

Pearson Edexcel Level 2 Higher Project  
Qualification (HPQ)



Should the coronavirus vaccine be made  
compulsory given the extensive impacts of  
the virus?

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## Introduction

I have chosen this topic question because the coronavirus pandemic and the development of the COVID-19 vaccines have been one of the biggest challenges facing the medical/pharmaceutical industry in recent times and of extreme importance. Historically, vaccines have played a major role in controlling pandemics. The eradication of smallpox is one success story. In my proposed project, I aim to explore the impact of COVID-19 vaccines and argue whether the vaccine should be made compulsory, given their impact to date. At the time of writing, in July 2021, majority of the adult population in the UK have received their first dose of the vaccine and the roll-out of the second dose is being implemented.

The main points I hope to address in my research project are: firstly, are there any specific groups of people who are vaccine refusers such as certain religious or belief groups. I would like to find out the reasons for their refusal and if there is anything that could be done to solve these issues. For example, altering the vaccine or the production and testing of the vaccine, given new advances in technology. Also, are the antivaxxers justified in refusing the vaccine or do their beliefs outweigh the benefits of taking the vaccine. In addition, I want to look at current uptake percentages as this could give me an idea of how large the benefit would be of everyone taking the vaccine if it was made compulsory. I aim to focus on the overall health benefits to the population in terms of transmission, infection rate and immunity against coronavirus. Finally, if vaccination was to be made compulsory, could we possibly eliminate the virus completely.

To help me answer my question, I will be using secondary research mainly, as I believe this will be more efficient than primary research. Conducting surveys and face-to-face interviews is going to be difficult under the current COVID-19 restrictions and may also lead to biased results as I would predominantly be speaking to persons known to me. However, primary research would guarantee that the information I collect is up-to-date and relevant, as well as making it more personal. Secondary research is more reliable and accurate as it has been conducted by topic professionals. I will read various online articles as well as watching documentaries relevant to my research, which will take the form of a written report.



## Research Review

In this section, I am going to review my findings from each of my sources I have chosen to look at and report the facts and data.

The first website I visited, to look into the impacts of coronavirus, was the UK Research and Innovation website (UKRI, 2021) where an article called "Researching the impact of coronavirus" led me to discover that there are countless ways that the virus has impacted our lives. The information was laid out into categorised sections with evidence on the different ways coronavirus has impacted us. It has impacted people of all ages, those in education, with physical or mental health diseases and many more. This website is reliable as the information is regularly updated. I also read a WHO article focusing on the "Impact of COVID-19 on people's livelihoods, their health and our food systems" (ILO, FAO, IFAD, & WHO, 2020) and a BBC NEWS Business article "Coronavirus: How the pandemic has changed the world economy" (Jones, Palumbo, & Brown, 2021) which uses a series of graphs to portray how the pandemic has affected areas including: unemployment and shopping. I also visited the Government's Coronavirus web page (GOV.UK, 2021) which publishes current statistics for coronavirus in the UK.

To help me answer my question, I started by looking at why people refuse the vaccine. I visited a BBC FUTURE article entitled "Why some people don't want a Covid-19 vaccine" (Robson, 2021), which I found particularly useful as the information was written in a clear manner and was easy to understand. It was written by a topic expert and was a reliable source as the BBC is recognised as a trustworthy news site and I believe free from bias. From this article, I found that psychological factors are a main part of why people refuse the vaccine and that the model which considers these is called the 5C's. The article, however, did not include non-medical or biological reasons behind vaccine refusal so I went on to read an article on the Cambridge University Press website presenting a study entitled "Injection fears and Covid-19 vaccine hesitancy" (Freeman, et al., 2021) which delved into different factors for vaccine refusal. I found this website extremely useful as it was very detailed. All the information was laid out under clear subheadings making it easy to understand and had well written discussion and concluding paragraphs. In my opinion, this article is extremely reliable as it focuses on raw data and therefore not open to any bias.

I considered it essential to read further into what beliefs are hindering the vaccine uptake and found an article on the PETA organisation's website called "Can Vegans Get a COVID-19 Vaccine?" (PETA, 2021) which was useful as it summarised the answers to common questions asked by people taking the vaccine in regards to animal testing and animal-derived ingredients in vaccine production. PETA could potentially be biased as it reputedly supports the concept of an animal-cruelty free lifestyle. This website states many reasons for vegans refusing the coronavirus vaccine. To gain insight into another perspective on the issue of animal testing, I looked at an article on the Animal Aid website, which also, like the PETA, promotes an animal abuse and cruelty-free lifestyle, this means that the website could also be biased much like PETA. The article was named "Covid-19 Vaccines and Veganism" (AnimalAid, 2021) and it was primarily useful for my project as it gave a second view on the question regarding animal products in vaccines. It mentions ways of fighting



against animal exploitation other than boycotting the vaccine and endangering personal health.

To explore further how people's beliefs influence their viewpoint on taking the vaccine I visited a website called Thomson Reuters Practical Law which contained a document entitled "COVID-19: employment implications of vaccination" (Pimstone, et al., 2021) which was extremely informative as it covered areas of vaccine refusal and factors affecting vaccine uptake, such as: logistics, age, disability, beliefs, etc. This article explains that gelatine derived from pigs is often used in mass-produced vaccines, which may be a concern for Muslim, Hindu, vegan or vegetarian individuals. Although there is no gelatine in the COVID-19 vaccines currently available, shark liver oil is being considered as an adjuvant for one of the new vaccines. Other people may reject the vaccine because embryonic tissue was used to test or develop the vaccine.

I was intrigued by the use of embryonic tissue so I went on to read an article on the GOV.UK website labelled "Guide to the use of human and animal products in vaccines" (PublicHealthEngland, 2021). This site goes into depth of the official foetal material and animal products generally contained in the coronavirus vaccine, as well as other vaccines. This site is very useful for my project as animal derived ingredients in the vaccine is one of the main factors for people refusing the vaccine and is also very reliable as it is a verified information source that is often represented on national news.

I then read an article answering the question "Can refusing to be vaccinated be protected on religion or belief grounds under the Equality Act 2010?" (Park, 2021). This website summarised many of the reasons for refusing the coronavirus vaccine and I found the use of statistics especially useful as it allows me to compare data to develop my point. The website states that currently, UK polls show that the proportion of British people willing to take the vaccine stands at 77%.

I followed on to watch a video on a highly subscribed YouTube channel called "What If EVERYONE Got the COVID-19 Vaccine?" (Graziosi, 2021). An important piece of information I found was that 70-90% of the population need to be vaccinated/immune for herd immunity to work given the current infection rate of the virus. This website was useful because it allowed me to consider what the rate of transmission would look like if the vaccine wasn't made compulsory. Although the channel is very popular, we can question its reliability as it does not quote its source of information.

I was also interested in researching whether a vaccine had ever been successful in eradicating a disease and found from a WHO news story (WHO, 2016) that smallpox was the first ever disease to be eliminated in 1980, after 80% of the population had been vaccinated.

The final article I reviewed was from a news journal website called Nature which published an article entitled "Five reasons why COVID herd immunity is probably impossible" (Aschwanden, 2021) which was useful as it included data to highlight the disparities in distribution of the vaccine and what the roll-out needs to look like for herd immunity to work.

Overall, I tried to find the most reliable sources by getting my information from reputable news and other websites, for example, the BBC and the government, and YouTube channels.



## **Discussion / Development**

### The impact of coronavirus

This section of my HPQ was written in August 2021. The average number of cases daily are 25,000, with deaths slowly increasing and hospitalisations reaching between 700 and 800 each day. (GOV.UK, 2021)

The Coronavirus and the resultant pandemic have affected every single person in some way or other. Children in education have been affected disproportionately. Those living in poor housing, most commonly in council homes, didn't have space or a quiet environment, nor access to technology to attend remote lessons and therefore, were being forced to miss out on education for reasons beyond their control. If more people took the vaccine, the infection rates would be lowered making it safer for schools to remain open.

Not only did lockdown impact children, but their parents also faced hardships, who had to home school them whilst juggling working from home themselves. Studies have shown an increase in the number of people who have reported feeling stressed globally due to the pandemic and its countermeasures. The pandemic has widely affected older people, many of whom were vulnerable and shielding, causing them to feel lonely and trapped. Those suffering with illnesses such as dementia struggled a lot. People also felt a lack of support and isolation during grief and bereavement with funeral restrictions and other measures in place (UKRI, 2021).

The economic and social disruption caused by the pandemic has devastated tens of millions of people, making them at risk of falling into extreme poverty. It has also greatly impacted our livelihoods and our entire food system has changed (ILO, FAO, IFAD, & WHO, 2020). Recent studies show a plummet in many areas including: commercial flights, tourism, shoppers, stock markets and unemployment over lockdown, which all affect countries financially and developmentally (Jones, Palumbo, & Brown, 2021).

Current statistics, show a trend in decrease in the number of positive coronavirus cases in the UK, reducing the likelihood of another lockdown, this is due to the increase in the number of people taking the coronavirus vaccine, which is encouraging news (GOV.UK, 2021).

### Reasons for refusing the coronavirus vaccine and possible solutions

From my research, the first reason I found for people refusing the coronavirus vaccine is due to their beliefs. This ranges from personal to religious beliefs and I will be discussing veganism, first. Although the use of animal testing in medical research has been an ongoing controversial subject for years, veganism has only recently become prominent in society, with a large proportion of anti-vaxxers being vegans. Not only are vegans against the use of animal testing in the production of vaccines, they refuse to take the vaccine if it contains animal-derived ingredients. This is a major issue as although the coronavirus vaccine does not currently contain animal products, it is tested on animals including and future vaccines will possibly contain animal-derived ingredients (PETA, 2021). In addition, they argue that given the advances in new technology, many people, including scientists and activists, have



been questioning whether should we be looking to find alternative ways to test vaccines. The claims that future vaccines will not be tested on animals are unsupported as by law, all vaccines must go through animal testing before being used in humans for mainly health and safety reasons therefore, no medicine can be considered 'cruelty-free' (AnimalAid, 2021). I believe that everyone should be able to have their own beliefs and have the choice to refuse something, such as the vaccine, if it is against their beliefs, however in this particular situation, these people are not justified in refusing the vaccine in my opinion, given the health benefits and the vaccine could be made compulsory.

The inclusion of animal derived ingredients leads me onto my next point, as not only does this affect vegans and vegetarians, but it is also a concern for the Muslim and Hindu population. As it impacts many groups, it stands as one of the main factors for people refusing the vaccine. Not only is gelatine, derived from pigs, often used in the majority of mass-produced vaccines, but shark liver oil is being used as an adjuvant for one of the new vaccines (Pimstone, et al., 2021). Scientists are working on finding alternatives to help allay the concerns of these groups and increase uptake. In addition, the use of embryonic tissue to test and develop some coronavirus vaccines is another major concern as many people are rejecting it on ethical grounds (PublicHealthEngland, 2021).

There are many psychological factors that also contribute to a person's refusal of the coronavirus vaccine. During my research, I studied an interesting article that proposed a model called the 5C's model (Robson, 2021). This is a model that summarises all the psychological complexities of vaccine hesitancy into five points. The first is 'Confidence', this is a person's trust in the vaccines efficacy and safety, the health services offering them, and the policy makers deciding on their rollout. The individuals may be afraid of how successful and safe the vaccines are as they are quite recent and have been labelled as 'guess work' frequently in the media. They are worried about who is giving them the vaccine and its content, especially after hearing rumours that the government may have tampered with the vaccine by implementing trackers into it. The second C stands for 'Complacency'. This is whether or not the person considers the disease itself to be a serious risk to their health. There is a massive misconception that younger people, healthy and physically fit people cannot catch coronavirus, but this is not the case. The virus can impact anyone and I personally believe that this should be publicised more because if a person thinks they are immune to the virus, then this can definitely stop them getting the vaccine. Even if the virus may not affect people in their category as seriously, that is not to say that it hasn't or won't so taking the vaccine as a precaution is very significant. The next point is 'Calculation' which defines the individual's engagement in extensive information searching to weigh up the costs and benefits. Once again, I believe that there is a lack of official information regarding the detrimental effects of not taking the vaccine and how a mere inconvenience of taking the vaccine should not put-off a person from taking it. 'Constraints' covers how easy it is for the person in question to access the vaccine. This reinforces my point about how many people wrongly believe that taking the vaccine is something inconvenient. However, it does include how accessible the vaccine is. People living with physical disabilities may not be able to travel to a vaccine centre and may require unavailable assistance so I believe that people should be offered vaccinations at home to give them the best chance of acquiring immunity.



In addition, people with mental health problems might not be able to leave the house due to their symptoms, such as: hallucinations, delusions and conditions like hypochondria and paranoia which may stop them from getting the vaccine. Furthermore, there is an uneven distribution of the vaccine and, in some countries, there is little stock of the vaccine so it may only be available to the wealthy. This also applies to countries where healthcare is not free and many poor people may not have access to the vaccine as they can't afford it. In a graph to show the disparities in the distribution of the vaccine (Aschwanden, 2021), I noted that majority of people living in countries such as South Africa, Jordan and India, have not received their first dose yet (at the time of writing) which could be because there is a wealth divide and they are over-populated, but could also not be clear in the data due to the lack of accurate records and official documents in the poorer areas of these countries such as the slums in India. Finally, 'Collective responsibility' is the willingness to protect others from infection, through one's own vaccination. (Robson, 2021)

There are many other reasons why people might refuse the vaccine that could be personal or just a general dislike or disbelief in vaccines. Surprisingly, a recent survey conducted by a selection of students from Oxford University, showed that 10% of the adult population are refusing to take the coronavirus vaccine due to fear of needles (Freeman, et al., 2021). This is alarming as 10% is a large proportion of the population that cannot be ignored in order for herd immunity to be efficient in reducing the rate of infection.

#### What we would see if the vaccine is made compulsory

Firstly, we can predict a significant decrease in the number of daily deaths and hospitalisations as a result of coronavirus, as there is evidence to show that vaccines reduce the severity of symptoms. The number of cases would also decline because the vaccine reduces the rate of transmission between individuals to some extent.

It is possible that we would also see some vital changes to our lifestyles, with regular boosters becoming a requirement and showing proof of vaccinations at all large events. It is hard to estimate what proportion of the current restrictions we will be able to ease as these would depend on the infection rates. Despite this, we would expect to see many benefits and a return to a more 'normal life'.

#### The possibility of eradicating coronavirus if the vaccine isn't made compulsory

In this section of my project, I am going to focus on using figures to approximate whether coronavirus can still be eradicated without making the vaccine compulsory.

Currently, UK polls show that the proportion of British people willing to take the coronavirus vaccine stands at 77%. Given that 70% to 90% of the total population needs to be vaccinated or immune for herd immunity to work, given the infection rate of the virus, this is definitely possible. However, looking at the distribution of the vaccine around the world, the disparities prove this to be very unlikely, especially in the near future and with the emergence of new variants. Given that it took 80% of the population to be vaccinated to eradicate smallpox, it shows that it is definitely possible to reach this percentage, however we must bear in mind it took a very long time to abolish smallpox. Furthermore, at the time



of distribution, the details of the vaccine contents were not published and the movements of veganism and vegetarianism were much smaller.

Ultimately, I found that the COVID-19 vaccines developed by Moderna and Pfizer–BioNTech for example, are extremely effective at preventing symptomatic disease, but it is still unclear whether they protect people from becoming infected, or from spreading the virus to others which, in turn, poses a problem for herd immunity.



## **Conclusion**

In conclusion, I believe that it is unethical to make the vaccine compulsory due to the vaccine going against some people's beliefs and possibly causing them harm, however I believe that given new advances in technology and our ability to advertise and publicise information, we should carry out our best efforts to find solutions for the reasons for people refusing the coronavirus vaccine that we can, in addition to providing support to people who the vaccine may not be accessible or available to.

I believe that eradicating the virus is still possible in the distant future, even without the vaccine being made compulsory, and there is a strong possibility of reducing the infection rate significantly, especially in the UK, taking the afore-mentioned into action.

We should encourage everyone to take the vaccine, if possible, to reduce the infection rate in order to decrease the likelihood of another lockdown as lockdown brings negative impacts and hardship for the whole population.

## **Evaluation**

I have developed many new skills whilst carrying out my research project. One of the main skills I have learnt is the ability to cite my sources and create a bibliography and this is something that will definitely be useful in the future.

As well as numerous skills, I have learnt many other things whilst undertaking my HPQ, including structuring and writing a project and learning how to develop my ideas and points to form a convincing argument and counter-argument.

In the future, I would plan out my project more thoroughly by setting myself goals, in order to help manage my time better. I would also plan my discussion points, for ease of writing.



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