# Data Wrangling and analysis Methods

The primary method of data wrangling used was the pruning of unnecessary information from the dataset to isolate the data that was the most pertinent to analyze then restructuring the data to make it easier to process in Python. Analysis was primarily done using bar charts to determine trends within the data.

# Key Results

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The analysis of the data provided by the AIHW focusing on the relation between SEIFA index and number of consumers that received clinical care was visualized using a bar chart as can be seen in Figure X. This shows that there is a clear trend where people who come from heavily socio-economically disadvantaged areas as indicated by quintiles 1 and 2 generally have more cases of receiving mental healthcare than those who come from less disadvantaged areas, indicated as quintiles 4 and 5. When compared to Figure X showing the regular population in each quintile, this shows that proportionally more cases occur in these heavily disadvantaged areas. Additionally, within each quintile there is also a visible increase in the number of cases over the three-year period of 2016-2019 where data is available. This could potentially come from a natural increase in cases due to several factors such as population growth or an increase in healthcare accessibility.

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Looking more closely at Victoria, the population distribution is heavily weighted towards less disadvantaged areas and when comparing this to the number of service contacts within each SEIFA quintile, the trend demonstrated in the previous bar charts where more disadvantaged areas have higher numbers of people suffering from mental health conditions is still represented in Victoria. The number of service contacts show that despite there being a much lower proportion of the Victorian population coming from these heavily disadvantaged areas, there is still a higher rate of mental health conditions occurring within them.

# Significance and Value

The trends shown via analysis of the data relating an area’s SEIFA index with numbers of people seeking mental healthcare and mental healthcare related contacts demonstrates the significant impact of how factors such as low incomes, low levels of education and other sources of socio-economic disadvantage. These results, in combination with data about an area’s SEIFA index can help to pinpoint areas where there needs to be better support for those who are part of these vulnerable populations. This could include improving infrastructure to provide better accessibility for mental healthcare services or other similar programs to help support those coming from heavily disadvantaged areas.

# Limitations and improvements

The major limitation encountered was the lack of available data regarding the number of people using mental healthcare services in each SEIFA quintile, as currently there is only data available over a three year period from 2016-2019 and as the SEIFA index uses information collected from the census conducted every five years, the time discrepancy between the data used and the SEIFA index’s calculations could mean that there might be some level of inaccuracy between the population within those areas calculated to be within some SEIFA index.

# Datasets and Linkage

The main datasets used were the Consumer Outcomes in Mental Health Care, the SEIFA IRSD index and the Community mental healthcare service contacts which were used to determine the trends regarding how factors contributing to disadvantaged populations, as indicated by the SEIFA index, affects the rate of mental health conditions occurring within a population. The distribution of the population living within the various SEIFA quintiles was acquired from the SEIFA dataset and assisted in the analysis of how most mental healthcare services were provided to those who came from these most disadvantaged areas. Additionally, the more specific analysis of Victoria was enabled using the SEIFA dataset and the measurement of mental healthcare service contacts to show the connection between low SEIFA index ratings and rates of mental health conditions.