().remove()
fig.subplots_adjust(hspace=0.5, wspace=1)

fig.suptitle("Heart Disease and Stroke Rates by Age Group and Year", fontsize=16, y=1.03)
fig.tight_layout(pad=0.3)
```


Heart Disease and Stroke Rates by Age Group and Year
Average Heart Disease Rates (Ages 35-64)
Heart Disease Rate (per 100,000)
Year
Average Heart Disease Rates (Ages 65+)
Heart Disease Rate (per 100,000)
Year
Average Stroke Rates (Ages 35-64)
Stroke Rate (per 100,000)
Year
Average Stroke Rates (Ages 65+)
Stroke Rate (per 100,000)
Year