Why has the world's population grown?

World Population in 2018

The world's population is estimated to be in the region of 7.91 billion as of 2021. It is expected that this figure will continue to grow even though the birth rate is decreasing in many places around the world. Although it is expected to continue to grow, the rate of growth has almost halved since reaching a peak growth rate of 2.2% in 1962.

Causes of global population growth:

1. **Improvements in public healthcare** e.g., vaccination programmes, improved handling of food, and improvements in general hygiene have meant **life expectancy** has increased. This all stems from development in scientific knowledge. We are better able to treat diseases and illnesses such as cancer and improve the prognosis for many other illnesses such as HIV, allowing people to live longer and healthier lives.
2. **Improvements in agriculture** – better farming techniques including the mechanisation of agriculture have meant **increased yields**. When coupled with improvements in transport which allow food to be **distributed** more easily, fewer people suffer from malnutrition, starvation and ultimately fewer people die.
3. **Improvements in sanitation** – more than ever before, people have better access to clean water or improved sanitation (flushing toilets and piped sewage connections etc.). This leads to fewer illnesses from water borne diseases such as **cholera** and other related illnesses such as diarrhoea.

On a more local scale, birth rates have fallen in many places around the world. Why?

- **Better access to contraception** and better knowledge of how to use contraception effectively means fewer pregnancies.
- **The infant mortality rate has fallen** in many places owing to the reasons above, thus fewer babies are born as fewer pass away at a young age.
- **An increase in wages** (although not always large) may be enough to stop people having children in the hope that they'll be an economic asset and produce an income for the family e.g., by starting work at a younger age.
- **The increase in urbanisation** has changed the type of work that people do and thus fewer children are needed for manual labour in rural areas in agriculture.
- **Family planning** is better available, providing people with guidance on how best to plan their family size based on their circumstances (e.g., income).
- The **emancipation of women** and the associated improvement in their status in society means **women are staying in education for longer, marrying later and/or pursuing careers** and thus having fewer or no children at all.
- Higher rates of separation among couples means that fewer children may be born.
- The influence of religion, which can dissuade the use of contraception, is less today than in the past resulting in fewer children being born.

1.1 Population dynamics

Candidates should be able to:

Describe and give reasons for the rapid increase in the world's population

Show an understanding of over-population and under-population

Understand the main causes of a change in population size

Give reasons for contrasting rates of natural population change

Describe and evaluate population policies

Further guidance

Causes and consequences of over-population and under-population

How birth rate, death rate and migration contribute to the population of a country increasing or declining

Impacts of social, economic and other factors (including government policies, HIV/AIDS) on birth and death rates

Case Studies required for 1.1
- A country which is over-populated
- A country which is under-populated
- A country with a high rate of natural population growth
- A country with a low rate of population growth (or population decline)

1.2 Migration

Candidates should be able to:

Explain and give reasons for population migration

Demonstrate an understanding of the impacts of migration

Further guidance

Internal movements such as rural-urban migration, as well as international migrations, both voluntary and involuntary

Positive and negative impacts on the destination and origin of the migrants, and on the migrants themselves

Case Study required for 1.2
- An international migration

1.3 Population structure

Candidates should be able to:

Identify and give reasons for and implications of different types of population structure

Further guidance

Age/sex pyramids of countries at different levels of economic development

Case Study required for 1.3
- A country with a high dependent population

1.4 Population density and distribution

Candidates should be able to:

Describe the factors influencing the density and distribution of population

Further guidance

Physical, economic, social and political factors

Case Studies required for 1.4
- A densely populated country or area (at any scale from local to regional)
- A sparsely populated country or area (at any scale from local to regional)

High rates of population growth in some areas have led to overpopulation. Low rates of growth in others have led to underpopulation:

A country or area is said to be **over-populated** when there are too many people to effectively utilise the available resources at current levels of technology.

As technology improves, a country or area is likely to be able to support more people e.g., by growing crops from high yield variety seeds, genetically modifying food, introducing vertical farms, importing resources etc.

The maximum number of people that a given area can support and then absorb the waste produced by them is known as **carrying capacity**. The technologies above can help increase the carrying capacity of a piece of land.

A country or area said to have too few people to effectively maximise the benefits from the available resources at current levels of technology is said to be **under-populated**. Countries with a large land mass relative to their population size, e.g., Australia or Canada can be considered under populated.

Over-population can be caused by: high birth rates, low death rates and overconsumption/unsustainable consumption of resources, and immigration.

Under-population can be caused by: epidemics, war, a low fertility rate, poor climate, remoteness or emigration.

The consequences of over-population:

1. **Exhaustion or natural resources** – the planet has a limited capacity to generate raw materials. The rate of consumption has grown as technology has improved, people earn higher wages, and people have better knowledge of things available to them. Thus natural resource are being depleted quicker than they can be regenerated.
2. **Environmental degradation** – over extraction as well as growth in energy production from coal, oil and natural gas is having a negative impact on the planet and causing deforestation, desertification and the extinction of animal and plant species.
3. **Rising unemployment** – there may be many economically active people but only a limited number of jobs, especially in developing countries. This could lead to an increase in joblessness in the future.
4. **An increase in the cost of living** – all of the above will result in a rise in living costs as fewer resources lead to an increase in cost – a function of supply and demand.
5. **Technological advances** – high concentrations of people in urban areas also bring with them the potential for research and development which may be able to solve some of the population's needs.
6. **Depopulation of rural areas** as people move to urban areas – this may create challenges in rural areas such as service decline or the inability or rural communities in developing countries to produce food to sustain the population as often the young, economically active leave in search of work. This can also lead to an ageing population in rural areas.

The consequences of under-population:

1. **High rates of immigration** – underpopulated countries tend to be ones which encourage immigration as they need to achieve their full economic potential.
2. **Foreign direct investment** – many under-populated countries have foreign companies involved in their economic activities as the countries themselves lack the population to support the emergence and growth of their own TCs. In Canada, 40% of businesses are foreign-owned. These companies are perceived to be using Canada's resources and taking profits back to their own country (often the USA). Such investment can help a developing country but can also be exploitative.
3. **Regional disparities** – under-population is relative rather than absolute thus it affects certain areas rather than all of it. This can lead to regional differences in wealth and development.
4. **Service provision** – due to an overall lack of demand, many under-populated countries have lower than average service provision as the threshold population necessary for certain services may not be met.
5. **High standard of living:** the majority of under-populated counties are HICs. They tend to have high levels of technology, high levels of income, and a good standard of living. It is likely that the standard of living would rise even further if the population rises due to an increase in production and exploitation of resources.

A country that is over-populated: Bangladesh

- Bangladesh is a small country with an area of 147,570 square kilometres. It has a population of 164 million. The country has a high population density of 1265 people per km^2. In 1971, when Bangladesh achieved independence, its population was about 75 million and this has increased by more than double within the past 42 years. Population grows every year by 1.75 per cent a year. Considering an annual average growth rate of 1.75 per cent a year, Bangladesh's population will be 350 million by 2055

Causes of over-population in Bangladesh:
- **Illiteracy** – only 72.8% of the population aged 15 or older is literate, compared to 86% worldwide. Because illiteracy is high, people may not be able to readily read information relating to contraception and therefore may choose not to use it.
- **Physical factors** - the country has a long history of destructive flooding. Flooding in 1998 left 75% of the country flooded, including half of Dhaka. Flooding leaves few hospitals functional, and the 1998 floods destroyed 700,000 Hecate's of crops. In 2017, unpredicted early rains left pre-harvested crops destroyed. Most inundated land was cropland.
- **Polygamy and polyamorous marriages** are legal in Bangladesh. This leads to more children being born as males have multiple wives. An estimated 10% of Bangladeshi men are in polygamous relationships.
- **Population momentum** – although the fertility rate has fallen to 2.01 children on average per woman rates have fallen, the sheer number of people having fewer children is so large that the population continues to grow.

Solutions:
- **Certain cities have taxed the practice of polygamy** with the tax increasing for each new wife a man takes. In 2006, this came in to effect in northern Rajshahi, Bangladesh's fourth-largest city, mayor Mijanur. Any many marrying a second wife will face a one-time tax of 10,000 taka (USD 142) rising to 30,000 taka and 40,000 taka for a third and fourth wife in turn. Under Muslim law, men can have up to four wives. However, there is no known limit for the number of wives a Hindu man can take in Bangladesh.
- **The Bangladesh family planning program** has depended on a large cadre of female outreach workers going door-to-door to provide information, motivate clients, and provide commodities; the program has used mass media to stimulate a change in attitudes about family size. The program both contributed to and benefited from improvements in women's status in Bangladesh during the past 30 years. As a result of the program, virtually all women in Bangladesh are aware of modern family planning methods. The current use of contraception among married women increased from 8 percent in the mid-1970s to about 60 percent in 2004, and fertility decreased from an average of more than six children per woman in 1975 to 2.01 in 2020.
- **Improving education in Bangladesh** - in the last 10 years, there has been progress when it comes to improving education in Bangladesh. According to USAID, nearly 98% of children of primary school age are enrolled in school. In 2016, 50.9% of all enrolled students were girls, meaning total gender parity. Improving education will result in better awareness and accessibility to contraception and how to use it, reducing the fertility rate.

A country that is under-populated: Australia

Causes of under-population in Australia:
1. Large land area relative to population size - Australia has one of the lowest population densities in the world. With a low population of 23 million and a land area of over 7.6 million km² its density is around 3 people per km². This is very low compared to the Monaco, the most densely populated area in the world with 26150 people per km².
2. Rich natural resource base - Australia is rich in natural resources with large reserves of natural gas, oil, gold, uranium and metal ores. Uranium is important in the development of nuclear power around the world.
3. With low fertility rates of 1.66 births on average per woman and death rates of 6.6 people per 1,000 per year, Australia's natural increase is low. It's growth rate was a mere 0.38% in 2020.
4. Health care provision is very good which contributes towards the low infant mortality rate of 2.8 deaths per 1,000 live births per year. Adult literacy is high at 99% so people are familiar with contraception which is also readily available.
5. Women have benefited from social change that has enabled them to pursue careers more readily.

Solution:
1. Immigration – Australia is facing the issues of an ageing population. Immigration has featured as an important complement to natural increase as a way to offset the shortfall in the workforce the country now faces.

An area which is sparsely populated: Himalayan mountain rage

The Himalayas, is a mountain range in Asia, separating the plains of the Indian subcontinent from the Tibetan Plateau.

Physical factors:
1. The mountainous relief of the Himalayas makes it very challenging to build roads, making large areas virtually inaccessible. Construction of houses is difficult and access the water is limited. It is also very hard to grow crops in this environment. The high altitude, with low oxygen levels, makes any kind of economic activity difficult.
2. The cold climate provides significant challenges in staying warm and with limited energy resources, the environment is largely inhospitable. The land is largely infertile due to thin soils and cold temperatures reducing the recycling of nutrients.

Human factors:
1. As few people live in the Himalayas there are few jobs available to people. Most inhabitants live a subsistence lifestyle.
2. Due to the mountainous terrain, there is very little utility provision in the area including electricity, sanitation and freshwater provision.
3. The Himalayas are remote and isolated which means communications are poor. As the area is so inaccessible there are few economic opportunities in the region. Access to the Himalayas is mainly by foot or helicopter.

## An area which is densely populated: the Ganges River Basin

The Ganges has the second highest water discharge in the world. It's basin from the Punjab to Bangladesh and Assam is the most heavily populated in the world with an average density of over 1,000 people per km².

**Physical and human factors causing the dense population:**

1. The Ganges River is important to the agricultural economies of India and Bangladesh.
2. The huge floodplain is rich in alluvium and produces very fertile soils whilst the climate and access facilitate irrigation making it one of the most intensively farmed and densely populated areas in the world. About 580,000 km² of the Ganges River Basin is arable and it contains about 29.5% of the cultivable land area in India.
3. The Ganges and its tributaries are a great source of water for irrigation. 90% of the annual water withdrawals are used for agriculture and a further 8% for domestic use.
4. A wide range of crops can be cultivated in the basin including rice, sugar cane, lentils, potatoes, and wheat. These crops support millions of people in both the rural and urban areas of the basin.

Impacts of dense population:
1. The water quality has deteriorated rapidly both above and below ground. Pollution is caused by both human and industrial waste. Much of the waste, including raw sewage, is dumped into the river. In addition, many people bathe and use the river to clean their laundry. Faecal coliform bacteria levels near Varanasi are at least 3,000 times higher than the safe maximum considered by the WHO.
2. Water pollution has serious implications for food security, water security and biodiversity.
3. Over abstraction of water is exacerbating issues of drought and causing conflict between countries over who should have access to the most water.
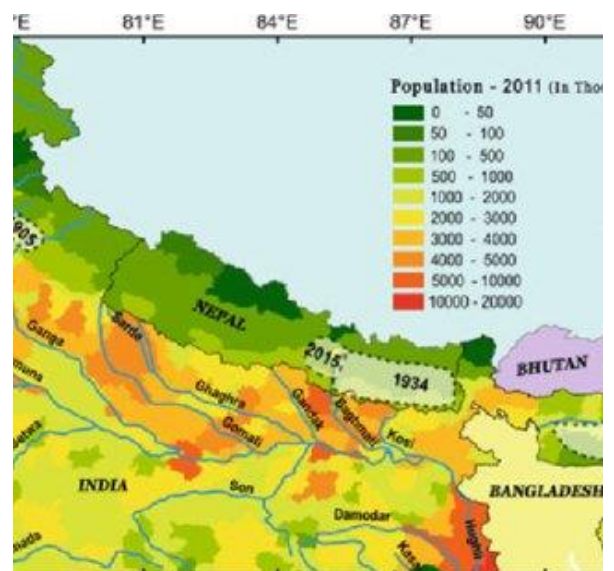
How do populations change over time?
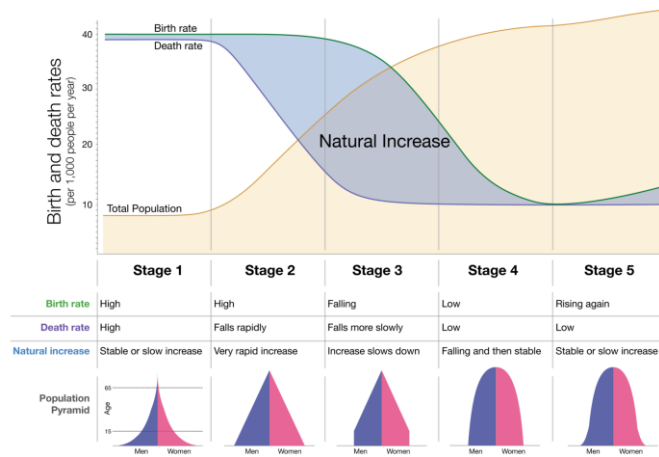
As a country develops, it's population structure tends to change.

Stage 1:
- In this stage there are high birth rates and high death rates: healthcare and knowledge about healthy diets is poor, infant mortality is high and contraception is unavailable.
- The DR oscillates because of famine, war, epidemics.
- Overall population remains low, but fluctuating.
- Only some remote tribes are still in this stage e.g. in Papua New Guinea.

Stage 2:
- BR continues to remain high, but the DR falls rapidly.
- The result is a high rate of **natural increase** and accelerating population growth.
- In LIC's today, the DR falls as a result of outside aid (medicine, sanitation, food) to produce rapid decline in the birth rate.
- The BR remains high owing to the nature of children as a potential economic asset, especially in more remote rural areas. The infant mortality rate also remains high as vaccinations are not yet readily rolled out.

Stage 3:
- Fall in the BR together with a levelling out of the DR. The BR falls as women become freer in society to pursue an education, marry later and have fewer children. The infant mortality rate also starts to fall so people have fewer children as more will survive.
- The convergence of the BR and the DR results in a decline in the rate of natural increase and reduction in the rate of population growth.
- There is always a lag time between the decline in the DR and the BR because a reduction in the fertility rate is a reaction, not a stimulus: it involves social choice and change in traditional attitudes.
- In LICs today, contraception can be made available from outside aid, but results only improve greatly when combined with education and increases in expectations as well as government support. e.g. India, Brazil. Sanitation improvements also help people survive longer and knowledge around health diets and lifestyle choices improves.

Stage 4:
- The BR levels out with low BR and low DR. Consequently, there is little population increase and low rates of population growth.
- BR fluctuates slightly in response to economic influences (people have choice in when or if to have children) rising during economic booms and declining in depressions but the emancipation of women coupled with higher rates of separation leads to a continued fall in birth rates.
- The DR remains even because of widespread and effective health services.
- It eventually results in an increase in the DR because of an ageing population (deaths due to heart disease, cancers), however life expectancy is high owing to good healthcare and scientific advances. People also pursue a better quality of life by making informed choices around smoking, for example.

Stage 5:
- A theoretical stage although starting to be seen in some countries
- The BR falls below the DR leading to natural decrease
- Children become increasingly expensive to raise and this dissuades people from having them.

Population Pyramids
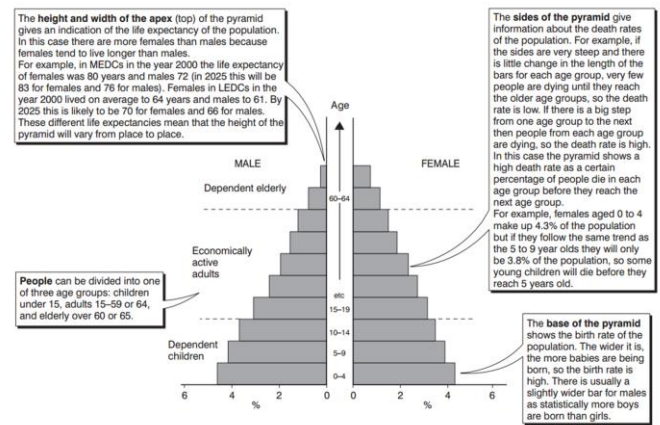
Population pyramids show the structure of a population by comparing relative numbers of people in different age groups.

Those aged between 0-15 are known as youthful/young dependants
Those aged 16-64 are known as the economically active
Those aged 65+ are known as elderly dependants

Population structures differ markedly between developing and developed countries.

- The shape of a population pyramid can tell us a lot about an area's population.
- Usually pyramids are drawn with the % of male population on the left and % of female population on the right.
- Age groups increase in 5 year intervals e.g. 0-4, 5-9 (inclusive).
- It gives us information about birth and death rates as well as **life expectancy** – the higher the **apex**, the higher the life expectancy.
- A population pyramid tells us how many **dependants** there are. There are two groups of dependants; young dependants (aged below 15) and elderly dependants (aged over 65).
- Dependants rely upon the **economically active** for economic support. These are the people aged 16-64.
- Many LICs have a high number of **young dependants**, this means that the pyramid will have a **wide base** and the sides of the pyramid be **concave** in shape, i.e. they cave inwards as you move up through the age groups.
- However, many HICs have a growing number of **elderly dependants**. This will be shown by the pyramid having straight sides or a **convex** shape. The pyramid will also be much taller.

Key terms:
Death rate: the number of people that die per 1,000 people per year
Birth rate: the number of live births per 1,000 people per year
Infant mortality rate: the number of babies that die before their first birthday per 1,000 live births per year
Natural increase: the process whereby the population increases because the birth rate exceeds the death rate
Natural decrease: the process whereby the population decreases because the death rate exceeds the birth rate
Young/youthful dependant: a person aged between 0-15 who is dependant upon the economically active to support them
Elderly dependant: a person aged over 65+ who is dependant on the economically active to support them
Economically active: a person aged between 16 and 64 who is working and paying taxes

How do I calculate population growth?

(Birth rate – death rate) +/- the net migration rate = population growth rate. If the outcome is negative

Challenges of using the DTM and predicting population change:

The demographic transition model is exactly that, a model. It therefore throws up some difficulties when it comes to predicting population changes:

- The model is based on the experiences of a handful of European countries. Their experiences may not be the same or transferable to those in the developing world yet it uses the experiences of these European countries to make assumptions about population change in developing countries.
- Some countries can speed through the demographic changes shown on the DTM because of injections of foreign aid by way of money, medicines, contraception etc.
- The DMT does not take into account migration, which is a significant determinant of population growth
- The model assumes that all models follow the stages sequentially, which isn't always true. There's also no clear time scale between the stages.
- The model could be argued as outdated as some countries are now in a fifth stage characterised by natural decrease. This was not initially shown in the model.
- The model does not take into account the effect of natural disasters on population.

What are the implications of an ageing population?

1. Increase in **healthcare** and social care costs. The average retired household in the UK cost the NHS £5,200 in 2017 as opposed to non-retired households that cost the NHS £2,500.
2. There may be **job gaps** in the labour market as older people retire and the working age population is smaller.
3. The **dependency ratio increases**
4. It may be difficult to **defend** your country if you have an ageing population as the size of your military will shrink.
5. Elderly people withdraw **state pensions**. With fewer people paying taxes, the government may find it difficult to pay these.
6. More elderly people engage in **charitable work**
7. Some elderly people may stay on to work, passing on skills and meaning that **knowledge** remains in the workforce.
8. More elderly people means the potential for **childcare** in families where grandparents are able to help, lowering the cost burden from childcare.
9. The '**grey pound**' is estimated to be worth over £1b to the UK economy through age related products e.g., health insurance and Saga holidays.

Dependency ratio

$$= \frac{Children\ aged\ 0-16\ +\ elderly\ aged\ 65\ and\ over}{those\ of\ working\ age}$$

The dependency ratio is a way of looking at the number of people who are, in theory, generating an income within a country versus those who are dependent upon them.

- A country can be said to have a high or low dependent population depending on how this ratio. It can also be said to have a high number of **elderly** or **youthful** dependants.
- The **dependency ratio** of the most developed countries is between 50 and 70 (e.g., 65-100 so 65 dependents to every 100 economically active). These are often elderly dependants.
- The **dependency ratio** for the less economically developed countries is often over 100 (e.g. 105 dependents to every 100 economically active). These are often young dependants.

What are the implications of a youthful population?

1. Young children need **healthcare**, for example vaccinations and this can be expensive for a developing country to provide.
2. It's likely to put significant pressure on the provision of **maternal healthcare**, which is likely to be poorer in developing countries.
3. The **education** system is likely to be put under intense strain as more and more children require education. If funding is not able to keep up with demand, class sizes and facilities will be strained.
4. **Overcrowding** becomes a challenge as lots of children are born. This can also increase the incidence of **disease** in a country also. If a **government cannot build infrastructure quick enough** to meet the needs of a growing population, it's likely **informal and unplanned settlements** will start to rapidly emerge.
5. There may be high levels of **environmental degradation** as space is made for housing and facilities/services to support the growing population.
6. There may be too few jobs in the **formal economy** to soak up the growing number of people transitioning into the economically active bracket, which means unemployment rates may increase.
7. The future **work force is large and cheap**, which is attractive to foreign investment from TNCs, which may lead to a boost in the economy over time.
8. A large future workforce can provide a **tax income** for the country, which can boost economic development.
9. If a country's government is unable to provide jobs quick enough, high rates of **youthful unemployment** will be likely, leading to the possibility of civil unrest.
10. Young people are migratory and more likely to move in to urban areas. This means there may be fewer workers in agriculture in rural areas further **straining food supplies**.

Solving the challenges of a youthful population:

1. An anti-natal population policy that dissuades people from having children e.g., by taxing them.
2. Reducing the infant mortality rate by introducing vaccination programmes and better.
3. Providing contraception and family planning alongside increasing access to both will be important in slowing the growth rate.

Solving the challenges of an ageing population:

1. Increase the retirement age or abolish it all together.
2. Increase the taxes on the economically active to support pension funds.
3. Re-structure pension funds to require contributions from employers also, as happened in the UK.
4. Promote immigration to attract more economically active people, who may also be more likely to have children.
5. Introduce a pro-natalist policy to encourage people to have children by offering incentives to them to do so.

A country with a high dependent population: Singapore

Causes:
1. Population policies that were too successful in encouraging people to have fewer children
2. Low total fertility rates – 1.14 births per woman in 2019, significantly below the replacement level of 2.1, indicative of decline
3. High quality healthcare at 26 doctors per 10,000 inhabitants with Singaporeans enjoying universal healthcare meaning the public health system is funded by the government and mandatory health insurance.
4. Life expectance was lower in the 1960s, albeit still relatively high relative to other countries globally. It was 65.6 years in 1960. It has since risen to 83.5 years of age, owing to advances in healthcare and better access to health food.
5. People are making healthier lifestyle choices. In Singapore, the contingent of the population that smoke has dropped from 18.3% in 1992 to 10.6% in 2019.

Impacts:
See the case study *A country with a low rate of population growth: Singapore* overleaf

Solutions:
1. The country has **increased the retirement age** to 65, increasing to 70 on 1 January 2022 and has encouraged businesses to reemploy workers beyond the age of 62. Reemployment will ensure that expertise remains in the workforce whilst also ensuring everyone is a contributing member of society.
2. The government has also embarked on a campaign to illustrate how care for the elderly is a combined effort. **Parents can take their children to court** if they are able to support them but are not doing so. Parents must be incapable of supporting themselves and over 60 years of age to venture down this path but it remains a form of government support nonetheless.
3. Schemes such as **Medisave** are also still prominent and encourages individuals to put aside part of their income into their Medisave Accounts to meet their future personal or immediate family's hospitalization, day surgery and certain outpatient expenses.

A country with a high rate of population growth: Niger

Niger ▾
2019   Population 23,310,718
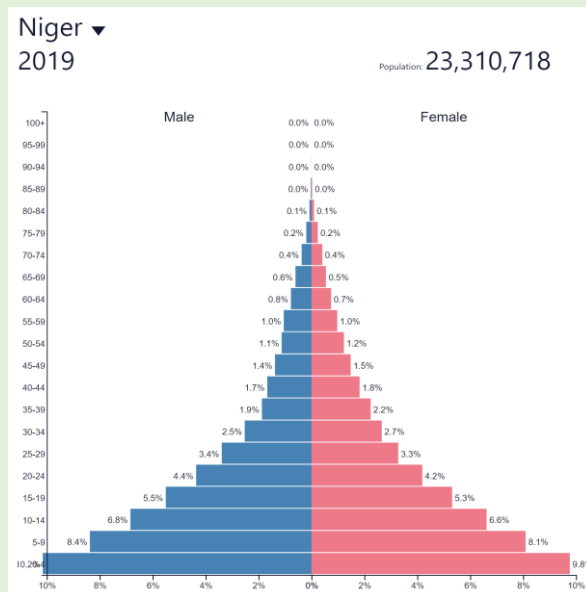
As of 2021, it is estimated that Niger's population is over 25.5 million The median age in Niger is 15.2 years old The total fertility rate in Niger in 2020 was 6.9 babies per female, significantly higher than the replacement level of 2.1. The yearly % change between 2019 and 2020 was 3.85%, indicating a very rapid rate of population growth.

Causes or rapid population growth in Niger:
1. Niger has the **highest fertility rate in the world** at 6.9 in 2020 and a relatively high child mortality rate of 80.4. Although Niger ranks 126th in the world for this, a relatively high child mortality rate means people have many children in the hope that some survive.
2. There is **little use of contraception**, especially in rural areas where there are few family planning clinics
3. More than **98% of the population in Niger are Muslim**. Procreation is encouraged in Islam and many men do not use contraception, believing that the more children a man has, the greater his prestige in society. Polygamy, having multiple wives, is also practiced by some and leads to more babies being born.
4. Many people in Niger are farmers and run small businesses. **Children are an asset** in this sense as they can assist in manual labour work.
5. Niger has a **traditional and mainly rural society** in which men dominate and women lack access to education.
6. In Niger, **the legal age for girls to marry is 15** compared to 18 for boys. Girls who marry young are likely to have more children. 60% of marriages involve children under the age of 16.
7. Niger also has a large population with a **large proportion of people of childbearing age**.

Impacts of rapid population growth in Niger:
1. 80% of the population live on less than 2 euros per day, indicating **extremely high poverty and extreme poverty rates**.
2. **The literacy rate is also among the lowest in the world** with only 21-33% of the population thought to be literate owing to lack of access to good quality schooling.
3. **There are too few teachers**, so children only attend school for five years on average.
4. **Healthcare provision is inadequate** as there are too few doctors and facilities to cope with the pressure. Niger has just 2 physicians per 100,000 people.
5. **Food provision is difficult** as the pressure to provide sufficient quantities of food is challenged by the level of demand. Food production cannot keep pace. Some 38% of children under the age of five are underweight.

A country with a low rate of population growth: Singapore

Singapore ▼
2019

Population: **5,804,343**

Population pyramid for Singapore 2019, showing Male (left) and Female (right) by age group:

Age	Male	Female
100+	0.0%	0.0%
95-99	0.0%	0.1%
90-94	0.1%	0.2%
85-89	0.2%	0.4%
80-84	0.5%	0.7%
75-79	0.7%	0.9%
70-74	1.3%	1.5%
65-69	3.0%	2.7%
60-64	4.0%	3.4%
55-59	4.5%	3.8%
50-54	4.3%	3.7%
45-49	4.5%	4.0%
40-44	4.3%	3.9%
35-39	4.1%	3.9%
30-34	3.9%	3.6%
25-29	4.1%	3.4%
20-24	3.9%	3.2%
15-19	2.6%	2.3%
10-14	2.1%	2.0%
5-9	2.0%	1.9%
0-4	2.2%	2.1%
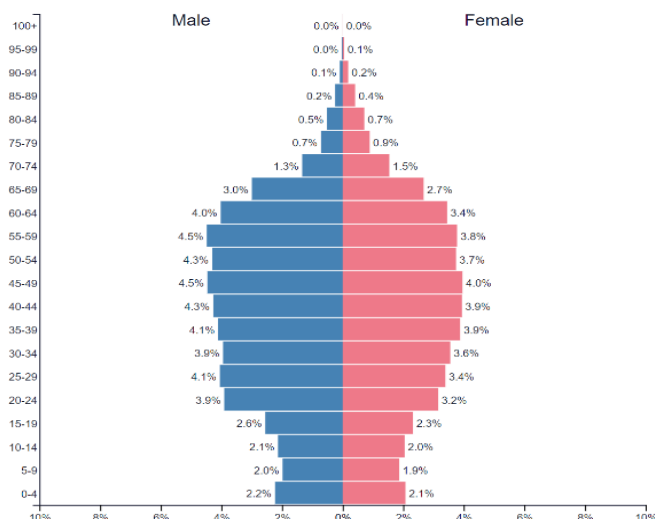
As of 2021, Singapore's population stood at 5.9 million. The population density in Singapore is 8,358 people per km². The median age in Singapore is 42.2 years old. The % yearly change between 2019 and 2020 was just 0.79%. This is expected to fall to just 0.01% by 2045 and be in negative growth, i.e., natural decrease by 2050 with a yearly % change of -0.12%.

Causes of slow population growth in Singapore:
1. **Many foreign workers in recent months have left** the country to return home during the Coronavirus pandemic. Singapore relies on its immigrant population (usually of economically active age) to help increase the birth rate. Singapore's non-resident population declined by 2.1% this year
2. Following a baby boom after WW2, the Singapore government stepped in with an **anti-natal population** policy to reduce the total fertility rate which was at 6.7 in 1950. It included incentivised sterilisations. If it had continued in this way, it would have meant overpopulation. The policy was too successful and despite attempts to encourage births in recent decades, it hasn't worked. The total fertility rate is currently 1.2.

Impacts of slow population growth in Singapore:
1. An **increasing dependency ratio** as the population is rapidly ageing. The ratio of citizens aged 20 to 64 years, to each citizen aged 65 years and above, has declined from 6.8 in 2007, to 4.4 in 2020. This could drop to 2.4 by 2030. This means there will be fewer people paying tax and put a big strain on public funding for health and social care of the elderly.
2. A smaller contingent of economically active people **dissuades businesses from investing in Singapore**, slowing the rate of economic growth.
3. Singapore has opened its borders to encourage **immigration** in the home economically active migrants will arrive and pay tax, and also increase the fertility rate.
4. The **rise of the more affluent and educated senior consumer presents new business opportunities**. Firms can capitalise on the shift to eldercare, which may spur new industries in Singapore as well.
5. Senior citizens can continue to play a positive role in the economy. Many remain healthy and have much to contribute in terms of their **experience** and **knowledge**.

The impact of government policy on population growth: Singapore

Some countries such as France encourage and incentivise people to have children. Others such as China have historically discouraged it.

Those that discourage children through government policy are called **anti-natal**. Those that encourage children through government policy are called **pro-natal**.

Singapore have an interesting past as they initially encouraged people to have children after the second world war. They then shifted approach and encouraged people not to have too many children before finally swinging back towards encouraging population growth.

- In 1970, Singapore introduced their "**Stop at Two**" antinatalist campaign in order to lower their high, post-war, fertility rate. The government **legalised abortion and encouraged sterilisation** for people with two or more children. The policy did decrease the total fertility rate, with the average number of births per woman of child bearing age decreasing from 4.8 in 1965 to 1.82 in 1977.

- The government recognised this would cause an ageing population crisis in the future though with the fertility rate falling below the replacement level of 2.1. Consequently, it was too successful and they sought to introduce a **Graduate Mothers birth scheme** which dissuaded 'lower-educated' women from having children by offering financial incentives. This was seen as discriminatory, however, and only ran between 1984-1987.

- In a bid to increase the fertility rate, the government adopted the "**have three of more, if you can afford it**" campaign in 1987. Families were offered **compulsory pre-sterilisation counselling and financial incentives of $100 to offset the fees of approved childcare centres that were used**. The total fertility rate, however, continued to decline with a decrease in the fertility rate from 1.62 in 1987 to 1.48 in 1999 and 1.24 in 2015. This part of the policy was, thus, too unsuccessful.

- The government have also tried to **encourage immigration**, making it easier for people to gain entry. The assumption is that young males of working age will migrate, bolster the population number and be more likely to marry, settle and have children. However, despite this newer element of the policy, the number of births continued to decrease, decreasing by 4% between 2016 and 2017 and was also unsuccessful.

HAVE THREE OR more, IF YOU CAN afford IT

Types of migration and key terms:

International migration: the movement of a person or people across an international border for a period of a year of more.

Internal migration: the movement of a person or people within a country's borders for a period of a year or more.

Illegal migration: the clandestine movement of a people without the correct documentation or approval to move from one area to another or to cross an international border.

Refugee: a person who has been forced to leave their home country and is unable to return for fear of persecution owing to their political beliefs, religion, sexual orientation etc.

Immigration: the process whereby a person or population move in to an area.

Emigration: the process whereby a person or population leave an area and move to another.

Temporary migration: the movement of a person or people, usually across international borders but can be internally, for a short period of time (normally a year or less) e.g. fruit pickers who undertake seasonal work.

Asylum seeker: a person who has been forced to leave their country and applied for the right to remain in a country under the UN convention for refugees and is awaiting their application to be processed.

Forced migration: when a person or population have no other choice but to leave their place of origin owing to war, natural disasters etc.

Voluntary migration: when a person or population choose to leave their place of origin often in search of a better quality of life.

Remittance: the term given to funds which a migrant sends home after they arrive in the host country.

Source country or area / origin country or area: the name given to the location where a migrant starts their journey or where the migrant initially comes from.

Host country or area / destination country or area: the name given to the location where a migrant settles or ends their journey.

Stepped migration: the term given to the process whereby migrants in a series of stages, usually up the settlement hierarchy to reduce their risk.

Circular migration: the process whereby

Why is migration difficult?

Migrating can throw up many challenges for people. Consequently, it tends to be the economically active that migrate from one area to another. Some of the challenges a migrant may face include:

- **Negative attitudes** to them moving in to an area. Some people fear migrants or demonise them because they believe they take jobs away from others. These attitudes are referred to as **xenophobic attitudes**.
- It's difficult to get the necessary **documentation** and paperwork to enter some countries e.g. visas.
- It can be an **expensive** process to migrate, especially when people are moving over long distances.
- Migration becomes increasingly difficult with **age**. Typically, the number of migrants falls as distance increases.
- **Physical barriers** to migration can make journeys arduous and physically demanding e.g., crossing oceans, deserts, or mountains.

Why do migrants move?

Migrants move owing to a range of **push** and **pull factors**. **Push factors** encourage someone to leave their area of origin. **Pull factors** entice someone into a new area.

A migrants knowledge of **push factors** will always be better than their knowledge of **pull factors** because push factors relate to their current area of living.

Exam top tip: don't mirror factors e.g., don't give poor climate as a push factor and good climate as a pull factor in the same answer. They're too similar!

It's important to remember that pull factors in particular are all based on **perception**. Migrants often don't have a great knowledge of their destination area as they find out about it through word of mouth. The media and internet have increased the availability of information but can still present a skewed view of an area.

Push factors:
- **Climate change** may be leading to desertification and/or drought, reducing the ability of the land to yield crops, forcing people to look for jobs elsewhere.
- **Poor agricultural practices** may leach the soil of usable minerals, further reducing its ability to produce crops and feed people, leading to famine.
- **War** may break out in area, making it unsafe to remain as the risk of harm grows.
- **Unemployment** rates may be high in an area owing to poor economic development and/or a large young population who cannot find work. This means people can't earn an income to support their families.
- **Political persecution** may result from people having spoken out against a particular political regime that gains power in a country or area e.g., the Taliban in Afghanistan. People may be sought our and put on trial or even killed because of their beliefs.
- **Out migration of friends and family** may lead to others following on at a later stage through a process known as chain migration.
- **Lack of services or service change**, possibly owing to rural decline in HICs and the out migration of young, economically active people, leaving the elderly behind. This may cause a shift in the type of services available in area or may lead to them closing down encouraging people to leave an area.

Pull factors:
- **Political stability** may be encouraging to people who live under authoritarian rule and who have curbs placed on their freedoms, attracting them to an area.
- **Job opportunities** in destination areas will attract people as it enables them to generate an income and improve their quality of life and standard of living. Sometimes, a company may be helping a migrant to move by providing them with legal documentation or a job.
- **Less crime** is an attractive prospect, so people migrate in to areas where crime rates are lower.
- A **lower risk of natural hazards** is a very real pull factor, particularly among those who have lost assets in the past because of natural disasters.
- **The presence of family and friends** can attract people in to an area. Family and friends can pass information back to others about the better quality of life, encouraging them to move. They also offer security and safety for the new migrants.
- **Better climates** can lead to more productive agricultural land and longer growing seasons allowing people to make an income from agriculture where they were unable to in their source area.
- **Better services** and housing provision will attract people into more urbanised areas.

What are the impacts of migration on the source country?

The impacts of migration can be positive and/or negative. When you see the word impacts, be sure to mention both in your answer if you can.

For the **source** country, the positive impacts include:
1. A possible **reduction in the number of people without jobs** as there is less competition for work.
2. **Less pressure on natural resources** e.g., food and water, improving food and water security overall and possible increasing the quality of life for those not migrating.
3. Migrants tend to return with a **more advanced skill set** and knowledge, which they can then contribute to the local economy and to help upskill the local workforce, increasing productivity.
4. There is **less pressure on services such as healthcare and education** as there are fewer young people.
5. Money is sent back to the source country by the migrant. This is known as a **remittance** and can be used to boost the local economy and to invest in economic development or to help relatives who didn't migrate improve their quality of life.

For the **source** country, the negative impacts include:
1. There are **fewer people working** potentially, therefore generating less tax income so governments cannot invest so easily in improving infrastructure.
2. **Higher skilled and or those with higher level education qualifications tend to be the ones who leave an area** in search of work that better matches their skill level. This is colloquially known as a brain drain.
3. Migrants that leave a country or area may leave behind their families, splitting parents from children etc.
4. Migration often leads to **gender imbalances** in the source country as historically it has always been young males who are more likely to migrate (although there is more of a balance today).

What are the impacts of migration on the host country?

For the **host** country, the positive impacts include:
1. Migrant workers will often work for **lower wages** and are prepared to do the jobs that local people don't want (e.g. cleaning).
2. **Cultural diversity** within the host country or area increases as migrants bring with them new languages, traditions, food etc.
3. Sometimes, skills gaps can be filled as migrants with specific skills move into an area e.g., doctors or teachers.
4. **Migrants pay taxes** on their income so tax revenue increases for the host country governments, allowing them to reinvest in infrastructure.
5. **Immigrant groups can increase the birth rates** in countries or areas that have low rates of natural growth and are possibly facing the challenge of an ageing population.

For the **host** country, the negative impacts include:
1. **Increased pressure on public services** such as schools, housing, and healthcare as migrants require access to the same basic services.
2. **Overcrowding** may occur as migrants locate in areas with limited resources, leading to overpopulation.
3. **Language and cultural barriers** can exist, making integration harder for migrants.
4. **Migrants very often face discrimination**, which can limit their ability to access work, gain access to healthcare etc.
5. **Gender imbalances** may occur as more migrant males tend to move.
6. **Local people may miss out on job opportunities** in some cases owing to increased competition from migrants.

What is the impact of migrating on the migrant?

Positives:
1. The migrant has the opportunity to **get a better job** and earn a higher income, supporting their family back home.
2. The migrant may be **safely** away from conflict with a country and no longer be fearing for their life.
3. The migrant may have opportunities for a **better education** or access to potentially life saving **healthcare** which was inaccessible before.
4. The migrant sees an overall increase in their **quality of life**.

Negatives:
1. Migrants may run out of **money**.
2. Migrants face **difficulties communicating** due to language barriers.
3. Migrants face challenges in **securing accommodation** or housing on arrival.
4. Migrants can be **exploited** by being made to work **long hours for low pay** although it's important to note that cheaper labour does not always equate to exploited labour.
5. Migrants may experience **racism and xenophobic attitudes**.

An International Migration – Syria to Germany and the EU

Causes:
1. **Lack of jobs** in Syria linked to globalisation and a perception of better jobs in the West. 80% of people in Syria live in poverty and it's estimated that over $200 billion worth of economic losses have been amassed since the conflict began in 2010. 3 million Syrians have lost their jobs and unemployment increased from 14.9% in 2011 to 57.5% in 2014.
2. **Refugees are escaping civil war** in Syria after the Chancellor at the time announced all Syrian refugees would be welcome in September of 2015. Isis controlled over 23,000 square miles of land in Syria in 2015 and persecution of minority groups and those not aligned with ISIS ideology were enslaved or killed. The UN and Arab League Envoy suggest 400,000 people have died in the war.
3. **Environmental issues** such as deforestation, overgrazing and soil erosion, alongside water pollution have pushed many off their land. The outbreak of war added to soil toxicity with weapons such as mortar bombs damaging waste management sites. Mismanagement of domestic waste disposal also produced dioxin and other gasses causing air pollution in Damascus and Aleppo.
4. **Access to healthcare is severely restricted in Syria.** Maternal and child heath services were heavily disrupted and consequently child morbidity and mortality increased. Since the conflict began, life expectancy has fallen by 20 years and there has been a 15% drop in the country's population.
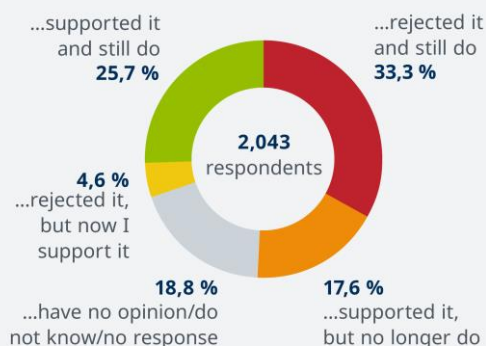
Impacts on the migrants:

1. **Getting adults in to work in Germany has been challenging**. 306,575 Syrian asylum seekers had found jobs by May 2018, more than 100,000 more than in May 2017. However, language barriers remain a challenge.
2. **Risk of death during travel is very real**. More than 5,000 individuals drowned in 2016 attempting to cross to Greece, Italy and/or Spain in a bid to reach Germany.
3. **Overcrowding** was not uncommon in reception centres either in Germany or elsewhere if migrants were stopped. For many months, many were unable to find housing or jobs and those they did find were often low skilled and not in keeping with their skill base.
4. **Many have learnt new languages** – only those granted asylum in Germany can take a job and there is a compulsory integration course: 600 hours or German lessons and 100 hours of civil service.

Impacts on the host:

1. **Immediate shelter and food** had to be provided and this wasn't an easy task – nor was locating migrants who were distributed to areas across the country to reduce the burden of care placed on a single area.
2. **There was extreme pressure on housing, healthcare and school places**. Many schools have classes speaking numerous languages which is a pressure on teachers.
3. **Maternity services were severely stretched** as migrants were mainly of childbearing age (median age of 27).
4. **Most migrants were Muslims** and their destination countries were Christian. By 2017, there were nearly six million Muslims in Germany.
5. **Increased competition for jobs in Germany** as migrants took jobs for lower pay.
6. **There was a risk of losing political and voter support** as people's attitudes toward migration policy vary. German states spent more than £17.5bn on refugees in 2016 with Berlin alone setting aside £600mn for accommodation, integration programmes, healthcare and language sessions but had actually spent £1.1bn instead. The coalition partners and the SPD had their worst results since 1949 in the recent election with migration remaining a big issue.
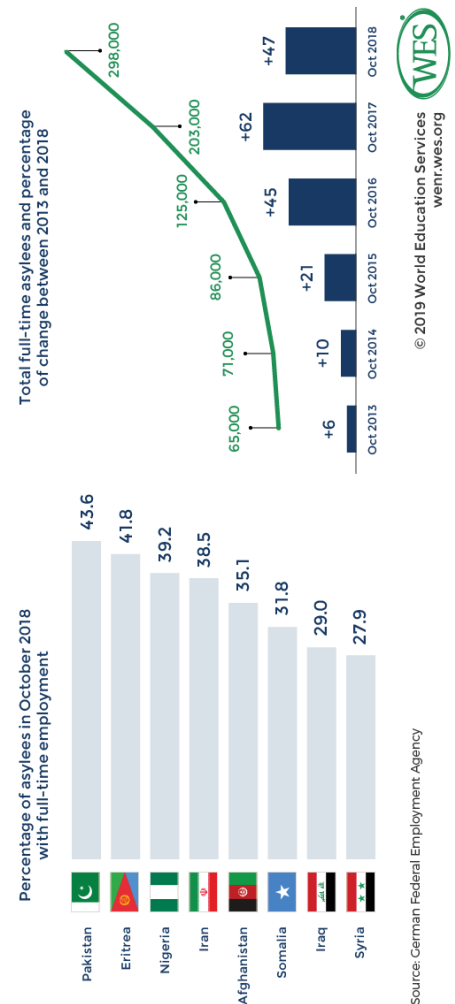
Poll: What is your opinion of Angela Merkel's refugee policy?
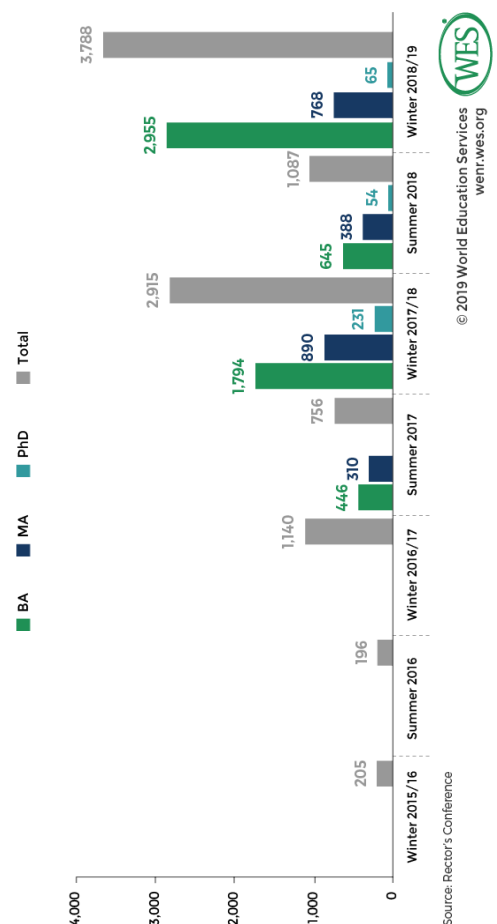
At the beginning, I...

...supported it and still do **25,7 %**

...rejected it and still do **33,3 %**

2,043 respondents

4,6 % ...rejected it, but now I support it

18,8 % ...have no opinion/do not know/no response

17,6 % ...supported it, but no longer do

Full-time Employed Asylees from the Top Eight Sending Countries, October 2013 to October 2018

Total full-time asylees and percentage of change between 2013 and 2018

	Oct 2013	Oct 2014	Oct 2015	Oct 2016	Oct 2017	Oct 2018
	65,000	71,000	86,000	125,000	203,000	298,000
	+6	+10	+21	+45	+62	+47

Percentage of asylees in October 2018 with full-time employment

Pakistan	Eritrea	Nigeria	Iran	Afghanistan	Somalia	Iraq	Syria
43.6	41.8	39.2	38.5	35.1	31.8	29.0	27.9

Newly Enrolled Refugees at German Universities

BA ■ MA ■ PhD ■ Total

	BA	MA	PhD	Total
Winter 2015/16				205
Summer 2016				196
Winter 2016/17				1,140
Summer 2017	446	310		756
Winter 2017/18	1,794	890	231	2,915
Summer 2018	645	388	54	1,087
Winter 2018/19	2,955	768	65	3,788

The impact of HIV on population structure.

HIV stands for human immunodeficiency virus. It is a virus that attacks the body's immune system, leading to other illnesses which collectively become known as **AIDS** or advanced immunodeficiency syndrome.

HIV isn't curable at the moment but it is treatable. You can also take precautions to stop yourself contracting it
1. **PrEP –** is a medication you can take daily to stop your chance of contracting HIV through sex by about 99%. It reaches maximum protection after 7 days of daily use.
2. **PEP** – this is a medication you take daily for a period of a month after exposure to HIV or if you think you have been exposed but are unsure. You start taking PEP, which is a combination of HIV drugs within 72 hours of exposure and it is a combination of HIV drugs designed to stop the virus taking hold.
3. Use protective contraception such as a condom during sex.

Both these drugs, alongside HIV treatment noted below are available to everyone free of charge on the NHS.

HIV can also be treated:
1. **Through a range of medications combined, known as anti-retroviral therapy**, HIV can be managed and make the virus undetectable in your system. If the virus is undetectable, it is untransmissible. This is also known as U=U (undetectable = untransmissible) therefore one cannot pass HIV on to another.
2. **Vaccinations** are currently being tested to stop one's ability to contract HIV similar to other illnesses.

HIV continues to spread however as people do not get tested. There are several reasons for this:
1. **Lack of knowledge around testing** – many don't know you can get free home HIV tests or rapid tests in a health clinic.
2. **Lack of access to testing** – many don't know where to go to get a test, which is a particular challenge in developing countries.
3. **Lack of access to medication** – anti-retroviral therapy is a relatively cheap way of treating HIV but its cost can still be prohibitive in some countries.
4. **Stigma** – some people do not get tested for fear of being marginalised in society if they receive a positive result.
5. **Power dynamics** – in some cultures, males are more dominant in the household and may have multiple sexual partners which increases the risk of transmission.
6. **Lack of access to / knowledge of / use of protective contraception** such as condoms.

The Impact of HIV/AIDs on demographic structures:

1. AIDS-related deaths are altering the age structure of populations in severely affected countries. In developing countries with low levels of HIV and AIDS, most deaths occur among the very young and very old.
2. AIDS primarily strikes adults in their prime working-ages—people who were infected as adolescents or young adults—shifting the usual pattern of deaths and distorting the age structure in some countries. Because of increasingly high AIDS-mortality in southern Africa, for example, people ages 20 to 49 accounted for almost three-fifths of all deaths in that region between 2000 and 2005, up from just one-fifth of all deaths between 1985 and 1990.
3. Because AIDS deaths are concentrated in the 25 to 45 age group, communities with high rates of HIV infections lose disproportionate numbers of parents and experienced workers and create gaps that are difficult for society to fill.

HIV/AIDS disproportionately affects women.

The impact of HIV and AIDS on the lives of women is one of the most critical reproductive health concerns of our times. In sub-Saharan Africa, where the epidemic has spread to the general population mainly through sexual contact, women make up 59 percent of adults living with HIV. Young women ages 15 to 24 in that region are between two and six times as likely to be infected as young men their age.

Women are especially at risk of contracting HIV because of the interplay of biological, economic, and cultural factors. Physical differences make it more likely that a woman will contract the virus from a man than vice versa. Perhaps more important, powerlessness, dependence, and poverty tend to diminish women's ability to protect themselves from unsafe sex. A woman's choices are often limited by her inability to negotiate when or with whom to have sex or whether to use a condom; by society's acceptance of men having sex before or outside marriage; and by the need for economic support from men.

In addition, because most infected women are of childbearing age, they risk infecting their children and thus face difficult choices about childbearing. And, as caregivers in their immediate and extended families, women usually care for dying family members and for children orphaned by the disease. All
of these factors make the empowerment of women a critical component of programs aiming to curb the epidemic and mitigate its consequences.