

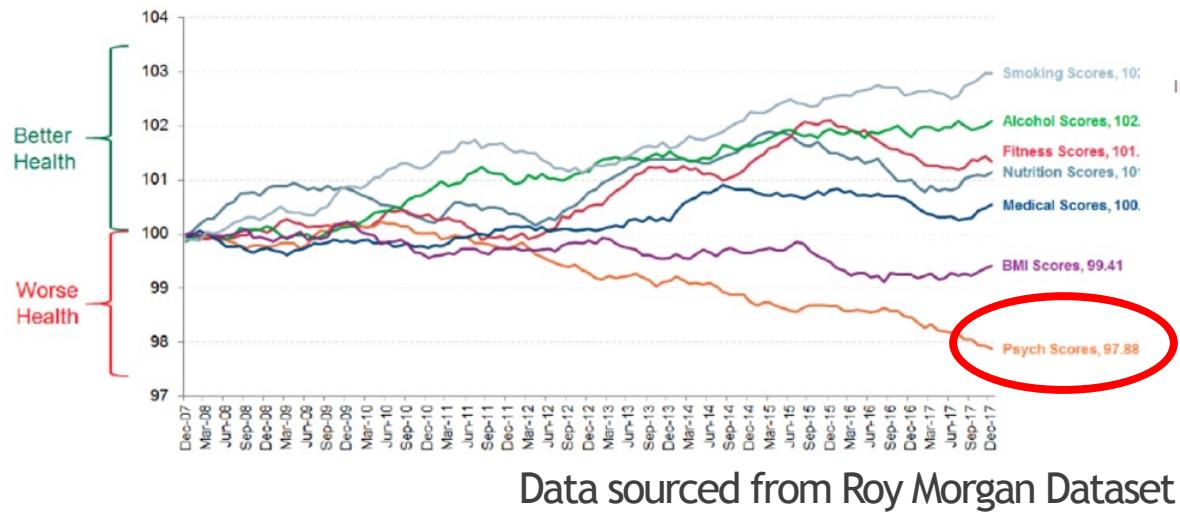




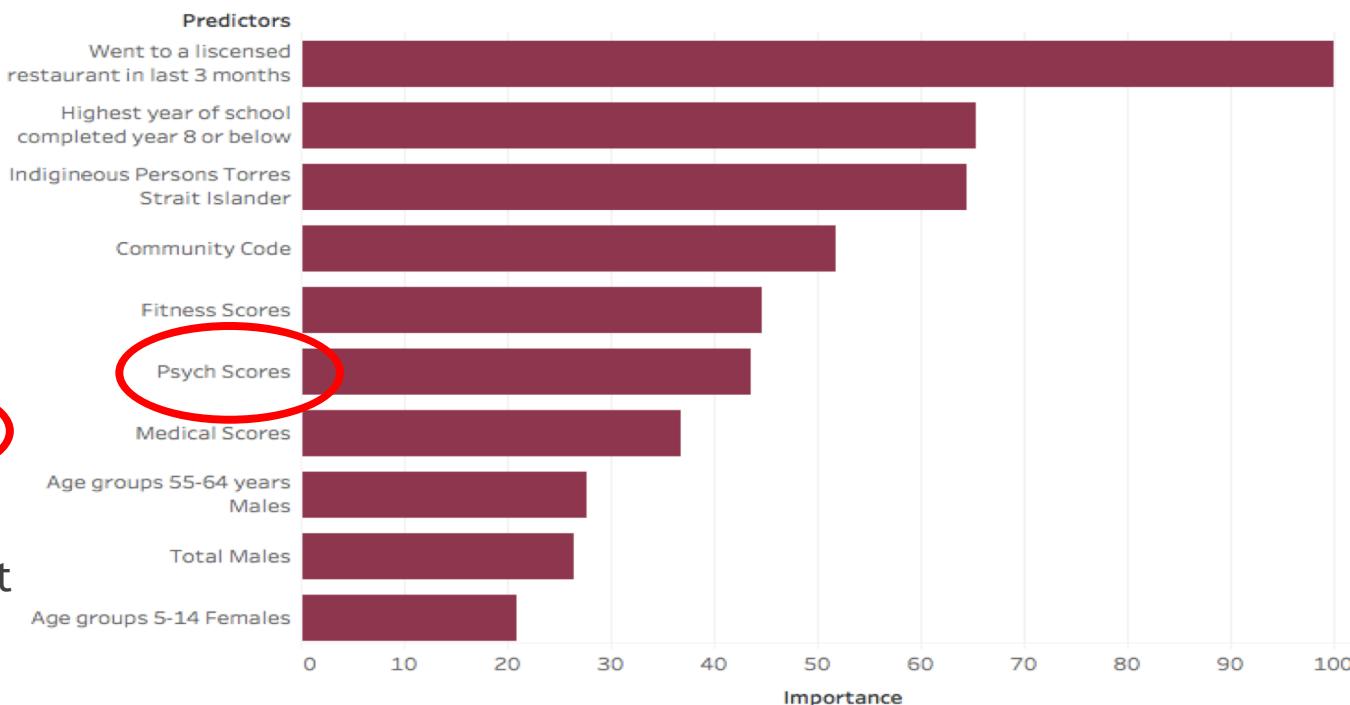
# Psych Score - Why is it important?

- Roy Morgan Dataset: Wellness Index Field
- Initial exploration involves determining key features contributing to wellness index
- Psych Scores has a sharp decreasing tendency over the decade

## Australian Wellness Index Sub-indices



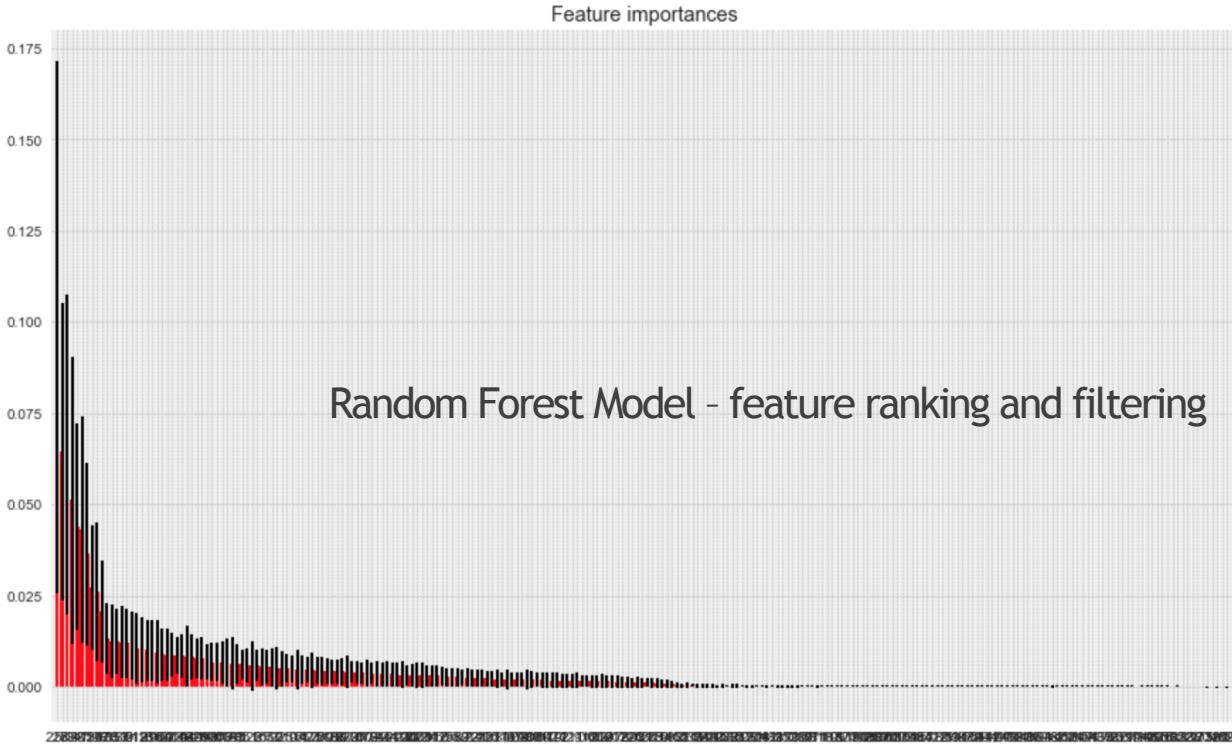
## Top 10 Predictors



- TOP 10 features with the most feature significance to wellness index are selected
- Model is built using random forest algorithm.

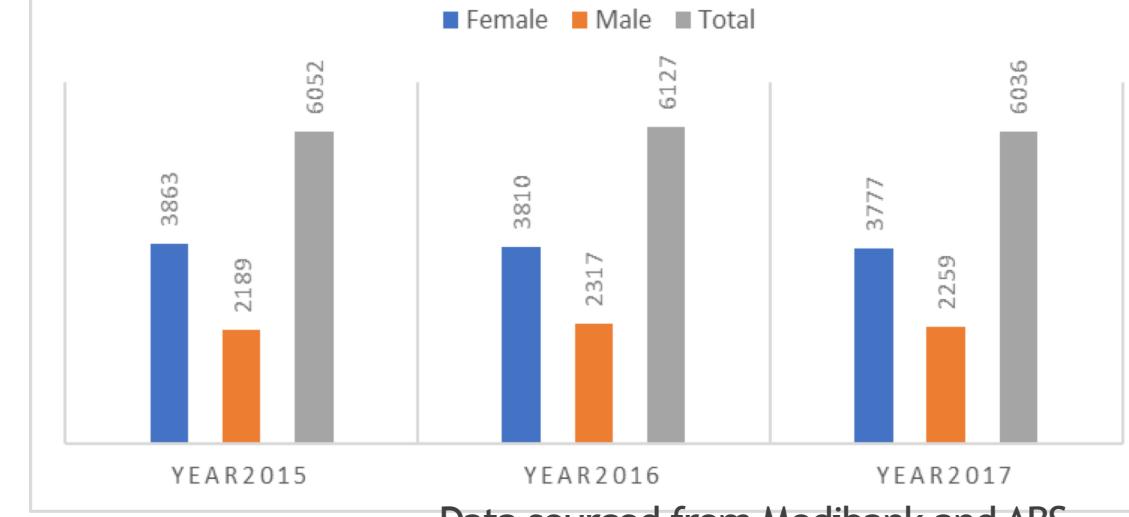
# Data Exploration

- Number of Claimed mental health diseases remains to be high over 3 years



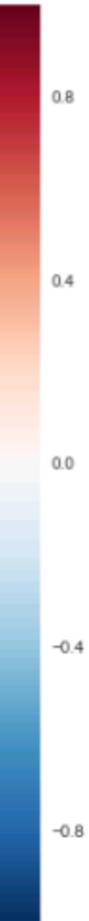
- Given previous relationships between psych score and other scores, lower psych scores tends to results in lower fitness and nutrition scores.
- Improving Victorians' psych scores is vitally important, as it improves overall wellbeing along with other wellness scores.**

Number of Claimed Mental Health Related Diseases (Medibank)



Data sourced from Medibank and ABS

# Data Visualisation



- Determines relationships between different scores relating to wellness.
- Further data visualisation using heatmap shows the attribute psych score to be **closely correlated** to wellness index and other health scores contributing to wellness index.
- Heatmap shows positive correlation between psych score and fitness score, nutrition score, and smoking scores respectively.

Data sourced from Roy Morgan and ABS

# Psych Score and Demographics

- Psych Score variation in different suburbs in Victoria

## Top 5 suburbs with Highest psycho score

Beaumaris 104.7774

Glen Iris 104.0429

Camberwell 104.7146

Surrey hills 103.6023

Malvern 102.0429

## Top 5 suburbs with Lowest psycho score

California Gully 95.491

Rochester 96.17

Melton 96.31379

Pakenham 96.49333

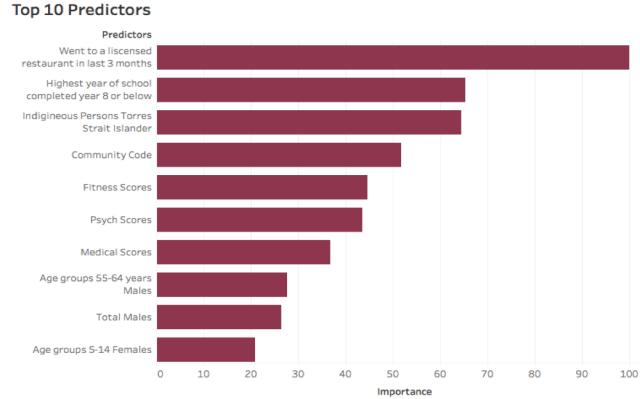
Hoppers 96.658

Data sourced from Roy Morgan and ABS

- Remote suburbs of Victoria have lower psych scores
- Requires more attention and education from the Vic government in order to raise the awareness of mental health issues

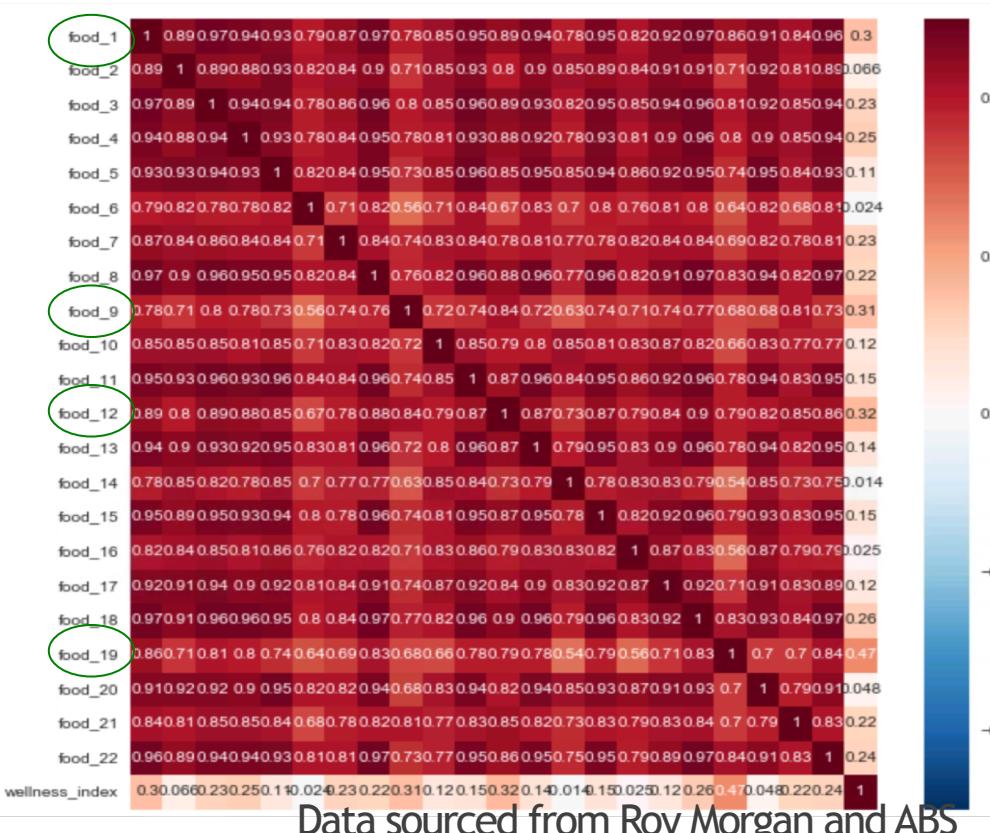


# Psych Score - Relationship with significant features



- Random Forest Model indicates frequent eating out in licensed restaurants to be the most significant feature influencing wellness index.
- Eating out, as an obvious social activity, increases the chance of interpersonal connection and social contacts - Positive Psychology. Further reduce the risk of psychological issues.
- There are more opportunities for eating out in inner suburbs - matches previous conclusions with demographics.

- Vegetable consumption and diversified diet moderately help to increase wellness.

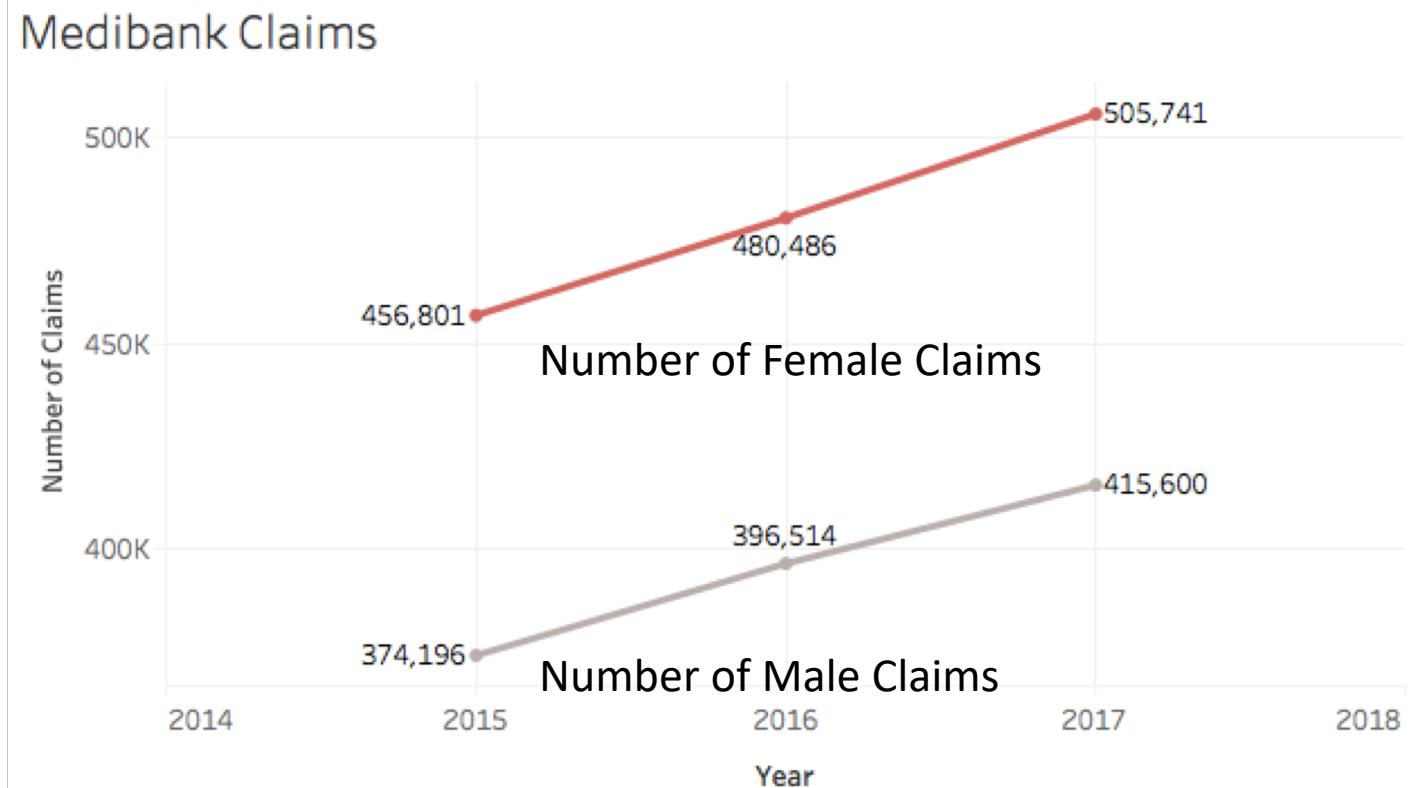


Data sourced from Roy Morgan and ABS



# Psych Score and Gender

- Males generally maintain better wellness scores.
- Medibank data indicates females have greater number of claims than males.
- However, middle-aged males are at more risk and shows a negative correlation with wellness.
- Women and middle-aged men's health in overall needs more attention.
- As psych score is a significant provider for wellness index, the above groups are suggested to pay more attention on psychological well beings.



Data sourced from Medibank

# Recommendation

- **Chat Robot Targeting Psychological Issues**
  - Vic government could develop AI Chat Robot in cooperation with university research groups
  - Example: Siri, Amazon Alexa – but more focused on psych Q&A
  - Uses NLP to analyse chat and provides individual suggestions/actions
  - People with psych issues might refuse to seek professional helps, robot is an alternative
  - Reduces financial burdens of patients
  - Reduces the long existed burdens of medical system (not enough doctors)
  - Developers uses rating systems to renew robot performance.
  - Promote robot in communities, schools, companies, mass media, populated regions, and public transportation
- **Publicity Films**
  - Short educational/warning films appealing people to pay more attention on mental wellbeing, eliminating bias/stereotypes on psych issues, and encourage to seek professional helps
  - Promoted on mass media(Youtube), public transportation(Tram), and populated regions(Stations and billboards)

# Recommendation

- **Spread the idea at early stages**
  - Primary/early childhood
  - Charitable campaign/activities
  - Most importantly, educate parents the importance of mental wellbeing
    - Impressionable children learn from parents
    - How to deal with/distinguish psych issues
    - Stress on equality and mutual aid. Avoid stereotype/bias of psych issues.
- **Remote Regions**
  - The Vic government should take actions in improving living/welfare conditions in remote area
  - Focus on remote region services – charitable psychological consults, etc.