UNIT 3 OUTCOME 1
SAC 2
REVISION
1. The 4 areas of concern – Smoking, Alcohol, High BMI and Dietary Risks (within this is; low veg, fruit, dairy, fibre and iron intake and high intake of fats, salt and sugar)

Together these factors account for over 25% of the total burden of disease in Australia.

– Burden of Disease is: the measure of the impact of diseases and injuries, specifically it measures the gap between current health status and an ideal situation where everyone lives to an old age free of disease and disability. Burden of disease is measured in a unit called the DALY (disability adjusted life year).
■ ALCOHOL
CONTAINS ENERGY AND LEADS TO WEIGHT GAIN AND OBESITY WHICH IN TURN CAN LEAD TO CARDIOVASCULAR DISEASE, TYPE 2 DIABETES
IT DAMAGES THE LIVER
ALCOHOL USE CAN LEAD TO AN INCREASE IN THE RISK OF INJURIES DUE TO BEING INTOXICATED

■ HIGH BODY MASS INDEX
IS A WEIGHT TO HEIGHT RATIO, TO BE EXACT IT IS WEIGHT IN KG OVER HEIGHT IN METRES SQUARED
A SCORE OVER 30 INDICATES OBESITY
THIS SCORE CAN LEAD TO TYPE 2 DIABETES,
HIGH BLOOD PRESSURE, EXTRA PRESSURE ON THE JOINTS OF THE BODY, IT INCREASES THE RISK OF HEART ATTACK AND STROKE
- **Why are fruit and vegetables so important to eat?**
  They are high in fibre so it makes people feel full and they may eat less kilojoules, which prevents weight gain, also ensuring the bowels are working properly. Fibre also assists in reducing blood cholesterol and glucose levels. All these are preventative measures for cardiovascular disease and type 2 diabetes. They contain vitamins and minerals essential for growth and the anti-oxidants could be a protective factors for some cancers.

- **Why is a high intake of salt so bad for your health?**
  A diet high in salt will make the body retain water and will increase the blood volume, this increase in blood volume leads to an increase in blood pressure which is one of the risk factors for heart disease.

- **Why is a diet high in fat not recommended?**
  High levels of fat leads to weight gain and in turn obesity. It will raise your blood cholesterol and both of these are risk factors for heart disease.
2. The 3 factors – biological, sociocultural and environmental.

Within each factor are sub-factors.

**Biological** (body weight, hypertension, birth weight, genetics, blood cholesterol and glucose regulation)

**Sociocultural** (SES, social isolation, social exclusion, food security, access to healthcare, early life experiences, unemployment and cultural influences)

**Environmental** (housing, work environment, urban design and infrastructure and climate change)

3. The 4 population groups – indigenous/non indigenous, males/females, living inside/outside Aust. Major cities and low SES/high SES.

Within these 4 groups you need to know the factors that influence their health status and what their health status is.
Low Socio-Economic Status

- Biological factors that specifically impact on this group are:
  
  Body weight, blood pressure, glucose regulation and birth weight – do not choose genetics.

  E.g. Body weight – Low SES groups have higher rates of overweight and obesity than high SES groups – this can lead to an increased risk of cardiovascular disease due to the extra strain on the heart and the blood vessels – this will often be associated with high blood pressure too, therefore increasing morbidity through increased prevalence of CVD, or increased YLL due to risk of heart attack and premature death.

- Sociocultural factors that specifically impact on this group are:
  
  Education, income, food security, access to healthcare, social exclusion, early life experiences.

  E.g. Access to healthcare – those from the lower socioeconomic groups may not have the income and or the knowledge related to accessing preventative medicines or participation in screening programs and as a result they have higher rates of burden of disease of various diseases such as cancer, type 2 Diabetes compared to the higher socioeconomic groups.
Living outside of Aust. Major cities

- Environmental factors that specifically impact on this group are:
  Road quality, work environment, geographic location and climate.

  E.g. road quality – roads in rural locations are poorly lit and maintained and drivers travel further distances and faster. There are higher rates of car crashes and the crashes are often fatal and are one reason why rural groups have higher mortality rates than compared to people in the major cities.

- Sociocultural factors that specifically impact on this group are:
  Food security, SES, Unemployment, Access to healthcare, Social Isolation

  E.g. food security- people living in rural areas eat less fresh fruit and vegetables due to lack of access and high costs of transporting food, this leads to them eating more processed foods which are high in saturated fat and sugar. This leads to people living outside of major cities having higher body mass index and higher rates of obesity, CVD and Type 2 Diabetes compared to those living in the city, and therefore contributes to the higher burden of disease through YLD experienced.

**This population group also smokes more and drinks more alcohol**
Males and Females

- Biological factors that specifically impact on this group are:

Body weight, blood pressure, glucose regulation, genetics.

E.g. Body weight- males are more likely to have obesity compared to females. This contributes to higher levels of hypertension, CVD and type 2 Diabetes and explains the lower life expectancy of 80 for males compared to 84 for females, due to men dying earlier in life from these diseases.
Question 2  (12 marks)
A range of factors influence health status and burden of disease in Australia, including body mass index and dietary risks.

• Explain what is meant by body mass index. 2 marks
Body mass index (BMI) a statistical measure of body mass calculated by dividing weight (in kilograms) by height (in m2).
A score of 18.6–24.9 is considered a healthy weight. Between 25–29.9 is considered overweight and 30 and over is considered obese.

• Outline two ways that high body mass index contributes to the burden of disease in Australia. 2 marks
High body mass index usually means there is a greater strain on the heart, which increases the risk of hypertension and of high levels of cholesterol in the blood. This increases the risk of cardiovascular disease, heart attack and stroke, which contributes to years of life lost due to disability in DALY’s, which measure burden of disease.

High body mass index can contribute to conditions such as anxiety and depression, through poor body image leading to low self-esteem and self-concept. Children with high body mass index can be particularly susceptible to these conditions, and could possibly be enhanced through bullying, thereby contributing significantly to morbidity among younger age groups and burden of disease.

***Could also choose: increased risk of cancer, increased risk of Type 2 Diabetes, increased risk of Kidney Disease, increased risk of Arthritis and Osteoporosis, increased risk of Asthma.
The following graph shows the burden of disease attributable to low fruit intake.

Figure 10.27: Proportion (%) of burden attributable to a diet low in fruit, by fatal versus non-fatal burden (a) and sex (b), 2011.
Explain what is meant by burden of disease. 2 marks

Burden of disease measures the impact of disease and illness. Specifically, it measures the gap between current health status, and an ideal situation where everyone lives to an old age free of disease and illness. It is measured in a unit called a DALY (disability adjusted life year), which is made up of YLL (years of life lost due to premature death) and YLD (years of life lost due to disability).

Compare the proportion of DALYs caused by low intake of fruit attributed to males compared to females. 2 marks

Males have a higher proportion of DALY’s caused by low intake of fruit compared to females, at 65.1% and 34.9% respectively.

Identify the condition for which inadequate intake of fruit caused the greatest proportion of disease burden through fatal outcomes. 1 mark

Oesophageal cancer

Identify the condition for which inadequate intake of fruit caused the greatest proportion of disease burden through non-fatal outcomes. 1 mark

Coronary heart disease

Besides inadequate fruit intake, identify one dietary risk and explain how it contributes to burden of disease in Australia. 2 marks

Under consumption of dairy- Not consuming enough dairy foods can lead to inadequate intake of calcium. Calcium is a mineral important in strengthening bones. If a person if not consuming enough calcium this can lead to increased risk of osteoporosis, a bone disease characterised by weak bones that are susceptible to fracture. This contributes to burden of disease through increased morbidity rates (years of life lost due to disability).

***Could also choose: under consumption of vegetables, low intake of iron, low intake of fibre, high intake of fat, high intake of sugar, high intake of salt