Health and Human Development Unit 3 AOS 1 notes

KK: concepts of health and wellbeing (including physical, social, emotional, mental and spiritual dimensions) and illness, and the dynamic and subjective nature of these concepts. KS: explain the dynamic and subjective nature of the concepts of health and wellbeing and illness, describe interrelationships between dimensions of health and wellbeing

* **Health** - A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity (WHO 1946)
* **Wellbeing** - A complex combination of all dimensions characterised by an equilibrium in which a person feels happy, health, capable and engaged.
* **Health and wellbeing** - Relating to the state of a person’s physical, social, emotional, mental and spiritual existence and is characterised by an equilibrium in which the individual feels happy, healthy, capable and engaged.
* **Illness** - A state of feeling unwell that is subjective, often associated with having a disease.
* **Disease** - The actual ailment an individual suffers from.
* **Subjective** - The concept of health and wellbeing being subjective means that an individual’s feelings about their health are influenced by their personal opinions and feelings.
* **Dynamic** - The concept of health being dynamic relates to the idea that health is ever changing/constantly changing and unpredictable.

PMESS (physical, mental, emotional, social and spiritual health and wellbeing)

* **Physical health and wellbeing** - Relates to the functioning of the body and its systems, it includes the physical capacity to perform daily tasks or activities.
* **Examples of high levels of physical health and wellbeing** - Healthy body weight, strong immune system, adequate energy levels, well-functioning body, systems and organs and freedom from illness, disease and injury.
* **Mental health and wellbeing** - Relates to the state of a person’s mind or brain and relates to the ability to think and process information.
* **Examples of high levels of mental health and wellbeing** - Low levels of stress and anxiety, positive thought patterns, positive self-esteem, high levels of confidence.
* **Emotional health and wellbeing** - The ability to recognise, understand and efficiently manage and express emotions as well as the ability to display resilience.
* **Examples of high levels of emotional health and wellbeing** - Recognise and understand a range of emotions, have a high level of resilience and effectively respond to and manage emotions.
* **Social health and wellbeing** - Relates to the ability to form meaningful relationships with others and the ability to manage or adapt appropriately to different social situations.
* **Examples of high levels of social health and wellbeing** - Supportive network of friends, supportive and well-functioning family and effective communication with others.
* **Spiritual health and wellbeing** - Relates to ideas, beliefs, values and ethics that people live their life by.
* **Example of high levels of spiritual health and wellbeing** - A sense of belonging, acting according to values and beliefs, peace and harmony, having a positive meaning and purpose in life.

KK: benefits of optimal health and wellbeing and its importance as a resource individually, nationally and globally. KS: explain the individual and collective importance of health and wellbeing as a resource, describe global benefits of the pursuit of optimal health and wellbeing

Importance of health and wellbeing as a resource individually

* Optimal health and wellbeing reduces the risk of illness, premature death and increases life expectancy.
* **Reducing healthcare costs for individuals** - Illness can generate significant health related costs. Individuals may need to make financial contributions to their own health.
* **Enables the development of meaningful engagement with the wider community** - promotes both spiritual and social health
* **Reduces pain and suffering**
* **Increases the ability of people to live independently into old age**
* **Increases a sense of fulfilment and success in life** - which improves spiritual health and wellbeing
* **Reduces stress** - which therefore improves emotional health and wellbeing.

Importance of health and wellbeing as a resource nationally

* **Reduced stress and anxiety in the community** - more likely to have peace and harmonious social conditions
* **Longer healthier lives** - can work for longer and need less care when they age
* **Greater average income** - an increase in taxes collected
* **Less spending on health care because there is a lower burden of disease**
* **Greater community participation** - e.g. volunteering in the community
* **Less reliance on social protection** - due to the lower levels of social exclusion and disadvantage less money can be spent on social protection measures such as social security payments and the money can be spent on other resources.
* **Increases productivity**

Importance of health and wellbeing as a resource globally

* **Contribute to world peace and security** - Populations experiencing good health and wellbeing contribute to world peace and security. They are more likely to be able to work for the benefit of themselves, their country and the planet.
* **Promote sustainability** - When people have their needs met and feel good about themselves, they are more likely to live their lives in a sustainable manner.
* **Improves economic development** - Healthier populations are better equipped to produce goods and services on the global market. Global trade is important for the economic development of many countries.
* **Reducing risk of transmission of infectious diseases** - Optimal health and wellbeing can reduce the risk of infectious or communicable diseases spreading between countries.
* **Reduces reliance on aid programs as countries have less illness and disease**
* **Helps to achieve the Sustainable Development Goals**

KK: prerequisites for health as determined by the WHO including peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice and equity. KS: identify the WHO’s prerequisites for health and explain their links to improved health outcomes

Peace

* Defined as the absence of war and conflict. It comes about when people have their dignity, human rights and capabilities met. It is a way of living where there is tolerance, respect and mutual understanding. Also means access to education, health and essential services, developing sustainability and protecting the planet’s biodiversity.

Peace (health and wellbeing)

* **Physical health and wellbeing** - Individuals are at a reduced risk of physical injury that can be caused by conflict.
* **Mental health and wellbeing** - Reduce levels of stress
* **Social health and wellbeing** - People can leave their house and socialise promoting effective communication with others
* **Spiritual health and wellbeing** - People can go about their daily activities, which can promote a sense of purpose in life.
* **Emotional health and wellbeing** - People experiencing peace can focus on their day to day lives, which can assist with building resilience.

Peace (health status)

* Increases life expectancy
* Reduces the risk of premature death
* Reduces the risk of injury

Shelter

* Describes a structure that provides protection from the outside environment. Adequate shelter is a basic human right and provides a number of benefits to health and wellbeing.

Shelter (health and wellbeing)

* **Physical health and wellbeing** - adequate shelter can prevent the spread of communicable diseases such as malaria.
* **Mental health and wellbeing** - those with adequate shelter avoid the stress and anxiety of searching for shelter and being unsafe
* **Spiritual health and wellbeing** - having adequate shelter provides a sense of privacy, safety and security and a sense of belonging

Shelter (health status)

* By having adequate shelter, it increases life expectancy
* Unsafe shelter and exposure to the elements can cause disease and injury

Education

* Often a key element for obtaining meaningful and well-paid employment that promotes economic development and increases the ability of individuals to afford resources. Having an education empowers individuals

Education (health and wellbeing)

* **Physical health and wellbeing** - Higher health literacy means lower levels of illness
* **Mental health and wellbeing** - By having an education, it makes getting a well-paid, meaningful job more likely which promotes positive self-esteem
* **Spiritual health and wellbeing** - By having an education, it makes meaningful employment more likely which gives individuals a sense of purpose
* **Social health and wellbeing** - Going to school gives children an avenue to create and maintain meaningful relationships with others to create a supportive network of friends.

Food

* Access to appropriate and nutritious foods help to improve adequate energy levels. Adequate nutrition can lead to improvements in an individual’s intellectual capabilities. Adequate nutrition promotes optimal immune system functioning.
* People experiencing food insecurity spend lots of time and energy trying to acquire food or money for food.

Food (health and wellbeing)

* **Physical health and wellbeing** - Good food security means having access to nutritious foods which can improve the functioning of the body and its systems and improve immunity.
* **Mental health and wellbeing** - With food security and adequate amounts of food, people may not have stress and anxiety about where their next meal is coming from.
* **Social health and wellbeing** - Those with adequate food have energy to spend time with friends which promotes a supportive network of friends.

Income

* People who have a decent income can more easily afford healthcare such as immunisations, medications, check-ups and surgery. With adequate income, individuals are more able to afford resources such as food, shelter, healthcare, social and leisure activities. Through tax revenue, income can help the government use taxes to put towards resources such as healthcare, infrastructure and roads.

Income (health and wellbeing)

* **Physical health and wellbeing** - having income to access healthcare can improve the functioning of the body, systems and organs.
* **Mental health and wellbeing** - having an adequate income can decrease financial stress
* **Social health and wellbeing** - through having an income to spend on doing social and leisure activities, it means individuals do not miss out on social events, maintaining healthy relationships
* **Emotional health and wellbeing** - Can be used to build resilience through being used for counselling and other support services
* **Spiritual health and wellbeing** - Income can be used to provide an education for children, which can assist in developing a sense of purpose in life

A stable eco-system

* A stable ecosystem occurs when balance is achieved between the environment and the species that live in an environment. Stability indicates that all living things have their needs.

A stable eco-system (health and wellbeing)

* **Physical health and wellbeing** - A stable eco-system means people can access clean food and water, which assists in fighting off pathogens.
* **Spiritual health and wellbeing** - A stable ecosystem can provide places for relaxation, which can promote feelings of peace and harmony.
* **Mental health and wellbeing** - Having a stable ecosystem increases access to resources, which cam decrease levels of stress and anxiety.
* **Social health and wellbeing** - If people live in a stable ecosystem, they can spend time socialising with others rather than looking for resources such as food.

Sustainable resources

* Relate to ensuring that the resources used to promote health and wellbeing in the present are available for future generations so that they can experience a good quality of life. Examples of sustainable resources include; wind and solar energy, sustainable fishing and water sources, forests, fibres and plants to create sustainable resources.

Sustainable resources (health and wellbeing)

* **Physical health and wellbeing** - Sustainable resources can provide ongoing access to clean water, which prevents waterborne diseases promoting the absence of disease.
* **Mental health and wellbeing** - Sustainable resources can reduce stress because the individual would not be as worried about where their food is coming from.
* **Spiritual health and wellbeing** - Sustainable resources can mean that material resources such as shelter and medicines can be provided, which can enhance levels of peace and harmony.

Social justice

* Can be defined as equal rights for all, regardless of personal traits such as sex, class and income, ethnicity, age or sexual orientation. It means that all people are treated fairly.
* Also includes economic justice, targeting poverty and discrimination.
* Social justice includes celebrating diversity and promoting the health and wellbeing of all people.

Social justice (health and wellbeing)

* **Physical health and wellbeing** - by providing everyone with equal access to healthcare, it allows people to have regular check-ups to maintain the effective functioning of the body and its systems.

Equity

* Means that there are minimum level of income and resources that all people should have access to. But equity means some people need more help than others to obtain access to these resources. All people in the community should have access to fundamental resources, and governments should implement laws and policies that ensure no person is disadvantaged in their ability to access such resources

Equity (health and wellbeing)

* **Spiritual health and wellbeing** - If people are treated fairly, they are more likely to feel connected to their community.
* **Physical health and wellbeing** - Equity means all people can access resources such as healthcare, which reduces the impact of disease.
* **Mental health and wellbeing** - If all people are given equal access to attend school, they can work on and improve their problem-solving skills.

KK: indicators used to measure and understand health status: incidence, prevalence, morbidity, burden of disease, disability-adjusted life year (DALY), life expectancy, health-adjusted life expectancy (HALE), mortality (including maternal, infant and under 5) and self-assessed health status. KS: describe and apply indicators used to measure health status

* **Health status** - An individual’s or a populations overall health, taking into account various aspects such as life expectancy, amount of disability and levels of disease risk factors.
* **Incidence** - The number or rate of new cases of a disease during a specified period of time (usually a twelve-month period).
* **Prevalence** - The number or proportion of cases of a particular disease or condition present in a population at a given time.
* **Morbidity** - Refers to ill health in an individual and the levels of ill health in a population or group.
* **Burden of disease** - A 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 old age free of disease and disability. Measure in a unit called the DALY.
* **Disability-Adjusted Life Year (DALY)** - A measure of burden of disease. One DALY equals one year of healthy life lost due to premature death and time lived with illness, disease or injury. YLL + YLD = DALY
* **Health-adjusted life expectancy (HALE)** - A measure of burden of disease based on life expectancy at birth but including an adjustment for time spent in poor health. It is the number of years in full health that a person can expect to live, based on current rates of ill health and mortality.
* **Years of life lost (YLL)** - A measure of how many years of expected life are lost due to premature death.
* **Years lost due to disability (YLD)** - A measure of how many healthy years of life are lost due to illness, injury or disability.
* **Life expectancy** - An indication of how long a person can expect to live for given a birth; it is the number the number of years of life remaining to a person at a particular age if death rates do not change.
* **Mortality** - Refers to death, particularly at a population level.
* **Mortality rate** - The measure of the proportion of a population who die in a one-year period (usually per 100,000).
* **Maternal mortality ratio (MMR)** - The number of mothers who die as a result of pregnancy or childbirth per 100,000 live births.
* **Infant mortality rate** - The rate of deaths of infants between birth and their first birthday, usually expressed per 1000 live births.
* **Under five mortality rate (U5MR)** - The number of deaths of children under five years of age per 1000 live births.
* **Self-assessed health status** - A measure based on a person’s own opinion about how they feel about their health, their state of mind and their life in general. Usually surveyed by rating a person’s health as excellent, very good, good, fair or poor.

KS: use data to describe and evaluate the health status of Australians, analyse patterns in morbidity and mortality in Australia over time. KK: health status of Australians and the biological, sociocultural and environmental factors that contribute to variations between population groups including:

Biological factors

Factors relating to the body (cells, tissues and systems) and how it functions, that impact on health and wellbeing. These factors include;

* **Body weight** - Body weight can also impact on health and wellbeing and influence other biological factors such as increased risk of high blood pressure, high blood cholesterol and impaired glucose regulation. Other health concerns include; cardiovascular disease (coronary heart disease, stroke and hypertension), some cancers, arthritis, self-esteem issues and depression and social exclusion.
* **Blood pressure** -Blood pressure is a measure of the highest pressure applied to blood vessel walls and the lowest pressure applied to blood vessel walls. People with high blood pressure have hypertension. This means the blood doesn’t flow through the blood vessels as easily than someone with normal blood pressure. Can contribute to many factors such as; heart attack, stroke and kidney failure. Some risk factors for hypertension include; stress, high body mass, smoking and excessive alcohol consumption.
* **Blood cholesterol** - Too much LDL cholesterol is a key risk factor for heart attacks and stroke. Lifestyle factors including; excessive alcohol intake, smoking, a diet high in saturated fat and/or trans fats, a lack of exercise, genetic predisposition can increase the risk of high blood cholesterol.
* **Glucose regulation** - Glucose is usually obtained from breaking down carbohydrates as they are the preferred fuel for energy. A range of factors can impact on cells becoming resistant to the action of insulin, preventing glucose from being absorbed into the cells. These factors include; genetic predisposition, pregnancy, smoking, lack of exercise, being overweight, a diet high in fat, high LDL cholesterol and high blood pressure.
* **Birth weight** - Babies born with low birth weight (under 2**.**5kg) are more likely to have an undeveloped immune system, making them susceptible to infections and later in life make them more susceptible to high blood pressure, type 2 diabetes and CVD. Low birth weight babies are usually due to; premature birth, age of the mother, the mother’s nutritional status, smoking and illness of mother during pregnancy.
* **Genetics** - Sex - Women cannot get prostate cancer or testicular cancer. Men cannot get ovarian cancer. Both genders can develop breast cancer however it is more likely to occur in women. Predisposition to disease - Genetics can influence how likely someone is to develop certain conditions. Some of these conditions include; cancers, cardiovascular disease, diabetes, hypertension, depression and obesity. Hormones - Oestrogen is a key hormone needed for the regulation of the menstrual cycle in women. Also helps maintain bone density in women because when a woman enters menopause, the levels of oestrogen decline. Testosterone is known as the male sex hormone. Mainly responsible for male sex characteristics, risk taking behaviour and aggression.

Sociocultural factors

The social and cultural conditions into which people are born, grow, live, work and age. These conditions include;

* **Socioeconomic status (SES)** - Refers to a person’s position in society relative to other people based on income, occupation and education. Income - can influence people’s ability to access resources e.g. adequate housing, food, healthcare etc. Occupation - Manual workers are more prone to physical injury than office workers but office workers get less physical exercise. Education - Those who are educated are more likely to have a better health literacy. This can relate to healthier lifestyle choices and accessing health care when required.
* **Unemployment** - The unemployed have a higher chance of dying and suffer from more illnesses than those who are employed. An employee worried about job security may experience high levels of stress.
* **Social connections and exclusion** - Social connections - being socially connected has been linked with lower morbidity and increased life expectancy. Social exclusion - refers to the segregation that people experience if they are not adequately participating in the society in which they live. Exists when people face; poor physical and mental health and wellbeing, disability, inability to access services, homelessness, low income and discrimination.
* **Social isolation** - Refers to individuals who are not in regular contact with others. This can be due to geographical barriers, disability, illness, lack of transport and communication barriers. Regular social contact gives people the ability to promote all the dimensions of health and wellbeing.
* **Cultural influences** - Relate to customs, ideas, values and traditions of a particular society that are passed through generations. Gender stereotypes - males working and females staying at home to look after children and males being ‘macho’ and needing to feel strong. Australian culture - Alcohol consumption is an accepted part of Australian culture that contributes to negative health outcomes.
* **Food security** - The quality, availability and affordability of food supply affect what people eat. Those with a shortage of such products (called food insecurity) can lead to deficiency diseases and other health complications. Sociocultural factors such as income and nutritional knowledge also have an effect. Those with a low income may be forced to buy cheaper processed foods.
* **Early life experiences** - Behaviours of women while they are pregnant are early life experiences for unborn babies that contribute to a range of health issues. These risk factors include; maternal tobacco, alcohol or drug use, maternal nutrition and exposure to certain chemicals, bacteria and viruses during pregnancy. Infants who have experienced positive emotional stimulation are better prepared to take on challenges. On the other hand, abuse or neglect affects brain function and development, and contributes to emotional and behavioural problems in later life.
* **Access to healthcare** - These services diagnose, treat and/or manage disease and illness. Factors that limit an individual’s ability to access healthcare include; geographical access, cultural barriers, language barriers and income. Sociocultural barriers to healthcare can contribute to conditions going undiagnosed and untreated.

Environmental factors

The physical surroundings (both natural and man-made) in which we live, work and play. These factors include;

* **Work environment** - Examples of how the physical environment of the workplace can impact on house status include; UV exposure - increased risk of skin cancer, accidents and injuries and exposure to hazardous substances.
* **Housing** - Some of the specific concerns of the home environment that contribute to variations in health status include; ventilation and hygiene, design and safety, overcrowding, sleeping conditions, security, pollutants, resources conducive to eating a nutritionally sound diet and access to water sanitation facilities.
* **Urban design and infrastructure** - Geographical location of resources - Being close to supermarkets, shops and hospitals, and having means to reach these resources can decrease morbidity and mortality rates. Infrastructure - Adequately maintained roads and traffic systems can improve safety and decrease the risk of morbidity and mortality from road trauma. Adequate infrastructure helps to improve health outcome.
* **Climate and climate change** - Climate - Australia’s climate makes it more susceptible to bushfires which can impact health status and access to resources. UV radiation levels are also very high in Australia. Climate change - can lead to extreme weather patterns, rising sea levels, extreme temperatures and increases in the occurrence of vector-borne diseases.

–  males and females

Differences in health status

* Females have a higher life expectancy than males
* Males have a higher burden of disease than females
* Males have a higher chance of death at every stage of the life span than females
* Males have higher rates of injury than females
* Males have higher rates of mortality due to suicide, road trauma and violence
* Males have a higher rate of CVD and many types of cancers
* Males have higher rates of diabetes than females
* Females have higher rates of osteoporosis and arthritis than males
* Males have lower rates of mental and behavioural problems than females
* Males are less likely to experience very high levels of psychological distress

Biological

* Males are more likely to have higher rates of obesity than females
* Males are more likely to have higher rates of hypertension
* Males are more likely to have impaired glucose regulation
* Males tend to store more fat around the abdomen due to testosterone which is associated with greater health risks

Sociocultural

* Men feel the impact of unemployment more than women
* Males have a higher socioeconomic status than females
* Cultural factors and gender stereotypes are more likely to effect men than women

Environmental

* Males often work in more dangerous environments

–  Indigenous and non-Indigenous

Differences in health status

* Indigenous Australians have a lower life expectancy than non-Indigenous Australians
* Indigenous Australians have higher mortality rates in each age group
* Indigenous Australians IMR is 1.5 times higher than the rest of the population
* Indigenous Australians are half as likely to rate their health status as excellent or very good
* Indigenous Australians have a higher burden of disease for chronic conditions such as CVD, cancer and asthma than non-Indigenous Australians
* Indigenous Australians experience higher levels of psychological distress than non-Indigenous Australians
* Indigenous Australians have higher rates of diabetes and high glucose levels than non-Indigenous Australians

Biological - Indigenous Australians … than non-Indigenous Australians

* Have a higher body mass index
* Have higher rates of hypertension
* Higher rates of impaired glucose regulation
* Higher rates of low-birth weight babies

Sociocultural - Indigenous Australians … than non-Indigenous Australians

* Have a lower SES
* Have higher rates of unemployment
* Have lower rates of health literacy
* Have higher rates of social exclusion, including discrimination, racism and forced removal from the natural family
* Have higher rates of food insecurity
* Have worse early life experiences
* Have higher homelessness rates

Environmental - Indigenous Australians … than non-Indigenous Australians

* Have poorer quality and overcrowded housing
* Have poorer water quality and sanitation systems
* Have poorer infrastructure, including poorer road quality
* Have higher lack of access to healthcare facilities

–  high and low socioeconomic status

Differences in health status - Those with a low SES have… than those with a high SES

* Lower life expectancy
* Higher mortality rates
* More avoidable deaths
* Higher IMR
* Higher rates of diabetes, kidney disease, CVD
* Higher rates and mortality from injuries
* Higher rates of mental and behavioural problems

Biological - Those with a low SES have… than those with a high SES

* Higher obesity rates
* Higher rates of hypertension
* Higher rates of impaired glucose regulation
* Higher rates of low birth weight babies

Sociocultural - Those with a low SES have… than those with a high SES

* Lower incomes, education levels and lower status occupations
* Lower levels of health literacy
* More unemployment rates
* Higher rates of social exclusion
* Higher rates of food insecurity
* Worse early life experiences including higher rates of maternal smoking
* Less likely to access healthcare

Environmental - Those with a low SES have… than those with a high SES

* A close proximity to fast food outlets
* Worse housing including environmental tobacco smoke
* Worse work environments
* Worse neighbourhood security

–  those living within and outside of Australia’s major cities

Differences in health status - Those living outside of Australia’s major cities have… than those living within Australia’s major cities

* A lower life expectant and the life expectancy decreases as level of remoteness increases
* Higher rates of burden of disease from fatal and non-fatal outcomes
* Higher mortality rates
* Higher rates of preventable cancer
* Higher death rates from CVD
* Higher rates of avoidable deaths
* Higher rates of diabetes
* Higher rates of suicide and mental health issues

Biological - Those living outside of Australia’s major cities have… than those living within Australia’s major cities

* Higher rates of overweight and obesity
* High blood cholesterol
* Impaired glucose regulation
* Higher rates of low birth weight babies
* Higher rates of hypertension

Sociocultural - Those living outside of Australia’s major cities have… than those living within Australia’s major cities

* Lower incomes
* Less access to education
* Higher rates of unemployment
* Fewer healthcare professionals
* Higher levels of social isolation
* Higher levels of food insecurity
* Have worse early life experiences including higher rates of maternal smoking

Environmental - Those living outside of Australia’s major cities have… than those living within Australia’s major cities

* Poorer road quality
* Poorly lit roads
* Greater driving distances
* Reduced proximity to resources such as healthcare, transport, recreation facilities, supermarkets and employment
* Greater exposure to harsh climates and the effects of climate change
* Less access to fluoridated water
* More dangerous working environments

KK: the contribution to Australia’s health status and burden of disease of smoking, alcohol, high body mass index, and dietary risks (under-consumption of vegetables, fruit and dairy foods; high intake of fat, salt and sugar; low intake of fibre and iron)

Smoking

* **Contribution to the burden of disease** - Smoking is the leading preventable cause of death and disease in Australia. Tobacco use caused more disease and injury than any other single risk factor.
* **Effect on the body and how it causes the problem** - Cardiovascular disease - The chemicals in tobacco smoke cause high blood pressure and the progression of atherosclerosis (the build-up of plaque on blood vessel walls, making it harder for blood to get through) which significantly increases the chance of heart attack and stroke. Many forms of cancer - The chemicals in tobacco smoke can cause a fault in the body’s cells they divide. This can lead to tumour and ultimately cancer. These faults usually occur in the lungs, throat, mouth and lips. Low birth weight - Smoking reduces the amount of oxygen available for the growing foetus (which causes reduced development and low birth weight which) which then leads to poor immunity and problems with feeding. Respiratory conditions (asthma) - Exposure to tobacco smoke in early life increases the risk of developing asthma. Asthma causes the muscles in the air ways to tighten. These changes cause narrow airways making it difficult to breathe. Having asthma and breathing in tobacco smoke increases the risk of asthma attacks. Increased risk of infection - Smoking weakens your immune system. Continuous exposure to the chemicals in tobacco smoke causes damage to cells. Eventually, the immune system cannot keep up with all the damage caused by smoking.

Alcohol

* **Contribution to the burden of disease** - The third leading preventable risk factor. Alcohol use contributed to the burden of disease for a large number of diseases and injuries. It also accounted to the burden of disease for alcohol use disorders, road traffic injuries, chronic liver disease, suicide and self-inflicted injuries.
* **Effect on the body and how it causes the problem** - Obesity - Over a period of time, alcohol use can contribute to weight gain because it contains kilojoules and therefore energy that when not used up is stored as fat. Liver cirrhosis - Because alcohol is filtered through the liver, excessive amounts can cause scarring of the liver tissue which can cause the liver to not work efficiently. Mental health problems and suicide/self-harm - Alcohol can moderate the behaviour of an individual, putting strain on relationships and increasing the risk of mental health problems. Accident and injury - Those under the influence of alcohol can cause the individual to perform risk taking behaviours and act impulsively. FASD and low birth weight - Consumption of alcohol whilst pregnant impacts health including causing the risk of premature birth, low birth weight and foetal alcohol spectrum disorder (FASD).

High body mass index

* **Contribution to the burden of disease** - The second most preventable risk factor causing burden of disease and injury. High BMI contributed to the burden of a number of diseases including diabetes, chronic kidney disease and CVD.
* **Effect on the body and how it causes the problem** - Cardiovascular disease - High BMI usually means there is a greater strain on the heart. High BMI also increases the risk of irregular heartbeat. Some cancers - There is a relationship between high BMI and the rates of colorectal and breast cancers. Type 2 diabetes - The pancreas doesn’t produce enough insulin effectively (insulin resistance). High BMI is the greatest risk factor for type 2 diabetes. Chronic kidney disease. Arthritis - High BMI puts more pressure on the joints, which can increase the chance of developing arthritis. Mental health issues - High BMI can contribute to developing anxiety and depression. Maternal health conditions - Pregnant women with a high BMI have a higher risk of getting pregnancy related conditions e.g. gestational diabetes.
* **How to calculate BMI** - Weight (kg) / Height (meters squared)
* **What do the scores mean?** -

Under-consumption of vegetables

* Vegetables are nutrient dense. High in minerals and vitamins, low in kilojoules, and high in fibre and antioxidants. Eating a range of vegetables increases the nutrients consumed promoting adequate functioning of the body and its systems. Under consuming vegetables can cause conditions such as cancer (specifically colorectal cancer), cardiovascular disease and neural tube defects.
* **High BMI** - Consuming vegetables instead of energy dense foods can help reduce obesity and a high BMI. Vegetables also contain fibre which when not consumed in adequate amounts can increase weight or cause some forms of cancer (colorectal cancer). Consumption of vegetables also reduces the risk of kidney disease and type 2 diabetes as high BMI can cause these things.
* **Antioxidants in vegetables** - Work to reduce the impact of free radicals (molecules formed when oxygen is metabolised). Free radicals damage healthy body cells and increase the risk of stroke, high blood pressure, coronary heart disease and cancer.

Under-consumption of fruits

* Fruits provide a range of essential nutrients while being low in fat and a good source of antioxidants. Fruit promotes adequate functioning of the body and its systems and reduces the risk of conditions such as stroke, coronary heart disease, hypertension, cancer and neural tube defects. The greatest benefits occur when a range of raw, whole fruits are consumed.
* **High BMI** - Because fruits protect against weight gain this means that it decreases the risk of having a high BMI and the associated conditions including CVD, type 2 diabetes and some cancers.
* **Fibre** - Fruit contains fibre, so the consumption of fruit makes an individual feel fuller for longer and are therefore less likely to over eat or consume energy dense foods.

Under-consumption of dairy

* The main nutritional contribution of dairy is the provision of calcium, a mineral essential for a range of functions including the strengthening of bones and prevention of osteoporosis. Dairy is also rich in other nutrients which reduce morbidity and mortality rates in relation to a range of other conditions, including;
* **Cardiovascular disease** - associated with reduced risk of coronary heart disease, hypertension and stroke.
* **Colorectal cancer** - People who regularly consume more than one serve of dairy each day have a reduced risk of developing colorectal cancer.
* **Type 2 diabetes** - Consuming milk and other milk products instead of refined sugars and carbohydrates may protect overweight young adults from developing type 2 diabetes.
* **Dental caries** - Consuming dairy works to strengthen teeth and can assist in reducing the risk of dental caries.

High intake of fats

* **Main functions** - they are a source of energy to the body, provide protection to the vital organs and provide insulation to assist with temperature regulation.
* When consumed in excess, the energy from fat consumption that is not used is stored in the body as fat, increasing weight and increasing the risk of obesity and obesity related conditions.
* There are 4 main types of fats. Saturated and trans fats (considered bad fats) increase low density lipoprotein (LDL) which is bad cholesterol. This increases the risk of atherosclerosis and CVD. Monounsaturated and polyunsaturated fats (considered good fats) can decrease LDL cholesterol and reduce atherosclerosis risk; however, when eaten in excess, these fats are stored as body fat
* **High BMI** - The greatest impact of overconsumption of fat is in relation to high BMI which increases morbidity and mortality in relation to CVD, type 2 diabetes and some cancers.
* **High cholesterol** - Overconsumption of saturated fats and trans fats is linked to high LDL.

High intake of salt

* One of the main components of salt is sodium. Sodium is required for optimal functioning but too much can contribute to negative health outcomes. High levels of sodium in the body can draw excess fluid out of cells. This increases blood volume and contributes to hypertension, Other effects linked to excess sodium intake include;
* **Heart failure** - Increased blood volume and hypertension force the heart to work harder. Heart failure occurs when the heart cannot keep up with the demand from the body.
* **Stroke and heart attack** - Hypertension associated with excess sodium intake contributes to higher rates of stroke and heart attack.
* **Osteoporosis** - Excess sodium causes calcium to be excreted in urine, which can lead to the demineralisation of bones and therefore causing osteoporosis.

High intake of sugar

* Sugars are a type of carbohydrate found naturally in some foods but also added to processed foods. They are required as a fuel for energy production but if eaten in excess, they are stored as adipose tissue (fat tissue).
* **High BMI** - Excess amounts cause weight gain and contributes to the burden of health in a number of ways.
* **Dental decay** - Sugars provide a food source for bacteria in the mouth. These bacteria produce acids which causes dental decay and the development dental caries.

Low intake of fibre

* Fibre is a type of carbohydrate that is required for optimal health and wellbeing. Fibre does not get absorbed by the body. Rather, it travels through the digestive system, promoting the feeling of being full for longer and assists in keeping the digestive tract clean by adding bulk
* **Insoluble fibre** - The tough matter found in whole grains, nuts and fruits and vegetables that do not dissolve in water. It is not broken down by the intestine and absorbed into the blood stream. It adds bulk to faeces in the digestive system, which keeps you regular and prevents constipation.
* **Soluble fibre** - Soft and sticky and absorbs water. Sources include; peas, beans, oats, barely, fruits and avocados. It helps to soften stools so it can slide through the digestive tract with ease. It also binds to substances like cholesterol and sugar, preventing or slowing their absorption into the blood.
* **Cardiovascular disease** - soluble fibre attaches to LDL cholesterol and helps to excrete them. As a result, soluble fibre helps to decrease levels of cholesterol and CVD.
* **Other conditions** - Colorectal cancer, constipation, weight gain, high BMI and type 2 diabetes.

Low intake of iron

* Iron is an essential part of blood. Iron forms the haem part of haemoglobin, which is the oxygen carrying part of blood. Someone who doesn’t get enough iron may develop iron-deficiency anaemia. Individuals with this condition struggle to generate enough energy to complete daily tasks. Low intake of iron is a major contributor to iron deficiency, although other causes exist such as inability to absorb iron and severe blood loss.
* Red meat is rich in iron but often contains high levels of saturated fat. A balanced, various diet is the best way to get adequate amounts of iron.