

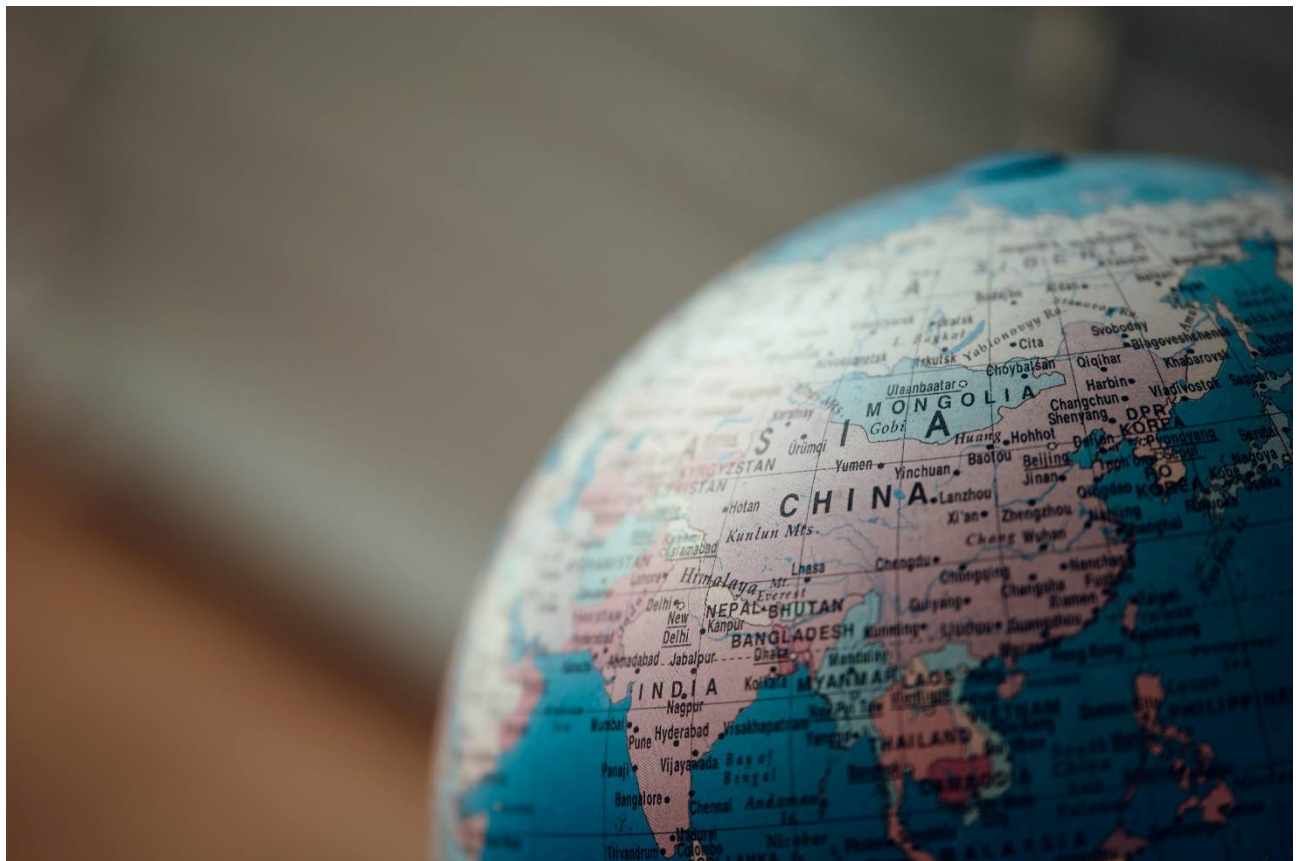
COVID-19: When the world turned upside down

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In December 2019 on a cold winters' morning in China, a wet-market in Wuhan opens for business. Locals stream in all morning to buy fresh meat, fish, fruit, vegetables, herbs and spices.

Wuhan is a central landlocked area and is the capital of the province. It holds an incredibly important strategic position being located at the confluence of the Yangtze River and the Han River tributary – plus it is only 650 miles from Beijing. Wuhan is nicknamed 'the Chicago of China' as an enormous amount of people, and produce, transport through this thoroughfare. Like many other Asian markets, the Wuhan South China seafood wet-market caters to older shoppers who want freshly slaughtered meat for daily consumption. It is here at this wet-market that the global pandemic COVID-19 possibly first started as a zoonotic disease, before spreading from Wuhan across the world. Some theories suggest that it started elsewhere and that there was 'superspreading' at the market, making it appear to be the source.



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Johns Hopkins University & Medicine GIS dashboard

An excellent GIS dashboard can be found at <https://coronavirus.jhu.edu/map.html> from Johns Hopkins University & Medicine.

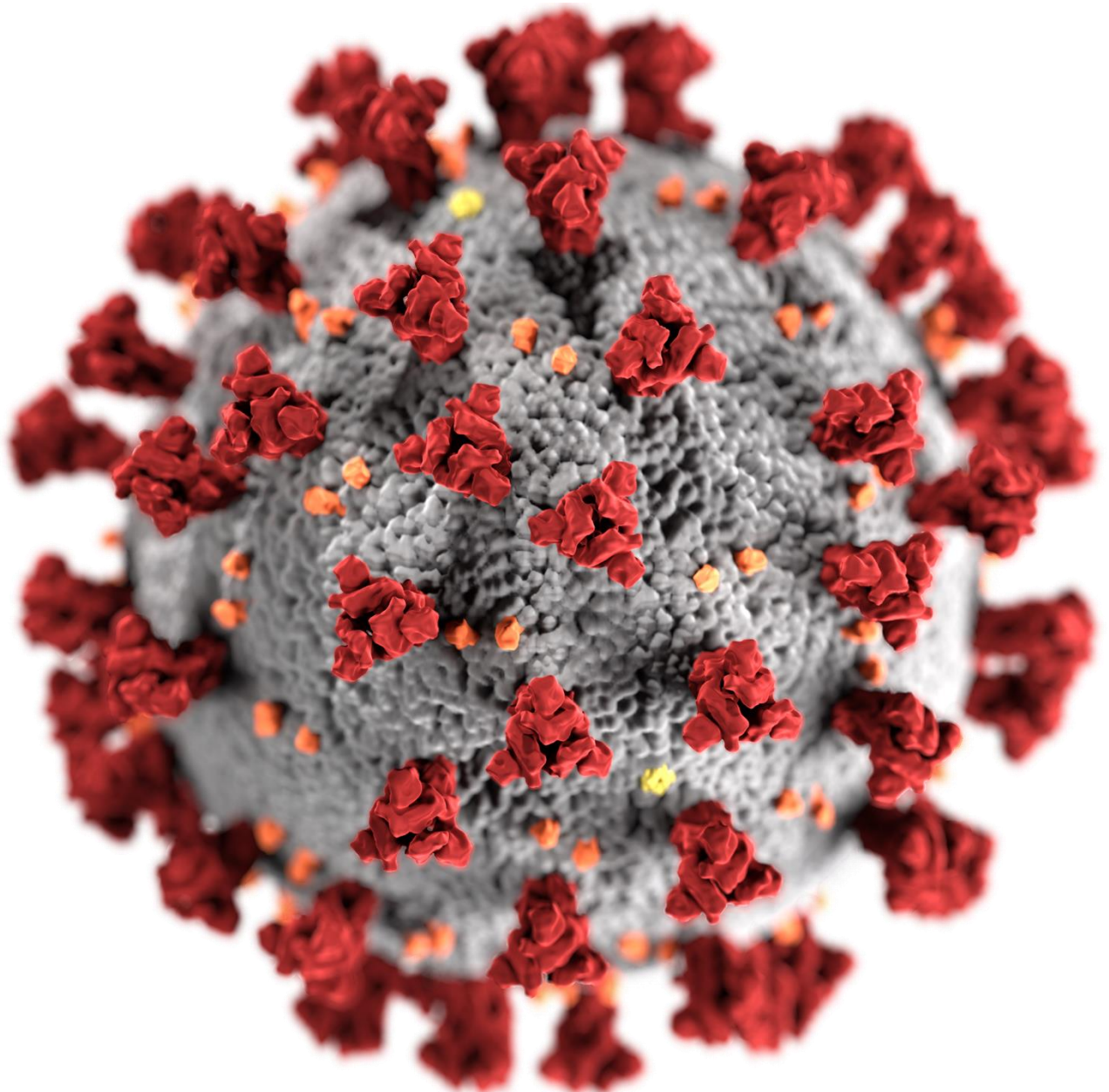
Zoonotic disease

Zoonotic diseases are not foreign distant diseases – they are very common and many are already present in the UK. A zoonotic disease describes harmful germs like viruses, bacterial, parasites, and fungi which jump from animals to humans either by direct contact (saliva, urine, blood, mucous or faeces), by touch, a bite or a scratch or by indirect contact (when contact is made with an area where animals live, roam or have contaminated with germs).

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Anyone can become infected from a zoonotic disease, including healthy people. In the UK people are most susceptible to **vector-borne contagion** (living organisms that can transmit infectious pathogens from animals to humans, such as mosquitoes transmitting malaria), the other vectors are water-borne or food-borne. An example of a zoonotic disease in the UK is *Borrelia burgdorferi*, Lyme Disease, with the usual mode of transmission being a tick bite. The main reservoirs of this disease include ticks, rodents, deer, sheep and small mammals.

In Wuhan the now-infamous Wuhan South China seafood market had both a wet-market, which is prevalent around the world in Africa, Asia and Latin America *and* a wild animal section, which is not only rare but also illegal. Many news outlets are muddling the distinction between the two types of market – the two are not synonymous. It is the **wild animal section** of the Wuhan South China seafood market which could have been the primary source for COVID-19 which spread in December 2019. This corner of the market offered live and slaughtered species for sale, including beavers, badgers, civet cats, foxes, snakes, peacocks and porcupines among other animals.



What is COVID-19

The virus which spread out from Wuhan has the full name SARS-Cov-2 (severe acute respiratory syndrome coronavirus 2) whilst the disease it causes is called COVID-19 (coronavirus disease). Most people only experience mild to moderate respiratory illness when they contract COVID-19. However, older individuals and those with underlying health conditions (cardiovascular disease, diabetes, chronic respiratory disease, cancer and maybe others) are vulnerable to serious illness and death. COVID-19 can be spread via droplets of saliva from the mouth or nose by coughing or sneezing and has proved very difficult to control due to some sufferers being **asymptomatic** (displaying no symptoms and therefore obviously spreading the disease) and because there is no vaccine. Current UK advice is to simply limit your exposure by following a 2-metre social distancing rule, to work from home where possible and to wash your hands either with soap or an alcohol based rub. Mary-Louise McLaws, an infection control expert at the University of New South Wales, explains the problem is that a person **touches their face up to 23 times an hour** – a natural behaviour which considerably increases the risk of infection.

Worldwide

The disease spread from **Wuhan** which was first reported as a 'cluster of cases of pneumonia' in December 2019. Initially it was hoped that the virus would be contained either nationally or regionally but by 22 January the WHO (World Health Organisation) released a troubling statement about human-to-human transmission. After this point the virus spread quickly through Southeast Asia into South Korea, Japan, Vietnam, and Thailand.

The virus next spread further afield into **Singapore, Italy and Iran** – all of which became hotspots. Singapore suffered initially due to a high level of international travel and a transient business cliental. Italy seemed to respond too slowly to the virus which, on 11 March, was declared a pandemic. Due to a severely weakened healthcare system from years of international sanctions, very little data collection and poor patient tracking Iran suffered terribly. The extent of COVID-19 in Iran might never be fully appreciated with some news outlets describing the country as a 'global vector of infection'.

Cruise ships strangely became a focus of attention as countries increasingly began closing their borders and initiating 'lockdown' emergency procedures around the world in March. China was the first to do so on 23 January with people in Wuhan not going back to work until two months later, on 29 March. Many other countries followed suit with the UK imposing a lockdown on 23 March. The cruise ship industry has therefore been disproportionately affected as ships have been unable to dock and, in some cases, have become breeding grounds for the virus. At least 21 cruise ships around the world have been affected by being 'trapped in limbo' whilst in quarantine or rejected docking requests or forced extended voyages. The Diamond Princess was the first cruise ship to register a COVID-19 related death and was held in port for two weeks after the ship came into berth at Yokohama, Japan. Cruise ship passengers suffered considerably as Japanese health officials insisted all passengers were kept in their rooms. 10 passengers first tested positive for COVID-19, which quickly escalated to 700 due to the imposed quarantine. Ultimately one-fifth (696) of the total 3,711 passengers became infected with 8 people dying. This episode highlighted how complicated a cruise ship emergency can be in a global pandemic as passengers were from a range of countries across the world and ports have no obligation to accept arriving ships. 3 days into the quarantine passengers began unfurling signs on their balconies that read 'lack of medicine' and 'thank you media'.

In separate incidents over the weekend of 9-10 May, two crew members died on board cruise ships as one 39-year old Ukrainian woman jumped off the Regal Princess in Rotterdam and another man died suspiciously whilst on board Carnival Breeze on route to Southampton. Both these deaths highlight the strain of being trapped on board a ship for an extended period of time. At the time of writing, there are still more than 70,000 cruise ship crew members marooned around the world.

By mid-March it became clear that Europe was fast becoming the new epicentre for COVID-19 and throughout April it quickly took hold in North America, in particular in the US. However, the response to the coronavirus has varied greatly around the world and success in dealing with the pandemic appears not to be tied to development. For example, **Vietnam** has a vast population of 95 million citizens and is a developing country however it has no recorded deaths from COVID-19. This is a staggering achievement from a country that shares a border with China. Indeed, the only noteworthy news to emerge from Vietnam since the spread of the virus was the condemnation of Vietnamese socialite and daughter of steel magnate, Nga Nguyen, who attended a Gucci fashion show in Milan and a St. Laurent fashion show in Paris and was subsequently accused of being a Vietnamese 'super-spreader'. Even in early-May Vietnam reported less than 300 cases and maintained its claim of zero deaths. Their success is largely down to mass mobilisation of the healthcare system, military and public employee engagement and a very creative nationwide education campaign. Similarly, **South Korea** has been widely praised for its response to the pandemic as it also managed to 'flatten the curve' of the disease – describing a line graph with the rate of infection plus death toll (y axis) plotted over time (x axis). Dr Jung Won Sonn from the Bartlett School of Planning, UCL explains the enormous South Korean virus testing programme, an approach it learnt from experiencing MERS (Middle Eastern Respiratory Syndrome) in 2015, in our podcast series *Ask the Geographer* <https://www.rgs.org/schools/teaching-resources/south-korea-is-a-success-story-for-managing-covid1/>.



© CDC Unsplash

Increasingly many now ask 'is **Africa** next?' There is global concern about the continent in particular around conflict hotspots like South Sudan and heavily overcrowded slums in Makoko in Nigeria and the Xhosa township in South Africa. In general, across the continent there is a lack of healthcare infrastructure and a shortage of ventilators which will mean a very high death toll in the future for many African states. One positive consequence of the virus spreading in Africa is that political elites, leaders and the super-rich are being forced to use their national healthcare infrastructure rather than flying abroad for treatment, reminding them of the moral argument and obligation to invest in your

own country's hospitals and healthcare. An added dimension to the continent's troubles is a migratory population around the Sahel region – making the 'test, track, trace' approach used in other countries an impossibility.

To fully understand the rapid spread of COVID-19 in 2020 watch the animated graph by Tony Nickonchuk https://www.youtube.com/watch?v=zGETbWCD3_w. This data is sourced from the Global Burden of Disease Study, Worldometer and the John Hopkins COVID repository comparing the pandemic against other major diseases.

Geopolitics

Geopolitically there have been huge shifts around the world and a new global order is quietly realigning. Michel Duclos, a former ambassador turned Institut Montaigne analyst, points to 'a shift in the centre of gravity' describing the balance of power moving to China and Asia. He also describes the US as the 'fallen star of our old world'.



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Disinformation is increasingly being deployed by arguably irresponsible state leaders, namely; the US President Donald Trump and Brazilian leader President Bolsonaro. Examples are numerous but infamous episodes are President Trump advocating untried and untested 'miracle drugs' such as Hydroxychloroquine whilst also suggesting consideration of injecting disinfectant in order to achieve 'almost a cleaning [of the inside of a human body]'. Meanwhile on 19 April President Bolsonaro joined a rally in Brasília encouraging protesters who were shouting for a return to military dictatorship (he is an ex-military officer himself). President Trump has lambasted his critics with slurs of 'fake news' whilst simultaneously trying to refocus blame on China, labelling COVID-19 'the Chinese virus', calling it a worse 'attack' than 9/11 and claiming China did not do enough to contain the outbreak. His tactics have in the past been summarised as 'deflect, deny, deflate' by the New York Times. Of late these tactics have also ensnared the WHO with President Trump releasing an open letter on 18

May saying the organisation displayed an 'alarming' level of dependency on China and that it was 'clear the repeated missteps' in responding to the pandemic had 'been extremely costly for the world'. In response the Chinese Ministry of Foreign Affairs spokeswoman, Hua Chunying, has also tried to suggest that coronavirus did not start in Wuhan at all.

In this new and evolving world order Pakistan is attempting to draw ever closer to China as its economy teeters on the verge of collapse. A multi-polar world has allowed this relationship to quietly flourish as America continues to withdraw from the world stage. However, Chinese-Pakistani 'higher than the Himalayas' relationship will be severely tested as The Asian Development Bank forecasts a loss of \$5 billion for Pakistan, in a worst-case scenario for COVID-19. This is largely because 60% of Pakistan's exports are textiles. All eyes will be on whether the landmark infrastructure and security **CPEC** (China Pakistan Economic Corridor) project survives this uncertain time. The CPEC is the largest investment project Pakistan has ever received since independence in 1947 with many beneficial 'ripple effects' predicted for India, Afghanistan and Iran.

In April, a huge, unprecedented event occurred – for the first time ever **oil prices** dropped into negative figures. Demand has dropped from around 100 million barrels of oil per day to less than 29 million barrels per day due to multiple lockdown' policies around the world which, at one point, confined one-quarter of humanity to their homes. Car and aviation industries have stopped ordering oil as consumers are simply not buying it. Oil producers are frantically searching for places to keep their now abundant resource because land-based storage has quickly backed up. Excess oil is now being stored at sea with some companies leasing oil tankers for in excess of \$100,000 per day. The negative oil price therefore came about from a spectacular u-turn on the burning of hydrocarbons forcing oil producers to resort to *paying* buyers to take their oil off their hands¹. This indicates a tremendous over supply of oil and suggests ongoing price volatility. The knock-on effect of this sudden and sharp slowdown in the oil industry is the collapse of the petrodollar and economic damage to oil-producing countries, such as Angola, Gabon, Nigeria, Saudi Arabia, Venezuela as they are all starved of cash.

UK Impacts

Increasingly the **BAME** (Black Asian Minority Ethnic) community have become particularly vulnerable to COVID-19. BAME citizens seem to be twice as likely to contract and die from COVID-19 compared to other ethnicities. This issue is apparently a genetic vulnerability, but the virus has also highlighted the disproportionate inequality and the structural inequality which has been exposed in the UK.

In April 2020 it was reported that 58 out of every 84 deaths in the UK were in the BAME community, which is disproportional. In the NHS (National Health Service) 44% of NHS doctors and 24% of nurses are BAME. On 20 April it was announced that Dr. Manjeet Singh Riyat a 52-year year old Derbyshire consultant at the Royal Derby hospital had died from COVID-19. He was the first Sikh A&E consultant in the UK. Dr. Riyat was described as the 'father of the emergency department' and, at a time of a mounting faceless death toll, his death personalised the increasing heartache of NHS frontline staff.

Concerns over **public behaviour** and adherence to the rules laid out by the British government grew through April and into the month of May with the movement of people in particular causing angst in rural areas. It is estimated that up to 250,000 Londoners left the city to live in second homes mainly in rural or coastal locations. Second home hotspots, such as Southwold in Suffolk and Ambleside in the Lake District, were places of extreme local discontent as people flooded into towns and villages to escape the high density living of urban areas. Over one fifth of the housing stock in the Lake District are now second homes. Over the weekend 25-26 April warnings were issued by the police

¹ New York Times *Too Much Oil: How a Barrel Came to Be Worth Less Than Nothing* 20 April 2020 and the Financial Times *Oil prices on a slippery slope* 24 April 2020

against 'small scale vigilantism' targeting cyclists, or people going for countryside walks. Local anger grew over increased exposure to COVID-19 and greater demand being placed on small local supermarkets. Throughout much of the UK panic buying spread due to several factors.



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After 10 May, when Prime Minister Boris Johnson announced a slight relaxation of the COVID-19 lockdown to allow more exercise, construction and manufacturing work, there was a backlash from concerned rural residents in the Lake District. Police in the Lake District urged potential visitors to 'take a long hard look at your own conscience' if anyone was planning to visit the National Park. Over the May bank holiday weekend (8 to 10 May) more than 100 fines were issued by Cumbria Police to punish people for making 'non-essential journeys', which was double the number issued over the rest of the prior lockdown period. The reasoning for such an emotional reaction from the northwest of England is that parts of Cumbria, such as Barrow-in-Furness, have the highest infection rates in England with 804 cases per 100,000 people. Lancaster is the second-most infectious area with 513 cases and in third place is South Lakeland has 482.

A concerning element for some of the Prime Ministers speech on 10 May was the divergence in language and approach between the four home countries as England changed the slogan to 'Stay alert, control the virus and save lives' whilst Scotland, Wales and Northern Ireland retained the original 'Stay at home, save lives, protect the NHS' soundbite. Critics have pointed to the fact that this highlights a UK Cabinet prioritising economic wealth over public health. Comments leaked from government say some ministers are worried about people becoming 'addicted' to the wage subsidy (furlough) scheme of state support. However, the view of the government was that a change in slogan was appropriate to fighting the next phase of the battle against the virus. The United Kingdom now faces more agonising and strenuous times, after four years of discussion and uncertainty about

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Brexit. Vociferous SNP (Scottish Nationalist Party) calls for devolution have been reignited from the growing differences between the home countries called '**regulatory divergence**'.

In early April, Prime Minister Boris Johnson was hospitalised after contracting COVID-19. He emerged from St Thomas' hospital praising the NHS nurses who saved him when 'it could have gone either way' and said that there was such a thing as society (alluding to a notorious remark made by Prime Minister Margaret Thatcher in 1987 that 'there is *no* such thing as society').

Overall electricity demand has plunged by a fifth since the UK government followed other countries and imposed a lockdown in March. This caused major problems for ESO (**the National Grid Electricity System Operator**) the company who manages Britain's electricity grid to avoid brownouts and blackouts. National Grid must keep the frequency within a band of 49.5 to 50.5 hertz to ensure stability. The worst blackout in over a decade occurred in August 2019 when frequency only fell to 48.8 hertz. The current unprecedented low demand from lockdown has meant ESO has been forced to pay wind farms to switch off power, export power to Europe via subsea 'interconnector' cables and agree a deal with French company EDF to reduce output from its Sizewell B nuclear plant in Suffolk to help manage low demand. Unfortunately, this summer has seen record-breaking weather patterns ideal for British solar and wind production, which has flooded the system with cheap electricity. In an attempt at positivism the ESO engineers claim this challenging time is good for the UK as it helps the country prepare for a future emphasis on renewables in build-up to the government's 2050 'net zero' target.

UK Response

On 11 March, the first budget was announced by the new **UK Chancellor Rishi Sunak**. It was a landmark budget for a Conservative government with sick pay being available for all employees from the first day of isolation, business rate cuts for thousands of retailers, pubs, clubs and cinemas and £175 billion of capital spending to be spent on infrastructure. With the Total Managed Expenditure (TME) by the British government for 2020-2021 expected to be around £928 billion this level of infrastructure spending is forecast to constitute 19% of the UK GDP². This encompasses road, rail and broadband improvements across the country. The budget also promised £12 billion for focused spending on the COVID-19 pandemic whilst the Bank of England said it would bring down interest rates and loosen up lending to help businesses. In March the Bank of England brought down the interest rate twice in 9 days with the final intervention reducing the rate to a record low of 0.1% on 19 March. At the time journalists were reminded of an old quote from Prime Minister Boris Johnson who once said his philosophy was 'boosterism' – a mantra that is being implemented with record speed during the COVID-19 pandemic.

The **UK economy** has increasingly caused politicians concern as the lockdown drags on into the summer. Financial indicators such as the numbers of new cars being sold to private buyers dropped by 99% in April 2020. In April 2019 around 66,000 new cars were sold however in April of 2020 this was down to less than 1,000 – an enormous crash. Many sectors of the economy have seen some form of economic slowdown across the country. The seriousness of the situation was underlined when Chancellor Rishi Sunak announced on 12 May that the UK's wage subsidy (furlough) scheme would be extended in some form until October 2020. Currently the government pay 7.5 million people's wages. These are colossal interventions which are unprecedented in British history. They highlight a massive increase in the size of the state and state intervention as the government has now effectively taken over the labour market. Without such extreme government support the UK economy may have been very seriously impacted in 2020 and even with these measures it is expected to contract by one-fifth if there are movement restrictions for the rest of the year. Any downturn (regardless of the government intervention) could be the worst recession for 300 years due to a 'risk of scarring' and lasting long-term impacts. Some economists point to the 1709 recession for a comparable financial crisis. It was a time colloquially referred to as the 'Great Frost'

² The UK Treasury Budget *Government spending and review 2020*

with temperatures plummeting in the worst UK winter for 500 years. Food storages, mass deaths and a huge deficit to the economy all occurred. In 2020, for every extra month the wage subsidy scheme is kept in place it could cost the British government approximately £13 billion, which is roughly as much as is being spent on the NHS. To put these figures in context – in peacetime it is unusual for the government to spent more than 4-5% of GDP and borrowing. After the 2008 recession spending went up to 11% of GDP and borrowing however this recession might see an even greater rise to between 15% and 20%.



Looking to the future, the size of the government deficit is likely to increase, and attention is now turning to how the government plan to pay back the money borrowed for the wage subsidy (furlough) scheme. Rumours have already begun that there might be higher taxes and a freeze on public workers' wages (including doctors, nurses, care workers and teachers). However, nothing has been confirmed about how it might be funded at the time of writing. In April BBC Economics Correspondent Andy Verity predicted the cost of the British wage subsidy (furlough) scheme would 'cost well north of £50 billion' and that if lockdown continues for the six months, borrowing might hit 'a truly mind-boggling £500 billion...a quarter of the size of the entire economy'³.

UK Future Challenges

Several challenges have emerged for the production, import and distribution of **food** in the UK. The UK is dependent on food imports with only 50% of food consumed being produced in the UK. 30% comes from the EU, 4% from Africa, 4% from North America, 4% from South America, 4% from Asia, 2% from the rest of Europe and 1% from Australasia⁴. Three stark problems have been exposed in the UK food industry; the reliance on migrant labour, the rise of food poverty and the huge differences in access to good quality food.

Migrant labour has slowly been drying up in the UK since the Brexit debate began in 2016 and at times during the COVID-19 crisis there have been genuine concerns about a lack of agricultural workers in much of Western Europe. For example, the German Bundestag asked the Romanian government for a 'bespoke lockdown exemption' to allow 300,000 seasonal workers to pick 'white gold' (German asparagus) and strawberries resulting in 'an epic stampede' of thousands of Romanian agricultural workers on low-cost flights and packed night buses into Germany on 9 April. In the UK 11% of the total employment in agriculture, forestry and the fishing sector is from outside the UK, with 7% from the A8 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia). Around 70,000-80,000 overseas seasonal workers normally pick fruit crops in the UK, from lettuce to apples. Concordia, a UK work placement charity ran a recruitment campaign to recruit British workers for British farms but out of the 50,000 people who expressed interest only 150 took up the offer of agricultural work, which fell well short of the required number of labourers.

The **rise of food poverty** is a more pressing issue in British society. Food poverty is defined as 'the inability to acquire or consume an adequate or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so'. Food banks have grown in use steadily over the period of austerity from 2008 to 2019. Year-upon-year more people in the UK are struggling to eat because they simply cannot afford food. Over a 5-year period from March 2014 to March 2019, the Trussell Trust, a British food charity with a network of 1,200 food banks recorded a 73% increase in three-day emergency food supply packages being given out to people in crisis, a jump from 913,138 to 1,583,668. This directly stems from the fact that 14 million people now live below the poverty line in the UK. Additional problems emerged during the pandemic with panic buying leading to government ministers appealing for calm. Toilet roll, pasta and tinned food were in very short supply in supermarkets. Panic buying persisted to such a degree that supermarket chains such as Asda and Sainsbury's were forced to bring in 'opening times for NHS and key workers' between 8AM and 9AM and rationed some products.

On 20 April **oil prices** crashed down to -\$40 per barrel. Oil traders became stuck with too much oil and not enough buyers as multiple lockdowns around the world limited demand. It was an unprecedented moment in the oil industry with tankers at sea either finding it difficult to unload their oil or having to reroute to find new destinations and alternative buyers. Cars journeys dramatically plummeted by 73% due to lockdown⁵ and there are fewer planes in the sky. COVID-19 has accelerated the decline of the hydrocarbon industry with increasing competition from renewable

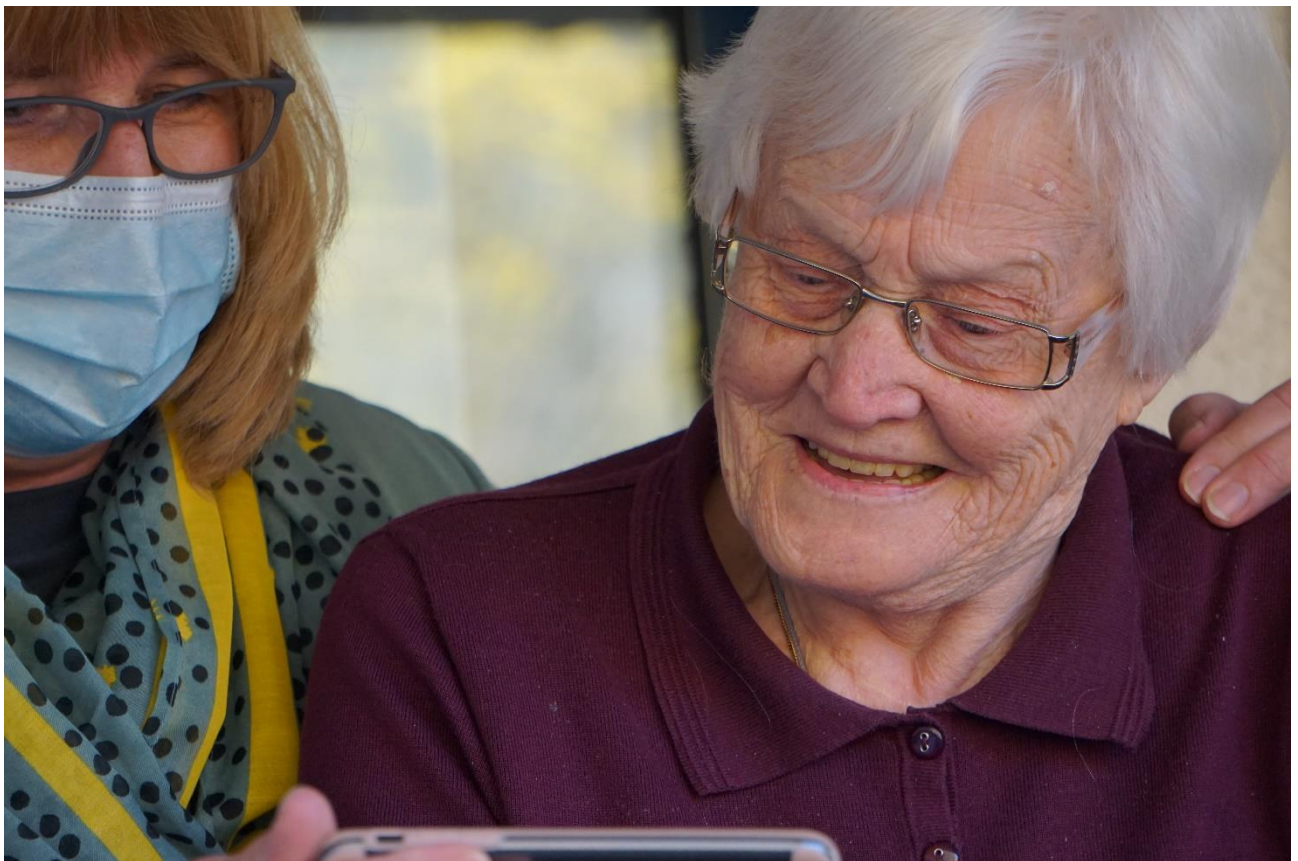
³ BBC *Coronavirus: UK borrowing to see 'colossal increase' to fight virus* 23 April 2020

⁴ DEFRA *Food Statistics in your pocket 2017* – Global and UK supply

⁵ The Guardian *UK road travel falls to 1955 levels as COVID-19 lockdown takes hold* 3 April 2020

electricity generation. Sustained public pressure and a spate of environmental disasters from 2019 to 2020 have also created an awareness of a global 'climate emergency'. There are three indicators of long-term future concern for the oil industry; airlines are collapsing (Flybe, Trans States Airlines, Compass Airlines and Virgin Australia), Shell cut its dividend for the first time since WWII and Saudi Arabia are trying to sell oil assets by listing the state-owned Saudi Aramco (the world's largest oil owner) on the stock market.

Those with **disabilities** in the UK are suffering from the lockdown⁶, which began on 23 March 2020. Children who have autism have a heightened level of anxiety from the disruption to their weekly routine reporting fear, anger and incomprehension. There are around 700,000 people on the autism spectrum in the UK. The increasing calls for the public to use face masks to tackle the spread of the virus is equally worrying for those with hearing loss. In the UK there are 9 million people with some form of hearing impairment. The increased effort needed to listen and communicate by these individuals will be strenuous if wearing face masks becomes mandatory. 72% of people who have hearing impairments in the UK are aged over 60 which makes them particularly vulnerable to misunderstandings. Reports in May 2020 show that 1 in 50 children and adults with autism or other learning difficulties are dying from COVID-19 (around 2% of total deaths), which is a disproportionate figure.



© George Arthur Unsplash

Social care has been under scrutiny for several years with the industry increasingly described as being 'at breaking point' due to under-funding, a lack of prestige and a largely low paid workforce, who sometimes lack the appropriate training. These problems will be compounded by the expected growing demand for care in the future. Reports in 2018 based on a study from the Lancet Public Health journal found that 'the over 65s needing round the clock social care is set to rise by a third' – increasing to 446,000 by 2035. This future modelling also noted that the over 85s are the fastest

⁶ ITV News *People with disabilities 'struggling more with mental health in lockdown'* 1 May 2020

growing demographic in the UK, whose numbers are projected to double to 1.5 million by 2035. These elderly members of society often have multiple long-term health problems, such as dementia, adding further complexity to future care.

PPE stands for Personal Protective Equipment and encompasses everything from face visors to surgical scrubs and gloves. It is essential to have adequate supplies of PPE during a pandemic to limit the spread of a virus because equipment stops the airborne spread of a virus when people sneeze, cough or touch surfaces without properly covering their nose or mouths. All key workers and especially NHS frontline staff, who come into contact with infected COVID-19 patients should wear PPE. Following the 2009 outbreak of Swine Flu the government established the UK's National Pandemic Stockpile (government storage of pandemic PPE equipment) as an epidemic was seen as the number one threat on the national risk register. Half a billion pounds was spent on hundreds of millions of items to protect health workers in the case of a future outbreak however by 2020 almost 80% of respirators in this stockpile were found to be out of date. In total, 45% of the 19,909 boxes holding PPE supplies had exceeded their use-by-dates and were thrown away. In increasing desperation on 20 April the UK government sent an RAF aircraft to Turkey to pressure the Turkish authorities into releasing a consignment of 400,000 protective gowns (purchased for the NHS). Unfortunately, this much needed PPE was later deemed to be so poorly made it did not meet British medical safety standards and was again not distributed.

UK Future opportunities

Environmentalists argue there must be no return to the status quo. In the past humanity has wreaked havoc on our environment and some would argue that successive governments have decreased the provision of public services. The future could encompass a green economic plan with green initiatives, public investment and more key worker recognition – from nurses to supermarket staff all being recognised as essential workers, long after the pandemic has subsided.

A **green stimulus** is touted as being a possible part of a future UK exit strategy, but many economists warn that it must be 'targeted, timely and temporary' – with a high economic and social impact. If such a stimulus is to be initiated it must also be long term, driving the next phase of economic green development for the twenty first century. In the UK some initiatives were launched in an investment drive post-2008 but they were quickly followed by austerity and then faltered in a pattern of 'boom and bust' for the green industries. After the last major surge of green financial stimuli (in 2010) there was a depressingly rapid rebound to fossil fuels use. The UK has since returned to the path of increasing carbon emissions – a trend environmentalists say might be threatened in the aftermath of COVID-19 in 2021.

Green sovereign bonds are being suggested for the Treasury. These bonds are issued when the Treasury needs money. Individuals, pension funds, fund managers etc. can buy these bonds with the proceeds being ring-fenced for environmentally friendly investment. Green sovereign bonds have a yearly reporting mechanism to ensure they are not spent on non-green activities.

Despite the next environmental summit in Glasgow being cancelled this year (COP26) many environmentalists remain hopeful that action is coming as the climate breakdown is now more obvious – and more visible – to the general public. It is a moment for climate activists to speak to government in a much broader conversation about climate change to address the increase in extreme weather events, a 25% drop in insects (since 1990) and both the 'climate emergency' and 'biodiversity emergency' in the UK. Even before COVID-19 2020 was already being heralded as a 'crunch year' for our environment.



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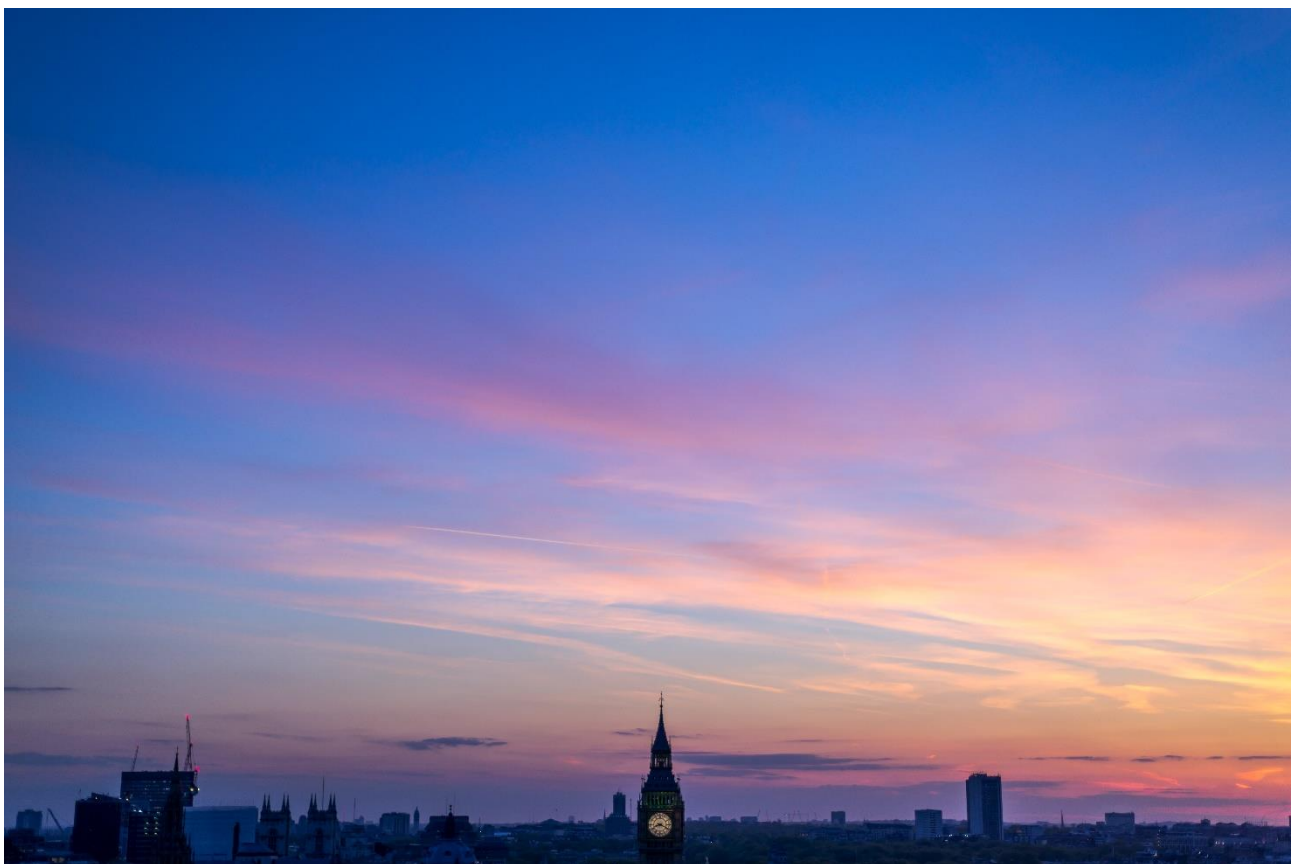
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'Key workers' is not a new term; however, it has changed in definition during the COVID-19 pandemic. There is a huge future opportunity for the expansion of key industry workers and a societal shift to raise pay and the status of the vital but unglamorous types of work that knit our communities together. Many hope the **clap for carers** wave of support for the NHS on Thursday nights will herald in a new era. Care workers, refuse collectors, teachers, supermarket employees and tube, train and bus drivers all play their part in what has increasingly been called 'the foundational economy' of the UK. These professions have sometimes suffered work insecurity and low rates of pay for some roles in the past. During the decade of austerity from 2008 to 2019 there was a reduction in local government spending and a freeze in public sector pay. The current perceived crisis in social care presents an opportunity for radical reform and renewed future recognition. It is hoped that, in the future, social care will have a highly trained and motivated workforce, a reversal in the narrowing of services and an increase in staff understanding of elderly medicine⁷. It is hoped such reforms might encourage patience for accurate diagnosis and will incentivise a 'recovery narrative'. A final hope is that other types of care for the elderly will be considered, such as social interaction.

Inequality in the UK is higher than any other European country, with inequality growing between the rich and the rest of British society. The UK is now at its most unequal since WWI. The exit strategy and future economic plan for the UK can hopefully address this imbalance.

Conclusion

COVID-19 is an evolving pandemic which will bring changes and challenges in how we behave societally, how we move from A to B, how cities develop, how we view and treat the planet and how we work.



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⁷ Social care *CRESC Public Interest Report* September 2016

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There have been huge international changes already this year. US President Donald Trump announced on 15 April he will halt American funding to the WHO, a cornerstone of global governance. His reasoning (and accusation) was that the WHO were 'severely mismanaging' the COVID-19. At one point in March, one-quarter of the world's population was on lockdown, confined to their homes. On the local level families have been split during lockdown with particularly difficulties for children with separated parents and a collapse in childcare from the closure of schools and nurseries. Yet communities have banded together – looking out for the elderly and vocally supporting the NHS whilst across the country air pollution has significantly improved. There may be clear skies ahead.

Calculating the impact and national response to COVID-19 is a difficult task. It is very difficult to judge a country's response by the death toll as;

- There are discrepancies in the number of people being tested from one country to another. For example, Russia has been accused of not releasing accurate figures with a mortality rate of just 0.9%, making it an outlier among other similarly sized countries. Iran has been unable to initiate a test and trace programme whilst in Pakistan there is such widespread concern of undercounting that a nationwide survey to estimate how many people have been infected is due in June.
- There are also fundamental differences in *how* you count deaths from COVID-19. France and Germany record deaths from care homes in their daily headline figures whilst the UK only counts hospital deaths. Belgium has gone a step further and counts COVID-19 deaths even if the doctor only suspects coronavirus was involved.
- There are differences in general approach. For example, in Sweden lockdown was never initiated with the Riksdag choosing to keep schools and restaurants open throughout 2020. Although large groups of 50+ people have been banned and congregations of people in bars discouraged. Sweden has sought to empower citizens to take individual responsibility to social distance, a unique tactic. On 26 April the Swedish deputy prime minister Isabella Lovin told the BBC that decisions had been made with a long-term view of tackling the disease as a 'marathon, and not a sprint'.
- Demographics play a huge role in how badly a country suffers from COVID-19. Japan is a heavily urbanised country with 91.8% of people living in urban areas and an ageing population. 27.5% of the population is aged 65 and over⁸. Japan lifted its state of emergency on 25 May but by 3 June an urgent alert was issued for residents in Tokyo to stay at home due to a jump in COVID-19 (34 new daily cases).
- The characteristics of national healthcare systems vary around the world. Countries such as Bangladesh having less than 1 ICU (Intensive Care Unit) bed per 100,000 of the population. Even in developed countries such as America, with \$3.6 trillion spent per year on healthcare, the pandemic has exposed deep disparities in access to medical care *within states*. Whilst some hospitals have international reputations and world-renowned names like the Mayo Clinic others have only 5 to 7 days of cash at any one time and have had to put much-needed staff on leave due to financial pressure (from cancelled elective procedures)⁹.

In 1348 the Black Death spread into the UK. It was so deadly that after the pandemic there was a national shortage of labour as millions of serfs and free peasants died across the country. This led to the downfall of serfdom and the feudal system as those peasants who survived demanded better

⁸ The World Bank *Population ages 65 and above (% of total population) – Japan 2018*

⁹ The Financial Times *How coronavirus broke America's healthcare system* 30 April 2020

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pay and more freedom. The loss of labour also effected business as Europe's largest companies, in the long term, increased their influence with governments, gained greater share of the market and concentrated their assets whilst many small companies collapsed. There are clear parallels between 1348 and 2020. Currently many small-scale entrepreneurs are struggling to stay afloat due to COVID-19 whilst other companies 'mainly the much larger ones involved in home delivery – are profiting handsomely from the new trading conditions'¹⁰. In the future it is expected that a handful of mega-corporations will increase their domination of key markets post-2020.

Finally, when the pandemic is brought under control either by long term behavioural change or by vaccine, there will be an urgent investigation into *how* COVID-19 first started. This is critical if future pandemics are to be prevented. Australian Prime Minister Scott Morrison has already asked for an inquiry – and China responded with tariffs on Australian barley and a halt to beef exports. On 4 June ex-MI6 chief Sir Richard Dearlove said he believes the origins of the pandemic can be traced back to an accident in a Chinese laboratory in Hubei. He added 'I do think this started as an accident [but] it raises the issue...if China ever were to admit responsibility, does it pay reparations?'

¹⁰ The Conversation *How pandemics past and present fuel the rise of mega-corporations* 3 June 2020

Specification links

AQA A Level

3.2.4.3 Environment, health and well-being. Global patterns of health, mortality and morbidity. Economic and social development and the epidemiological transition. The global prevalence, distribution, seasonal incidence of one specified biologically transmitted disease, e.g. malaria; its links to physical and socio-economic environments including impacts of environmental variables on transmission vectors. Impact on health and well-being. Management and mitigation strategies. Role of international agencies and NGOs in promoting health and combating disease at the global scale.

Edexcel A Level

Topic 8: Health, Human Rights and Intervention. 8A.2 There are notable variations in human health and life expectancy. B. Variations in health and life expectancy in the developed world are largely a function of differences in lifestyles, levels of deprivation and the availability, cost and effectiveness of medical care. C. There are significant variations in health and life expectancy within countries (UK or Brazil) that can be related to ethnic variations and income levels and inequalities, which, in turn, impact on lifestyles.

OCR A Level

Topic 3.2 Disease Dilemmas. 1.a. Diseases can be classified and their patterns mapped. The spread of diseases is complex and influenced by a number of factors.

Eduqas A Level

SECTION C – 21st Century Challenges. Extended response question with resource material and draws on both Components 1 and 2.

AQA GCSE

3.2.2 Section B: The changing economic world. There are global variations in economic development and quality of life. Consequences of uneven development: disparities in wealth and health, international migration.

Edexcel GCSE

Topic 2 Developing Dynamics. 2.2 There is global inequality in development and different theories in how it can be reduced. The causes and consequences of global inequalities; social (education, health).

OCR GCSE

People of the Planet. 2.2.3. Many factors contribute to a country's economic development. A case study of one LIDC or EDC. This should illustrate its changing economic development: social factors, including access to education and healthcare provision.

Eduqas GCSE

Key Idea 2.2: Population and urban change in the UK. 2.2.1 What are the causes and consequences of population change in the UK? The economic, health and social challenges created by the ageing UK population. The need for new housing.