General Sri John Kotelawala Defence University

Faculty of Management Social Science and Humanities

Department of Language

BSc in Applied Data Science Communication

SQL for Data Science (LB1224)

Year 1: Semester 2

Group Assignment 03

Group Members

D/ADC/24/0021-D.P.Chami Sadunika

D/ADC/24/0024-M.M.C.C.Marasinghe

D/ADC/24/0033-E.S.R.Ruparathna

D/ADC/24/0034-W.D.S.N.Kulasooriya


WESTERN
AUSTRALIA
PUBLIC
HEALTH
INSIGHTS

Table of Content

Introduction

Public health is vital in society, and public health trends facilitate well-informed decisions and efficient resource allocation. The Western Australia Public Health Insight Dashboard development has been done to depict the criteria for the Midwest region, some important metrics such as alcohol consumption, Cancer occurrences, injury contribution over time, and fertility rates. This dashboard was created by using real-world data sourced from https://www.data.gov.au/. The main purpose of this powerful tool is to analyze and visualize health trends ensuring better-informed decision-making for healthcare providers, researchers, and policymakers.

Mainly, this report describes how to import data from Microsoft SQL Server, how to import data from Microsoft SQL Server to Power BI, and how to develop a creative dashboard using Microsoft Power BI effectively. This involved various stages including data importation, cleaning, transformation, and modeling part. It also used various modeling techniques and Advanced DAX (Data analysis expression) to create an interactive and insightful dashboard.

As an overview, The Western Australia Public Health Insights Dashboard is important in showing how data-driven decision-making is integral to public health challenges. Visualizing this data in a form that is easy to access and interactive, this project has demonstrated how modern technologies can underpin proactive and evidence-based strategies for public health management.

.

2. Methodology

2.1. Importing Data

To create the dashboard, the data set was imported from the official police data website Dataset: https://www.data.gov.au/.

Next open datasets on the EXCEL sheet then rearrange the columns.

2.2. Creating Database in SQL

Database > New Database > Database Name (health 1) > ok

Double click on health 1 > Task > Import Flat File > Next > Browse > health 1DB > Next

2.3. Data Cleaning Part

Change the column names and change the data type accordingly.

Then insert allow nulls > next > finish

Next, replace the null values as '0' using the T-SQL code

2.4 Imported the Datasets into Power BI

Next import the datasets into Power BI through the following steps

Get data > SQL server > server name > ok

Then select the 'health 1' datasets which we imported previously to the SQL

3. Visualization

3.1. Dashboard Review

The above Western Australian Public Health Insights Dashboard used advanced visualization functionalities in Power BI to provide insights into the data in a more attractive and proactive format. This ensured that health data, which can be extremely complex, could be translated easily by researchers, healthcare providers, and policymakers. This dashboard consists of several key elements let's consider them one by one.

3.2. Total PPH

We used a donut chart to show the proportion of different types of Potentially Preventable Hospitalizations (PPH) (ASR per 100,000). We can see that there are three main types of proportion:

- Proportion Acute conditions: These are referred to the short-term medical conditions such as infections or injuries etc.
- Proportion Vaccine-preventable conditions: These include diseases that could have been avoided due to vaccinations. Such as pneumonia, flu, etc.
- Proportion Chronic conditions: These include long-term medical conditions such as diabetes, asthma, etc.

We used DAX code to calculate the different types of acute conditions compared to total preventable hospitalizations.

DAX code:

```
Proportion Acute Conditions =
DIVIDE(
    SUM('health 1'[PPH - Acute conditions (ASR per 100,000)]),
    SUM('health 1'[Total potentially preventable hospitalisations (PPH) (ASR per 100,000)]),
    0
)
```

- The code calculates the **Proportion of Acute Conditions** by dividing the total rate of acute conditions per 100,000 people by the total rate of potentially preventable hospitalizations (PPH) per 100,000 people. It uses the DIVIDE function to perform this division, which helps handle any cases where the denominator might be zero, returning a value of 0 instead of causing an error. This formula provides a ratio that reflects the proportion of acute conditions in relation to all potentially preventable hospitalizations, based on data from the '**health 1**' table.

Based on the ratio derived from this division and categorized into the three mentioned groups, we can gain a clear understanding of healthcare interventions for various medical conditions.

The Proportion of Acute Conditions shows a higher percentage of proportion than the other two types due to different reasons. Such as unavoidable, delayed medical interventions, or inadequate access to emergency care facilities.

The Proportion of Chronic Conditions is also a contributor to hospitalization. It's less

than Acute conditions but more than Vaccine-preventable conditions. Its 45.61% Nearly half of PPH cases are associated with chronic diseases and most of them can be prevented or managed through effective health care and patient education.

According to the chart, The Proportion of Vaccine-preventable conditions shows the less contributor to hospitalization. It's 4.23%. Although this is very effective, further improvement is needed to completely eliminate preventable diseases.

3.3.Low Birth Weight Trends Report

The "Low Birth Weight Trends" section provides important information on the percentage of babies born weighing less than 2,500 grams. From 2010 to 2014, this percentage consistently is 7.8% of births, showing the generally effective maternal healthcare systems of Western Australia. This consistent percentage would suggest that overall maternity care is solid and constant. It also suggests that even as healthcare services may be effective overall, regional variations may mask differences between urban and rural areas.

Key Insights

1. Metropolitan centers: The percentage of Low birth weight varies from 7.31% to 6.51% in metropolitan areas East Metro. Suggests a much stronger approach to dietary support as well as prenatal care.

2. Rural and remote areas: Due to factors such as lack of health facilities, transportation limitations, and delayed emergency access, the rates in regions like Kimberly are relatively higher, standing between 11.18% and 8.56%.

Implications

Maternal health programs have been largely successful as evidenced by the consistently low birth weight rate. For equitable health outcomes, disparities in rural and remote areas must be eliminated. Increasing access to prenatal care by rural communities is one of the priorities.

- Improve access to resources and nutrition education among pregnant women in disadvantaged communities.

Recommendations

1. Mobile Healthcare Units: Establish mobile units to provide early risk assessment, dietary counseling, and prenatal examinations in remote areas.

2. Nutritional Support Programs: Establish community-based education programs that emphasize the importance of nutrition for a pregnant woman.

3. Infrastructure Development: Invest in transportation networks and medical facilities to improve access, especially in rural areas with high-risk populations.

3.4. Risk of Alcohol Usage

The "Risk of Alcohol Usage" visualization depicts the year-over-year percentage variation of alcohol-attributable harm for selected regions between 2010 and 2014. It is calculated by a DAX calculation that will show trends based on user-selected filters such as year and region.

DAX Code:

```
Risk Growth Rate =
VAR CurrentYear = SELECTEDVALUE('health 1'[Year])
VAR CurrentRegion = SELECTEDVALUE('health 1'[Region])
VAR CurrentRisk =
    CALCULATE(
        SUM('health 1'[Alcohol Long Term Harm (%)]) +
        SUM('health 1'[Alcohol Short Term Harm (%)]),
        'health 1'[Year] = CurrentYear,
        'health 1'[Region] = CurrentRegion
    )
VAR PreviousYearRisk =
    CALCULATE(
        SUM('health 1'[Alcohol Long Term Harm (%)]) +
        SUM('health 1'[Alcohol Short Term Harm (%)]),
        'health 1'[Year] = CurrentYear - 1,
        'health 1'[Region] = CurrentRegion
    )
RETURN
    IF(
        ISBLANK(PreviousYearRisk) || PreviousYearRisk = 0,
        BLANK(),
        (CurrentRisk - PreviousYearRisk) / PreviousYearRisk * 100
    )
```

- The code calculates the **Risk Growth Rate** for alcohol-related harms in a specific region and year. It first captures the selected year and region from the dataset. Then, it computes the total alcohol-related harm percentages (both long-term and short-term) for the current year and region. Similarly, it calculates the total alcohol harm for the previous year and the same region. The formula then checks if the previous year's risk is either blank or zero to avoid division by zero or invalid calculations. If valid data is present, the growth rate is calculated by finding the percentage change between the current and previous year's risk. This provides a measure of how alcohol-related harm has changed over the past year for the selected region.

Trend Analysis

The data illustrates significant fluctuations in alcohol-related harm during the observed period,

- 2010: Risk levels peaked at 2.95%, signaling a prevalence of alcohol-related harm.
- 2012: A notable decline of -24.15% occurred, potentially due to effective public health initiatives, stricter regulations, or societal factors reducing alcohol consumption.
- 2014: The risk again climbed to 19.80%, possibly linked to relaxed policies, aggressive alcohol marketing, or increased societal stressors.

These changes do suggest that some very influential external factors indeed exist that relate to the state of economic conditions, the price of alcohol, and health campaigns. For instance, the peak in 2014 could point toward decreased taxation on alcohol or an increased marketing effort, while the trough in 2012 perhaps represents regulatory success or successful awareness.

Visual Representation

The series are charted on a line graph to clearly show the percentage change in alcohol-related harm from year to year in the chosen region. Positive values reflect increased risk, while negative values reflect a reduction. With its transparent visual structure, it enables the identification of emerging trends and precise times of greatest change, which makes this a valuable tool for keeping track of alcohol-related health risks.

Implications

Alcohol use is directly linked to the burden of chronic diseases, mental health disorders, and social problems, including domestic violence; hence, it is a major driver of public health. Chronic diseases, such as liver disease and cardiovascular ailments, are more prevalent in regions with increased alcohol-related risk. For example, the Midwest, being potentially high in alcohol use, may also have a higher prevalence of liver cirrhosis or cardiovascular problems brought on by alcohol.

Example Insight

Trends in alcohol use are directly proportional to health outcomes. An increase in consumption is usually accompanied by the following features: an increase in hospital admission due to liver cirrhosis and other chronic complications, increased mental disorders such as depression and anxiety, and increased cases of alcohol-related domestic violence. On the other hand, decreases in alcohol consumption, such as those experienced in 2012, probably indicate that health awareness programs, increased taxation, or community-based harm-reduction initiatives are proving to be effective.

Recommendations

1. Enhancing Public Awareness: Design and implement selective campaigns related to the adverse effects of alcohol abuse, especially in those areas where the rate is higher.
2. Stringent Policy Implementation: Impose policies that contribute to reduced availability, including increasing taxes or banning advertisements.
3. Increase Access to Rehabilitation Services: Provide more funds for addiction treatment programs to support grapples with dependency.
4. Promote Data-Informed Interventions: Leverage historical trends and risk patterns to inform public health responses, focusing on those periods and areas of highest alcohol-related harm.

3.5. Cancer Incidents

The “Cancer Incidents” visualization illustrates the relationship between population distribution and the incidence of various cancers: breast, lung, prostate, and colorectal cancers, using a decomposition tree visualization. As shown in, we decompose the ‘Total Population’ by Cancer type. The decomposition tree uses the ‘Sum of Total Population’ as its primary metric, represented at the root of the decomposition tree. Additionally, we added slices for ‘year’ and ‘region’ to enable dynamic browsing.

In this visualization, key insights show large regional and temporal variability in cancer rates. It’s as follows,

Population and Cancer Breakdown

1. Overall Population Contribution

- The decomposition tree represents the breakdown of the Total population by specific cancer types
- This approach thus brings out how each cancer contributes to the total health burden of a region

2. Cancer type insights

- Breast cancer is consistently higher among women in major population centers
- Lung cancer trends reflect the influence of environmental or daily life factors related to smoking.
- Prostate cancer varies in association with demographic changes and healthcare interventions, while colorectal cancer remains relatively stable, with some regional outliers.

Regional Insights

- Regions of North Metro and East Metro show large differences in cancer incidences, which might be because of population density or different access to healthcare.
- The Southwest has a relatively low incidence, which might be related to smaller populations or healthier living.

Temporal insights

From year to year, the following are changes in rates,

- Lung Cancer: Increasing rates in some areas are consistent with increasing urbanization and population growth.
- Prostate Cancer: Some areas have seen a decrease, which could be due to better medical attention or increased awareness among the public

These findings also point the need for focused health strategies on, for example, smoking cessation campaigns given the rising trends in lung cancer and increased screening for cancers of the breast and prostate in areas of high incidence. The public health stakeholders are thus encouraged to prioritize resources in the regions of higher burdens of cancer and continue monitoring temporal trends to refine healthcare strategies. The current analysis highlights the decomposition tree's effectiveness as a tool in identifying critical public health trends and disparities.

3.6. Fertility Rates and Stillbirth Percentages Report

Two key indicators of maternal health are the fertility rate and the stillbirth percentage, as observed under the heading "Fertility Rates and Stillbirth Percentages." Fertility rates have averaged 1.85 births woman from 2009 to 2014, while stillbirths have remained low, at about 0.45%. These trends reflect strong prenatal care systems, effective family planning services, and a strong healthcare infrastructure.

Key Insights

- Consistent Fertility Rates: Fertility rates have little variation, which indicates that the reproductive behavior of women remains constant. This trend is influenced by socioeconomic stability and easy access to family planning options.

- Low Stillbirth Percentages: The continuously low Stillbirth rate points to the effectiveness of public health initiatives encouraging healthy pregnancies, early risk detection, and emergency obstetric services.

An Illustration of Insight Making Use of the Dashboard

- The dashboard shows the following, using a line and a clustered column chart: Line Chart of Fertility Rates: Fertility rates appear to be stable in most regions; that is, they slightly decreased from 1.75 births per woman in rural areas in 2012.

- Clustered Columns for Stillbirth Percentages: Lower rates occur in urban areas, around 0.40%, or somewhat higher in rural areas as high as 0.50%.

Implications

These measures' consistency shows that the maternal healthcare system is operating effectively, although regional variations draw attention to the need for fair resource distribution. To further lower stillbirth rates, rural areas are in dire need of improvement in better emergency services and prenatal care.

Recommendations

- Expand the Emergency Obstetric Services: through the establishment of satellite clinics in outlying locations, offering timely management for high-risk pregnancies.
- Public Health programs: Implement educational programs, especially in high-risk areas, to encourage prenatal testing and risk management during pregnancy.
- Monitor and Modify Policies: Follow regional trends and conduct focused actions using continuous data from the dashboard.

3.7. Injuries and Poisoning Contributions

In this section, the "Injuries and Poisoning Contributions" confirms a regular decrease in instances constituting the general burden of injury from 2014 back to 2009. Such a trend is indicative of how efficiently specific public health campaigns and corresponding legislative frameworks function. This report enables an interactive slicing of data focusing on specific kinds of injury, including Accidental Poisoning, Accidental Fall, transportation accidents, Intentional Self-Harm and more.

DAX Code:

```
Transport Accident Contribution =
VAR TotalInjury = SUM('health 1'[Total injury hospitalisations (ASR per 100,000)])
VAR TransportAccidents = SUM('health 1'[Transport accident hospitalisations (ASR per 100,000)])
RETURN
IF(
    TotalInjury = 0,
    BLANK(),
    TransportAccidents / TotalInjury
)

```

- The code calculates the **Transport Accident Contribution** as the proportion of hospitalizations due to transport accidents relative to the total number of injury hospitalizations. It first sums the total injury hospitalizations and transport accident hospitalizations per 100,000 people. If the total injury hospitalizations is zero, the formula returns a blank value to avoid division by zero. Otherwise, it calculates the ratio of transport accident hospitalizations to total injury hospitalizations, providing the contribution of transport accidents to overall injury-related hospitalizations.
- We use the same code for the other injuries relative to the Total Injury Hospitalizations.

```
Selected Category Contribution =
SWITCH(
    TRUE(),
    SELECTEDVALUE('CategoryTable'[Category]) = "Transport Accident", [Transport Accident Contribution],
    SELECTEDVALUE('CategoryTable'[Category]) = "Accidental Fall", [Accidental Fall Contribution],
    SELECTEDVALUE('CategoryTable'[Category]) = "Accidental Poisoning", [Accidental Poisoning Contribution],
    SELECTEDVALUE('CategoryTable'[Category]) = "Exposure to Mechanical Force", [Exposure to Mechanical Force Contribution],
    SELECTEDVALUE('CategoryTable'[Category]) = "Intentional Self-Harm", [Intentional Self-Harm Contribution],
    SELECTEDVALUE('CategoryTable'[Category]) = "Adverse Effects due to Drugs and Other Substances", [Adverse Effects due
    to Drugs and Other Substances Contribution],

    BLANK()  -- Return blank if no category is selected
)

```

- The code calculates the **Selected Category Contribution** based on the category selected from the **CategoryTable**. Using the SWITCH function, it checks the selected category and returns the corresponding contribution measure for each type of injury or harm, such as **Transport Accident Contribution**, **Accidental**

Fall Contribution, **Accidental Poisoning Contribution**, etc. If no category is selected, it returns a blank value. This allows for dynamic calculation of different contributions depending on the category chosen, ensuring the correct data is displayed based on user selection

This decrease reflects the positive results of community awareness, workplace safety rules, and more stringent enforcement of safety laws. For example, the decline in transportation accidents, probably contributing 15% of the injuries in 2009 and dropping to 8% by 2014, shows the effect of traffic safety measures such as speed limits and seatbelt legislation. Similarly, the fewer numbers of unintentional poisoning show better awareness of proper chemical handling and storage.

The chart also enables users to drill into specific categories, including transportation accidents, unintentional falls, poisoning, exposure to mechanical force, intentional self-harm, and unintended pharmacological effects, through dynamic contribution analysis. A waterfall chart graphically represents each category's contribution to the total burden, thus enabling the user to identify areas that require focused solutions. Specific conclusions that can be derived from the statistics include the high number of contributions from accidental falls, indicating the need for fall prevention measures among older adults, and the rise in accidental poisoning, indicating a lack of education within the community. Such problems could be addressed successfully, for example, through public health campaigns advocating the use of handrails and anti-slip floors or safe chemical storage procedures.

These have implications for public health planning as such findings enable them to effectively plan resources to where most injuries occur, say improving on road safety initiatives where high rates of transportation accidents occur. To maintain this noted drop, ongoing initiatives are needed on workplace safety and poison prevention education programs, investing in protective barriers and handrails, and more stringent enforcement of laws in high-risk regions. Moreover, to track the injury patterns and enhance the intervention tactics further in reducing the overall burden of harm, real-time monitoring and feedback mechanisms become imperative.

3.8. Age-Standardized Birth Rates (ASBR)

Starting in 2009 and carrying through 2014, "Age-Standardized Birth Rates" demonstrate changing birth rates within different age cohorts with an emphasis on socioeconomic and culturally derived disparities: significant peaks were a positive number recorded in the year 2011 (with +2%) and deep dips within the year 2010 (-25%) and within the year 2012 (-20%), hence the variables will be changed regarding healthcare facilities and working status along with cultural perception concerning family planning. The percentage changes for two key age groups-women aged 15-19 (teenage birth rates) and women aged 15-44 (general birth rates)-are presented as a line chart.

DAX Code:

```
ASBR_15_19_Change =
VAR CurrentYear = SELECTEDVALUE('health 1'[Year])
VAR CurrentASBR_15_19 =
    CALCULATE(
        SUM('health 1'[Age specific birth rate per 1000 women aged 15-19 years]),
        'health 1'[Year] = CurrentYear
    )

VAR PreviousYearASBR_15_19 =
    CALCULATE(
        SUM('health 1'[Age specific birth rate per 1000 women aged 15-19 years]),
        'health 1'[Year] = CurrentYear - 1
    )

RETURN
    IF(
        ISBLANK(PreviousYearASBR_15_19) || PreviousYearASBR_15_19 = 0,
        BLANK(),
        (CurrentASBR_15_19 - PreviousYearASBR_15_19) / PreviousYearASBR_15_19 * 100
    )

```

- The provided code calculates the **Change in Age-Specific Birth Rate (ASBR)** for women aged 15-19 years between the current year and the previous year. It works by first capturing the selected **CurrentYear** from the dataset. The code then computes the **CurrentASBR_15_19**, which is the sum of the age-specific birth rate for the selected year. Similarly, it calculates the **PreviousYearASBR_15_19**, which represents the sum of the age-specific birth rate for the previous year.

The formula then checks if the **PreviousYearASBR_15_19** is either blank or zero. If so, it returns a blank value to avoid division by zero or any invalid results. If the previous year's data is valid, the **Change in ASBR** is calculated by finding the percentage difference between the current and previous year's rates.

This comparative analysis has, therefore, revealed the following critical trends: a stable or falling general birth rate amidst a rising birth rate for teenagers would imply that younger women are facing disproportionate challenges, while increasing ASBR for teenagers raises the imperative of better sex education, easy access to contraception, and anti-teen pregnancy measures.

The 2011 peak may reflect better stability or family-friendly policies in place, whereas the sharp declines in 2010 and 2012 could be due to economic declines that dampened family growth. Although rising trends call for increased outreach, education, and health care services for youth, a declining ASBR among teens reflects success in sex education and availability of contraceptives. Overall declines across age groups could be due to broader socioeconomic factors such as better family planning or perhaps a change in cultural attitudes. These have important implications: overall declines indicate demographic shifts that call for family-friendly policies like childcare subsidies and flexible work schedules while rising teen pregnancies demand immediate action to improve preventive healthcare, education, and community support.

Recommendations to deal with teen pregnancies include community awareness programs, subsidizing contraception, and increasing sex education in schools. Addressing larger birth rate decreases calls for policies that would help foster family growth, such as flexible work schedules and financial incentives. It is important to ensure access to reproductive healthcare, including family planning and prenatal care, for everyone, especially in underprivileged areas. By monitoring the ongoing ASBR trends, targeting at-risk groups, and changing public policies to meet their needs, birth rate stability will be fostered and issues peculiar to certain demographics will be addressed.

3.9.Card Visualizations

➢ Average of Consumer Health Indicators

In this visualization, "The Average of Consumer Health Indicators" illustrates four areas as shown below. We used Card visualization to visualize these four aspects because this visualization helps to present the data in such a way that users can grasp the relevant insights without much hassle. A card visualization in data visualization is a simplistic, condensed representation depicting a single value or key metric. It is usually used on the dashboard for faster insights.

- The average percentage of people who consume two or more servings of fruit daily

In this scenario, the card visual will display only one metric, which is the average percentage of people consuming two or more fruits daily. This metric can vary based on the year and region selected in your data

- The average percentage of people who are consuming 5 or more servings of vegetables daily

  In this case, the card visualization shows the average percentage of people who are consuming five or more vegetables daily. As a summary, we calculated the average daily vegetable consumption from the health dataset in Western Australia.

- The average percentage of people (18 years and over) who complete at least 150 minutes of physical activity over 5 sessions

  In this visualization, as well as we also used card visualization to consider the average percentage of people who complete at least 150 minutes of physical activity over 5 sessions.

- The average percentage of people who currently smoke

  As mentioned above, card analysis is used here to represent the average percentage of current smokers

  - With these insights, we can draw a more comprehensive understanding of consumer health behaviors and potential public health concerns. These four indicators including fruit and vegetable consumption, physical activity, and

smoking rates provide a snapshot of the overall health behaviors within a population. Low levels of healthy behaviors like fruit and vegetable consumption or physical activity and high levels of unhealthy behaviors like smoking may signal areas where public health interventions are needed. Conversely, high levels of healthy behaviors and low levels of smoking are positive indicators of a health-conscious population. Monitoring these trends over time can help guide policies and programs aimed at improving public health outcomes.

➢ Male to Female Ratio All Regions

This visualization will show the male-to-female ratio for the given context, and This calculation is done for each year without taking regions into account. A Card visual is normally used to show a single value, and it will be used in this case to display the calculated ratio between the total number of males and females in each year. we used this visualization to monitor changes in the male-to-female ratio over time.

➢ The Total population

The total population is indicative of the overall demographic base that is being studied and is usually different for different areas. Most health measures, such as prevalence rates, incidence rates, and population-based rates, are calculated based on this value. This is important in understanding community-wide patterns and analyzing health consequences. It provides a basis for sub-population comparison, identification of disparities, and effective planning of health care resources.

➢ Sum of Male Population

We use an infographic designer to represent the male population as a percentage of the total population, which varies by region. This number is crucial for examining health patterns unique to men, such as the occurrence of chronic illnesses, increased rates of accidents, and risk factors associated with certain lifestyle choices, like smoking and drinking

- Sum of Female Population

We use an infographic designer to represent the female population as a percentage of the total population, which varies from region to region. These data allow for an examination of health issues specific to women, including maternal health, the incidence of breast cancer, and reproductive health outcomes.

4. Slicer

- Region:

  Filters data by geographic areas,

- Year

  Filters data to specific years (2009-2014)

5. Conclusion

The Public Health Emphasis Panel of Western Australia has successfully demonstrated the potential of data probabilism to transform public health decision-making. Using SQL and Power BI, presents information on public health issues such as maternal mortality, alcohol consumption, low birth weight, alcohol-related accidents, disasters, and infertility.

These narratives confirm that maternal health has improved and accidents have decreased, but problems such as alcohol-related problems and inequities in state health access remain. The use of advanced visualization techniques, particularly analysis trees and dynamic charts, helped to present complex health data in an easily interpretable manner.

For future work, it is important to advocate for equitable distribution of health resources, public campaigns to improve public awareness, and specific policies that adapt to specific population needs. The insights gained from this panel can start further work on the journey to improve public health outcomes in Western Australia.