

The morality tensions caused by vaccine nationalism in the coronavirus pandemic: results from a scoping review.

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Abstract

The announcement that a vaccine had been discovered for use in the prevention of harmful effects associated with the respiratory SARS COV-2 disease brought much joy, only for the joy to be short lived when high income nations purchased all the vaccines before they had been manufactured. Thus, the following research explored the realm of literature on vaccine nationalism that occurred in the coronavirus pandemic, with the ultimate goal of showing whether actions of vaccine nationalism are included as moral dilemmas, virtuous actions or they are vicious actions that should not be pursued at all when faced with a disaster situation. A philosophical method of research was employed coupled with a scoping review of literature on vaccine nationalism and moral dilemmas, and a reflective equilibrium as the method of analysis. This method was guided by the concepts of moral dilemmas, tenets of principlism, and ideas of virtue ethics from Aristotle and literature that referenced to it. These concepts were used as the framework of constructing arguments over the morality tensions brought by vaccine nationalism.

From the review, a total of 65 studies were included for analysis regarding literature on vaccine nationalism, and this study found out that the majority of themes within these studies focused on highlighting the various arguments for pursuing vaccine nationalism, or for going against vaccine nationalism, and the various challenges that arose as a result of pursuing vaccine nationalism. A supplementary search on moral dilemmas was done in the hope of finding out if literature engaged vaccine nationalism as a moral dilemma, and from this search this study found out one study that went to lengths of trying to conceptualise vaccine nationalism as a moral dilemma. The other studies engaged showed the key themes or the various dilemmas reported in literature including health related dilemmas, health versus human rights dilemmas, and other ethical dilemmas noted from the pandemic. From these findings, this study argued that before putting morality litmus tests on vaccine nationalism one has to understand that the act itself was a dilemma that is common in our daily lives. This however did not mean that we should see vaccine nationalism as a dilemma alone, instead this study argued for the need of duty bearers to pursue virtuous deliberation when faced with dilemmas – as life is full of dilemmas but it is virtuous deliberation that helps us navigate against such dilemmas. Towards the end, this study recommended public health policy that is guided by virtuous deliberation and noted the possible limitation of excluding grey literature in the final results, thereby suggesting the need to conduct a systematic review of reasons for future research.

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Chapter 1 Introduction

This study analyses the main themes found within literature on vaccine nationalism occurring in the corona virus pandemic and reflects on these themes using concepts of moral dilemmas, virtue ethics, and tenets of principlism. In the first analysis, this study debated and acknowledged that vaccine nationalism is a moral dilemma like any other dilemma found in the day-to-day lives of everyone on this planet due to the tensions associated with the action. Regardless of the tensions accompanying moral dilemmas, this study took another approach of looking at vaccine nationalism by applying virtue ethics – arguing that such actions are not dilemmatic at all but lack a virtuous disposition. In so doing, I highlighted on the importance of using virtues ethics on actions of vaccine nationalism, with the hope of providing responses that do not just reject nor accept such actions (vaccine nationalism); but do so with a rooting in normative ethical foundations. Apart from the two identified concepts of virtue ethics and moral dilemmas, this study also utilised tenets of principlism in highlighting that vaccine nationalism is morally/ethically wrong. To show this, this study used beneficence and justice as the main key tenets that give a robust reflection of how such an action can be ethically incorrect in times of disasters. As such the main approach of this research focused on analysing actions of vaccine nationalism in global health and global pandemics as either moral dilemmas or by using virtue ethics and tenets of principlism. Added to the above, the other approach focused on analysing and reflecting on duty bearer actions that occur in each disaster setting and conceptualise how such actions might become dilemmas or dispositions that lack virtue when duty bearers are in pursuit of such said functions.

1.1 Context and Overview

Surfacing of a pandemic or an endemic disease creates an automated global panic for solutions to solve or prevent the pandemic or endemic disease from spreading around the globe. From closure of borders, lockdowns, travel restrictions, to the development and distribution of vaccines; these solutions all appear justifiably correct yet there is an aspect of morality that often is ignored when looking on how certain solutions or actions were arrived at in the different pandemic situations. On 11 March 2020, the World Health Organisation (WHO) declared the coronary virus (SARS-COV2/COVID-19) a pandemic following the assessment of events occurring in more than 114 countries that had been assessed by that time (Cucinotta and Vanelli, 2020). Declaring a pandemic saw health authorities in various countries pursuing preventive measures such as lockdowns (Thompson and Wattam, 2021), closing their borders

(Ogunleye et al., 2020), social distancing (Talic et al., 2021) amongst other things; while at the same time commencing concealed efforts aimed at looking for a viable solution to end the spread of the viral disease.

Following the concealed efforts to finding a solution to solve the pandemic, a consortium of leading pharmaceutical companies announced that they had made progress towards the development of a vaccine to be used in the fight towards ending the viral disease (Ball, 2021). Following announcement of such encouraging news, the WHO in April 2020 began making efforts to encourage countries and the global health community to make unwavering pledges towards the development and access of a vaccine that would be equitable to all (World Health Organisation, 2020). However, the development and the later distribution of vaccines unfortunately created a new wave of nationalism that was akin to western high-income countries; incorporated throughout this study as vaccine nationalism.

By vaccine nationalism this study solely refers to the situation whereby countries entered into agreements with pharmaceutical industries for future delivery of vaccines before they were even made (Khan, 2021), or typically putting one's country first concerning the purchase and delivery of vaccines (Hafner et al., 2020). To paint the larger picture, the United States of America for instance made prepurchase agreements for up to 1.2 billion doses (Clarke et al., 2021) almost four times larger than their total population, or how most High Income Countries (HICs) by the end of 2020 had purchased more than 3.4 billion vaccine doses (Duke Global Health Innovation Center, 2020; Phelan et al., 2020), and by the end of January 2022 the number had spiked up to 7.2 billion doses compared to less than 500 million to Low Middle Income Countries (LMICs) (Walter, 2022). Thus, the aspect of nationalism stems from the fervent desire to have one's country covered first with vaccines and typically think of others after one's country has safely vaccinated and protected the local population from the virus first. To this end, this act of vaccine nationalism distorted global distribution of vaccines, with most HICs benefiting more than LMICs in terms of quantities supplied and the rate of delivery.

1.2 Problem statement

From the above context this study asserts that vaccine nationalism has infused morality tensions that require further introspection, but before doing such there is need to fully understand the length to which such tensions occur or come about. Thus, there is need to investigate the kind of themes presented in literature for pursuing selfish national interests (vaccine nationalism) in

times of greater despair such as a global pandemic and whether they are any attempts within literature to link these themes with moral dilemmas, virtuous deliberation, or moral dilemmas.

1.3 Research question

Thus, this study was guided by the question of understanding if the action of vaccine nationalism is a moral dilemma, virtuous activities, or they a vice – a negative disposition that occurs when one has an excess of bad motives for their pursued action. But to show this in the context of the coronavirus pandemic the following sub questions further supplemented the above question:

- a. What and which type of arguments did literature discuss for and against the action of vaccine nationalism in the corona virus pandemic?
- b. What types/nature of moral dilemmas did literature discuss in the corona virus pandemic, and did these moral dilemmas incorporate the actions of vaccine nationalism?

This question and sub questions thus formed the *raison d'être* of this thesis and formed the foundation of constructing of this study's arguments on actions of vaccine nationalism in the corona virus pandemic.

1.4 Study purpose and justification

As the discussion focuses on the key themes discussed in literature in the current corona virus pandemic, this study complemented using tenets of principlism herein referred to as global health in this study with virtue ethics and moral dilemmas as the guiding concepts of analysis throughout the study. The inertia to use global health ethics stems from assertions made by Stapleton et al. (2014) that knowing about what constitutes global health does not give much motivation to further seek and explore why the global community should be concerned more to act upon achieving the various global health commitments. In a bid to increase the appetite for motivation, Stapleton et al. (2014) proposes the development of moral arguments in favour or against potential actions which they term global health ethics.

On the same vein, I provided a description of the various moral dilemmas key to this study, but before doing that I operationalised what I referred to by moral dilemmas. In my description, I defined moral dilemmas using definitions borrowed from the normative stance – that is definitions that operationalise moral dilemmas without including logic operators. Thus, using moral dilemmas I argued that certain countries were faced with the obligatory duty of

purchasing vaccines sufficient for their population – with the word sufficient held in infinite. The moral dilemma(s) occurred when these countries purchased (en masse) the vaccines for their citizens at the expense of other citizens of the world, an action that could have been done and avoided at the same time. These viewpoints will make up much of my philosophical stance on moral dilemmas and will guide much of the discussion around that theme throughout the course of this study.

On virtue ethics, I used components of Aristotle's virtue ethics supported by other scholars who referenced his virtue ethics, as a compass to detail how human beings should live best during the pandemic. From the virtue ethics, this study focused primarily on excellence of character as the guiding arm to which humans should live during the pandemic. By definition, virtue refers to excellence of character (Hursthouse and Pettigrove, 2009), with character defined as the moral dimension of a person or to refer to the distinctive features which distinguishes one person from another (Homiak, 2003). On the same hand, excellence is seen or regarded as the quality that makes an individual a good member of society – or the act whereby one who have excellence uses it in an according manner (Hursthouse and Pettigrove, 2009). If all the above tenets of virtue ethics are followed properly one will deliberate virtuously in the sense that their decisions are mostly aimed at finding the best solution that does not disadvantage others. Thus, the above is a snippet of the foundation rocks which guided the construction of further discussion on this theme throughout this study.

Furthermore, this study focused on using virtue ethics as a method of reflection on political decisions conducted in global health settings. The justification for doing such stemmed from the understanding that politics [or political decisions] does not concern itself with surviving alone, but concentrates more on leading a good life together with those within one's community (Nussbaum, 2001). Even though the statement *one's community* might seem relative, this study operationalised it to refer to the global health community which encompassed everyone living in the world at the time of the decision; thereby removing any doubts as to how one is related to a person in a different country than theirs. In addition, from the politics, comes political decision making which does not entirely focus on aggregating individual preferences, but rather on exercising good judgement on the correct cause for attaining the common good (MacIntyre, 1983). This means that for this study, any decision made from a political scope should try to aim for the common good – in this case the common good was a vaccine equitable for all. These amongst other arguments to come shaped the course of this study on reflecting on the political decisions that resulted in vaccine nationalism.

Added to the above is the notion that moral philosophy should focus on the agent other than the actions alone, such that there should be focus on the motive and intention, and the character of the moral agents (Nussbaum, 1999). This aspect is discussed in length in the section of agent-based virtue ethics in the hope of showing the importance of reflecting on the actions of agent and their inner traits other than focusing on their actions alone.

1.5 Chapter overview

As such this study is structured as follows:

Chapter 1 introduced this study by highlighting the background of this study and the guiding research questions. Chapter 2 provides an introspection in the guiding concepts used in this study showing how the concepts of moral dilemmas, tenets of principlism, and virtue ethics build the base of analysis of information gathered in this study. Chapter 3 provides a discussion of the methodology and the methods used in obtaining the information for this study. Chapter 4 shows the results gathered from the scoping review, showing the major themes reviewed in literature on vaccine nationalism and moral dilemmas occurring in the corona virus pandemic. Chapter 5 consists of the discussion on findings and the implications sought from the review, with Chapter 6 wrapping up this study by providing the future recommendations asserted by this study.

Chapter 2 Conceptual framework

This chapter is divided into three sections that discusses in-depth the various concepts that guided this study when analysing actions vaccine nationalism in the coronavirus pandemic. The first section of this study delved into explaining global health, and global health ethics, and how it plays a fundamental role in making arguments over actions of vaccine nationalism in the corona virus pandemic. After operationalising the various elements found within global health, section two focused on thoroughly operationalising normative ethics, coupled with an in-depth discussion on virtue ethics focusing on Aristotle and scholars that used his ideas on virtue ethics. The third section focused on discussing moral dilemmas, looking at the normative conceptions of the term – in preparation of providing arguments on the actions of vaccine nationalism occurring in the corona virus pandemic.

2.1 Section I: Global health and the tenets of principlism

Since much of this study's focus rests on global health, it would be unfair to discuss much about global health ethics without bringing in the context to which global health derives from. The terms global and public differ in their geographical boundaries – otherwise they relate to the same thing; only that one focuses on a particular geographical boundary while the other looks at the universe in particular. Without much ado, this section will discuss much on global and public health, and then descent into the various ethical connotations that are associated with the two. The bigger picture will rest on a clear discussion of global health ethics that also hinges on public health ethics to a greater margin, in the hope of finding answers for using global health ethics when analysing against vaccine nationalism and making arguments on moral dilemmas in the COVID-19 pandemic. Analysis should show that I am interested with intersecting the wider frame of global health ethics with virtue philosophy to establish the best moral conduct or the best characteristics that can be pursued in future pandemics, and some that can be corrected and pursued in this pandemic as well.

Definitions on aspects relating to health are involved in a perennial tug of war over one definition being classified as either too broad, or too narrow. The narrow school of thought focus much of their attention on the general functionality of the human body and absence of diseases, while the broad school of thought, hinges much on the general surroundings that the human being is exposed to with regards to well-being. Although this does not serve much importance to this study, it is imperative to bring the reader to attention to the existence of such classifications, since this study will focus much on the broader definitions of health and global

health. Having conceptualised health, there is need to understand what global health is, and how it differs from public health, or say international health.

Global health is understood as the *science* and *art* of preventing diseases, prolonging life, promoting physical and mental health, conducted through a network of interlinked globalised efforts aimed at achieving a safe global health environment, through controlling communicable diseases, educating populations on hygiene and sanitation amongst other things (Benatar and Upshur, 2011). From the above definition, global health concerns about health within the entire world regardless of boundaries and or locations; further forming the impetus to understand the field of global health ethics. Global health ethics (GHE) on the other hand, is a term used to conceptualise the process of applying moral value to health issues that are usually characterised by a global level of effect, or those that require global coordinated action (Stapleton et al., 2014). Global health ethics is also understood as the ethical issues related to health at the global level, confined in a spatial or geographical sense, related to ethical issues that transcend national boundaries, thereby requiring collaborative global solutions (Hunter and Dawson, 2021).

Cuing from the above, global health ethics is thus an area of study associated with the wider field of health-care ethics; focusing primarily on ethical issues located outside the national boundaries of one country, and that might require coordinated global solutions (Hunter and Dawson, 2011). Having defined what this study understands as global health ethics, the obligation rests on providing a concrete foundation on why global health ethics, why it should matter, and what might be the main arguments against such a term. Following from previous studies, for this study beneficence, justice, and cosmopolitanism are the favourable arguments in favour of pursuing global health ethics. A contrast to these arguments is provided to show how others criticise the short comings, in order not to show a one-sided argument.

2.2 The tenets of principlism

An approach to biomedical ethics that employs a framework of four universal basic principles/tenets autonomy, non-maleficence, beneficence, and justice (Beauchamp and Rauprich, 2016). The four tenets contained in principlism are understood as the general values underlying rules in a common morality – with common morality seen as the set of norms that any morally serious person shares (Walker, 2009). Aims at providing a framework to assist those working in medicine or global health identify moral problems to make decisions about what to do (Walker, 2009).

The tenet of autonomy hinges on ensuring that individuals are protected from making free will choices when faced with a choice in public health – the individuals’ decision should originate from their free will (Beauchamp and Rauprich, 2016). Nonmaleficence places importance on the actions of duty bearers to refrain from causing harm or increasing the risk of harm to others (Beauchamp and Rauprich, 2016). By not harming others, this study asserts that a duty bearer is not setting back the interests of people who happen to be in their community. Beneficence regards doing actions that are carried out with the aim of benefiting the good well-being of those that we are acting on behalf of while justice refers to the fair and appropriate treatment with regards to what is owed or due to individuals (Beauchamp and Childress, 2013). The importance of these tenets draws on the fact that they can be used in situations where two or more obligations hold and only one can be satisfied or done (Demarco, 2005). To this study, this implies that without discussing the tenets of principlism, it would be difficult to offer any plausible conclusions on aspects of moral dilemmas especially on the issue of vaccine nationalism occurring in the corona virus pandemic.

2.2.1 What principles are universally shared?

Having operationalised the various tenets of principlism, another difficult task lays ahead – the need to show which tenets are shared universally. Cultures are relative, so is morality such that the four tenets of principlism might not be widely shared or reflected across different cultural settings. This, however, is something that this study was not interested in as there is ample research on that see Gert et al. (2000); Richardson (2000); Rozin and Brandt (1997) amongst others. Instead, this research was interested in showing that there are some tenets that can be regarded as universal. This study thus operationalised beneficence and justice as the tenets that have a universal bearing when used in global health settings. The reason why I specifically chose these two in favour of the others stems from the fact that, autonomy is widely regarded as a tenet that is mostly associated with western liberal thought (Christen et al., 2014), such that using it in global health will render it less useful on that basis. The tenet of nonmaleficence was criticised for lacking appeal in certain localities which use religion as the basis for executing decisions (Westra et al., 2009) in the sense that, if a decision fails to follow the religious doctrines of the multitude religions across the world, its application will fail to satisfy its component of refraining from causing harm. Beneficence and justice have also received their fair share of criticism and shortcomings from Christen et al. (2014); Chukwuneke et al. (2014); Page (2012) amongst others, but still this study selected these two as the ones with universally shared status, and the following sections elaborates the justification for doing such.

2.2.2 Beneficence

Beneficence refers to a statement of moral obligation to act for the benefit of others (Beauchamp and Childress, 2013). Beneficence denotes kindness, charity, friendship, mercy (Beauchamp, 2008) – whereas in this study it is implicitly used to explain an action that is carried out to benefit other persons. Beauchamp and Childress (2013) note that we are not morally required to benefit persons on all occasions – even if we are able to do so. However, there are other people in the world whose conditions we can make better – denoting general beneficence which obligates us to benefit persons whom we do not know or with whose views we are not sympathetic to (Beauchamp and Childress, 2013). Thus, the above builds from the template set out by (Singer, 1972) that:

“...if it is in our power to do or prevent something bad from happening without thereby sacrificing anything of comparable moral importance, we ought to morally do it”.

Although Singer was not particularly talking about health related needs, Hunter and Dawson (2011) hold that his account applies directly to global health ethics on the account of impartially focusing on the individual; such that one is objectively justified to respond to cross-border and or global issues where health inequalities exist. However, Beauchamp and Childress (2013) hold that Singer’s submission might as well cause much suffering to ourselves because his account of morality begs us to make extensive personal sacrifices to help the needy persons around the world.

Beauchamp and Childress (2013) further argue that some circumstances remove the discretionary choice regarding our beneficiaries of our beneficence. For instance, Singer (1972) supplied the drowning child analogy that was applied by Beauchamp and Childress (2013) as follows: a passer-by who observes someone drowning stands in no special moral relationship to the drowning person – for they might be a poor swimmer and cannot risk their lives trying to rescue a drowning person. But however, they can try other means – look for a rope, a branch from a tree, a flotation device, call emergency services; there are a lot of alternatives that the passer-by can do than just look because of their lack of moral relationship to the drowning person. If the passer-by who is in a better position to assist the drowning person somehow has a moral obligation to do so, such that if they do nothing, their failure is morally culpable (Beauchamp and Childress, 2013). From the above, this study asserts that the tenet of beneficence applies universally on the understanding of universal camaraderie within people. The drowning analogy sets the bar which supports the idea that in as much as beneficence

might be seen or regarded differently across cultures – the common goal of making efforts to help each other apply across all the plains. Chukwunneke et al. (2014) presented how the understanding of beneficence differs between the western world and the African continent, but still noted that Africans like their western counterparts still have the common principle of communal interest which makes the tenet of beneficence applicable universally based on the general good of the community.

2.2.3 Justice

The vast inequalities common within global health, coupled with the astronomical costs of accessing health have fuelled greater debate about what if anything justice refers to societies and the global health community at large. Beauchamp and Childress (2013) ask three important questions that lay the foundation of understanding the tenet of justice in biomedical ethics:

- a) Are problems of inequality and access to health truly problems of *justice* in health policy and health care?
- b) Does inequality and cost threaten access to and proper distribution of healthcare?
- c) Which principles of justice should then guide distribution of health care?

In the pursuit of responding to the above questions, one should remain cognisant of the fact that, the construction of a unified theory of justice that captures the diversity of conceptions and use of principles of justice in biomedical ethics continues to be controversial and tumultuous to pin down (Beauchamp and Childress, 2013). Regardless of the above predicament, there is still room for including the various understandings of justice that applies across the plain and try use them in responding to the above asked questions. Cuing from the above, this study's conceptualisation of justice follows a course which frowns against global health inequalities and fair and equitable distribution of resources within global health, by showing that historical injustices lead to health inequalities in the global health system.

As such, it is typical of discussions on justice to provide a definition and contextual highlight of what the term refers to in the various settings that it is applied. In this section, this study did not delve much into the weeds of the various definitions of justice, instead it operationalised Gillon (1994)'s conception of justice as fairness or the moral obligation to act on the basis of fair adjudication between competing claims. This concept of justice presented a universal understanding on the reasoning that it focused on fairness in cases of adjudication between people with competing claims to a health resource – in this case a competing claim to access vaccines.

Within the tent of justice this study was interested in the concept of health justice presented by Stapleton et al. (2014) a concept of justice that is principally concerned with reducing unfair and avoidable health inequalities rather than eliminating differences in health states altogether. The impetus from the above is to see a world where everyone has a fair chance to attain and enjoy a healthy potential life (Whitehead, 1992), where known disadvantages from enjoying such a full health potential should necessary be avoided where possible (Stapleton et al., 2014).

As Beauchamp and Childress (2013) note that inequalities (health) are not merely a matter of bad luck or personal failings; but instead they are often distributed by social institutions that can be structured explicitly to reduce the inequalities it is the inequalities that still rue in the corona virus pandemic with regards to accessing vaccines. The above stems from the fact that the globalised world we all live in is found on an ugly precedent of significant and systemic historic injustices, where a fair share of most developing countries were colonised by majority if not all the developed countries; resulting in greater exploitation of their people and their resources, and prevailing inequalities (Hunter and Dawson, 2011).

Furthermore, the current global power relations and balances favour the economically powerful and frowns on the disadvantaged (Stapleton et al., 2014), with this study strongly asserting that such power imbalances came as a result of the colonial injustices exercised on LMICs and further asserts that these still affect access to health on the global scale. On a similar view, Hunter and Dawson (2011) assert that medical research and patent systems lean heavily towards satisfying the needs of those located in affluent countries, since they control or dominate much innovation and the subsequent market to consume such innovation. This study asserts that there is high probability that distribution of vaccines will likely follow the same route of favouring the affluent and powerful at the expense of the less economically disadvantaged. Coupled with the above, Pogge (2008) notes that financial and statistical evidence highlight that much of the funding on research is used on researching on diseases that account for less than 79% of the global burden of diseases. This means that much of the medical innovation makes no *positive* global impact as evidence from Coates et al. (2021) suggests that the developing countries endure most of the global burden of diseases, yet do not benefit from the said medical innovation. Thus, the above historical context gives the reader the appreciation that in the current coronavirus pandemic, there is need to ensure that historical injustices and unfair practices do not resurface, nor affect those who were historically disadvantaged to access vaccines.

2.2.4 The significance of boundaries in global health settings

The biggest question in global health ethics revolves around establishing whether boundaries play a significant role or not in the moral significance aspects (Stapleton et al., 2014). In the hope to answer this question, lies the commonly held view that everyone is a *world citizen*, such that everyone has a moral duty to assist those in dire need, regardless of their location or their nationality background (Dwyer, 2005). A person living in Zimbabwe, should care about the health inequalities being suffered by someone in Tahiti, and that same person in Tahiti, should be concerned about the injustices occurring to them and others across the world.

On this view, this study appreciates the fact that cosmopolitanism regards humanity as a single moral community (Baylis et al., 2011) shaped by the desire to advance preservation of human national transcending national boundaries. By moral community, this study refers to a certain group of members who acknowledge each other as having the same ethical or moral considerations, values, and beliefs; and by so doing identifies who is included in such a community and by what measure such a community is maintained (Babst, 2011). Thus, by taking cosmopolitanism into consideration, this study balances the tide on the need for citizens in various parts of the world to care about what is occurring to other citizens regardless of their identity, and or national boundaries. This means that members of the global health community are the single moral community, such that morality questions on health asked in one health setting becomes morality questions to be asked in another setting.

Although it is imperative to avoid being entangled in the paradigm wars between cosmopolitans and their nemeses, this study makes note of the important contributions, cosmopolitanism brings with regards to global health ethics. There are however noted shortcomings of taking such an approach, with such being the rejection of the impartial view on morality on the backdrop by Stapleton et al. (2014) that morality issues are never to be agreed even in the assumed single moral community, or from Baylis et al. (2011) arguments that aspects of morality are localised and culture specific. What people in Saudi Arabia regard as aspects of morality, might not be seen as moral at all in another setting, say for example the United Kingdom or vice versa; resulting in a sticky situation within the assumed moral community. This however does not render arguments for cosmopolitanism invalid, for so long as the moral issues have more to do with an agreed aspect – in this instance health – then there is an assumed agreement within the assumed moral community. Such anti-cosmopolitan views do not

necessarily reduce the possibility of global level health action, in the sense that some countries might still aid other countries, at the same time placing primary value on the duty of charity as far as such actions do not pose a conflict to national interests (Stapleton et al., 2014).

In short, this section provides the reader with an overview of this study's concept of global health ethics herein referred as the tenets of principlism. The tenets of beneficence and justice are at the heart of this study, as they highlight the importance of pursuing ethical decision-making in times of disasters – something that this study will discuss further about in chapter 5.

2.3 Section II: Normative ethics

This section provides the importance of using virtue ethics on analysing political decisions made by individual actors. The goal is to show which course of deliberation an individual actor should avoid in the pursuit of their duties, and which actions they should pursue in the hope of deliberating well. The approach of this section focuses on providing normative judgements from Aristotle and literature that uses Aristotelean views in their submissions to minimise jinxing various virtue ethicists and their varied yet important contributions on virtues, when making arguments about vaccine nationalism. The other reason looked for is aimed at also providing the reader with a clear glimpse of what society can benefit from Aristotelean virtue ethics when faced with complex decisions in pandemic situations.

2.3.1 Virtue or vice?

Studying virtue finds its roots in philosophical history, with the term virtue owing its birth to the Latin word *virtus* where *vir* refers to man (Snow, 2018). Virtue ethics is a type of ethical theory that regards virtue as its central concept. It is Swanton (2003), who regards virtue as an excellent quality of character, or more specifically a disposition to respond to, or acknowledge the items found within each distinctive field or fields in an excellent or effective way. On the one hand Santas (1997), notes that virtue is a state of character concerned with choice or more importantly lying in the mean that is the mean relative to us, this being decided by a principle as the man of practical wisdom would decide it. Virtue is a deliberate choice which results in a permanent disposition that is based on a judgement of the mean as relative to us and the situation, as decided by the right reason – or as the virtuous person would consider it (Nafsika, 2018). Importantly, it is Ian James et al. (2020) who are of the view that virtue ethics asserts that an action is morally correct as far as it is an expression of moral virtues – that is as far as it is an action of courageousness, generosity, or just[ice].

Thus, digging deep into the concept takes one before Hursthouse (1997) illustration of Aristotle (2014)'s distinction between the continent or self-controlled type of human being (one who has *enkrateia*); and the one who has full virtue (*arête*) and by so doing he shows that the fully virtuous agent is morally superior to the merely self-controlled one. The continent character is the one who, typically, knowing what they should do, does it, contrary to their desires. The fully virtuous character is the one who typically, knowing what they should do, does it, desiring to do it (Hursthouse, 1997). Their desires are in complete harmony with their reason: hence, when they do what they should they do what they desire to do in the end reaping the reward of satisfied desire.

On the same view, ethical virtue refers to practical wisdom – with practical wisdom distinguished from cleverness in Book VI of Aristotle’s *Nicomachean Ethics* (Aristotle, 2014). Practical wisdom is knowledge of efficient means to virtuous ends, whereas cleverness is knowledge of efficient means to any ends a person has (Aristotle, 2014). Re-visiting the discussion on practical wisdom in Book VI – practical wisdom is a state of grasping truth involving reason, concerned with action about what is good or bad for a human being (Aristotle, 2014). All wisdoms and arts are virtues by which we grasp the truth of something, while practical wisdom unlike theoretical, is that by which we can grasp the variable truths about effective means and by which we can reason truly from ends to effective means.

Kraut (2008) makes an important observation noting that Aristotle aimed to distinguish between practical wisdom and cleverness as the latter resonates to what modern scholars identify as practical rationality – taking effective means to one’s ends, no matter what one’s end are. To Aristotle (2014) cleverness is not a virtue: a virtue enables us to function well, choosing cleverly does not necessarily do so. Whether with respect to behaviour towards oneself or towards others, one can choose effective means to bad ends, and in neither case is one functioning well (Kraut, 2008). To him, practical wisdom starts with good ends, ends supplied by the ethical virtues. As such, practical wisdom contributes towards the deliberation through which we discover the means since it is what enables us to perform the function of deliberating well (Massingham, 2019). Since deliberating well is necessary for attaining any ends, it is necessary for attaining the subordinate and ultimate ends which constitute good for man (Urmson, 1973).

2.3.2 Definition of vice

It thus becomes key at this point to dig deeper into what is meant by the term vice for this study and within literature at large, understand what kind of actions are deemed to be vicious acts, and how vices differ from virtues. The main reason is to show how an action becomes a vice within this study, and how this has certain implications for this study’s arguments on actions of vaccine nationalism as vices. Thus, Battaly (2010) provides a clear definition of vices as the qualities that fail to obtain the good, further entailing that one who is vicious entirely has bad motives. To better capture how an action becomes a vice, this study will borrow heavily from Curzer (2018)’s illustration of state of character to be operationalised to follow.

State of character	Passions and desires	Reasons and reasonings	Choices and Actions
Virtue	Right	Right	Right
Continence	Wrong	Right	Right
Incontinence	Wrong	Right	Wrong
Vice	Wrong	Wrong	Wrong

Table 1 State of Character Curzer (2018)

From the above illustration, an agent has to themselves character dispositions or *hexeis* in which their rational activity might emanate from. Virtue is the state in which the right reasons, passions, and choices are right, while continence *enkrateia* is the state where the right reasons overcome wrong passions and somehow result in right choices or actions (Aristotle, 2014). Incontinence *akrasia* is the state in which wrong passions override right reasons resulting in the wrong action, with vice being the state in which the wrong passions lead to wrong reasons, producing wrong actions and or choices (Curzer, 2018). The above resonates with the view that if an action is embodied or leads to virtue, such an action is considered or regarded as right, while if such an action leads to a vice, that action is regarded as not right (Hurka, 2001). Thus, for this study a vice is what results when an agent follows the wrong passions that give wrong reasons resulting in wrong actions.

2.3.3 Aristotle’s virtue ethics explained.

Aristotle identifies courage, temperance, justice, practical wisdom, and philosophical wisdom as virtues that enable a person to excel at rational activity (Broadie, 1994). Aristotle identifies practical wisdom (*phronesis*) and skill (*techne*) as virtues of the calculative part – they get us practical knowledge and truths (Aristotle, 2014). The virtue of wisdom is what enables reason to function well since a wise person knows what is good and may deliberate well when faced with a compounding task (Broadie, 1994). Aristotle also identifies philosophical knowledge (*sophia*), intuitive reason (*nous*), and scientific knowledge (*episteme*); as the virtues of the contemplative part (Aristotle, 2014; Baehr, 2014) – they get us theoretical truths and knowledge. The virtue of justice enables the totality of the person to function well without internal conflict, which is justice is what makes each part of the soul to do its own work coordinated with other parts. Aristotle (2014) uses moral virtues as a guideline of functions such that – the function of a human being is rational activity which includes contemplating theories and calculating which actions to perform in the intellectual realm; including doing what reason tells us to do in the moral realm.

Aristotle (2014) holds that virtue is concerned with a choice – it is a disposition with respect to our desires or passions on the one hand (Hursthouse, 2006), and our reasoning on the other; for the choices we make are deliberated by desires, desires are made determinate by reasoning about how to realise some end (Hursthouse, 1999; Hursthouse, 2006). Thus, virtue is the disposition not only of the rational or intellectual faculty, but also of the emotional and desiderative one. Nafsika (2018) further notes that the mean in which virtue lies consists of feelings that are neither excessive nor deficient – courage is a mean in feelings of fear and confidence between rashness or excessive confidence, and cowardice or excessive fearfulness – but the mean itself is determined by practical wisdom. Snow (2018) regards Aristotle’s virtue ethics as teleological in nature, for the virtues aim towards the end or the telos of excellence and enable us to attain such excellence.

Aristotle notes that human beings have a natural or at least a typical tendency which if not moderated results in the vice of injustice, pleonexia or aggrandizement (Aristotle, 2014; Sachs, 1995). Pleonexia or the insatiable greed for material goods (Balot, 2001), requires that a trait when unmoderated supplies the motive of injustice in the various circumstances in which the vice betrays itself (Sachs, 1995). Aristotle still maintains that many unjust acts are due to pathos (passion) rather than deliberate choice (Aristotle, 2014) – such that diversity of motives of many unjust acts are not void of pleonexia to be traceable to a particular tendency or trait.

Thus, diving back to the topic of this study, the above-named virtues are what one should possess in a pandemic situation for that person to deliberate well, rule well, and live well. Faced with the task of deciding whether it is prudent or not to buy vaccines before they are made and shut out the rest of the world from accessing such vaccines; a virtuous person would carefully select the best action that does not result in unfairly gaining more than the other – since health pandemics know no boundaries.

Aristotle’s concept of justice is discussed in length in Book V of *Nicomachean Ethics* where he sets off at pains between distinguishing between complete justice and partial justice (Aristotle, 2014; Johnston, 2011). It is important for the reader to note that, this study will not engage in the discussion over distinguishing what Aristotle meant with complete and partial justice, as this will cause a huge diversion to what this study is interested in. Instead, this study will follow one discussion on justice, where Aristotle ignites the discussion on justice by remarking that members of the community refer to things as just when they produce and secure happiness or the parts of happiness for the community (Johnston, 2011). Thus, justice is

imagined as the complete virtue or excellence in relation to one's neighbour in the community (Aristotle, 2014), or fairness in individual's shares (Johnston, 2011), or that which gives all humans in the community the best chance of flourishing well (Allmark, 2013). To this study, the above conceptualisation of justice serves as the golden key in the formulation of moral arguments to come in the later stages of this study.

2.3.4 Virtue of good ends

Apart from concentrating on Aristotle's virtue ethics, this study appreciated the concept of Virtues of Good Ends (VGE), which highlight that reliably attaining good ends/effects is sufficient for a quality's being a virtue (Battaly, 2015). VGE regards that reliably achieving good ends or effects is the necessary epitome for an action to being virtuous such that if this study relates to the research question, it will mean that actions of vaccine nationalism do not have any intended virtuous good end or effect, since these actions were meant at benefiting a small section of the global health population.

To better understand the concept of VGE, this study made an important note of the two prong approach to explaining VGE done by Battaly (2015), which categorises VGE into teleological stance and the non-teleological stance. Under the teleological stance, VGE holds that any action possesses a built-in end or built-in end function. The biggest contributors to this school of thought are in principle Aristotle and Plato, who regard that each and everything has an in-built function that serves as a means to end (Battaly, 2015) - eyes have the function to see, knives have the function to cut, doctors to heal the sick, driver to drive the bus, pilot to fly the plane amongst other things. The teleological version of VGE notes that, virtues are whatever qualities that enables a thing/person to perform their specified functions well – to attain its end (Battaly, 2015). Thus, to figure out which of the qualities are virtues – that which makes us better people – there is need to first figure out the function or end of a person which is a challenging task even when one puts Aristotle and or Plato amongst other virtue ethicists to test. The reasoning implied by this study rests on the submission that every means that is expected from a human being might be performed well or might be performed very badly. One's eyes might see or read differently than what is said – the eyes still performed their function but performed it in a wrong way; the same way a doctor might not be able to cure an 'incurable' disease such as cancer or might give a mistaken diagnosis.

The non-teleological approach comes mostly as a critique of the built-in ends and functions by defining and understanding virtues more from effects. Virtues are qualities that constantly

produces good effects and the presence of good effects strongly signals the presence of virtues (Driver, 2001). Concepts of justice and benevolence are virtues because they reliably produce good effects even though they might have shortcomings in producing the said good effects. Good effects matter for virtues because if one produces good effects reliably, then automatically one has virtues.

Aristotle (2014) contends that virtues are concerned with choices and he thus suggests a rational part of the soul that is categorised in two parts: contemplative and calculative part (Battaly, 2015). The contemplative part's function is to get theoretical knowledge (Aristotle, 2014), and under this part *sophia* (philosophical wisdom), *nous* (intuitive reason), and *episteme* (scientific knowledge) are the virtues that help the soul to acquire any theoretical truths and or knowledge about something (Peltonen, 2022). The calculative part performs the function to get practical knowledge about which actions one should perform (Aristotle, 2014), guided by the virtues of *phronesis* (practical wisdom), and *techne* (skill) that help the soul to acquire truths and knowledge about certain things. *Phronesis* involves the ability to orient one's actions towards the noble and the good (Aristotle, 2014), and to judge rightly about human goods (Nafsika, 2018). These virtues are necessarily what is required of a human being such that when they pursue an action, it will surely result in good ends or good effects.

2.3.5 Virtue of Good Motives (VGM):

From the VGE, this study operationalises another similar concept on VGM, whose central focus rests on making strong assertions on virtues that bring good motives. Any human being should possess good motives whenever they are in pursuit of any notable action. Thus, Battaly (2015) notes that Aristotle is a strong advocate of VGM especially considering how he operationalised virtue as a state of character that is concerned with choice (Aristotle, 2014), such that one who has a virtue understands how to lie in a mean because they can select to do so. The reasoning behind this follows the logic that character is an acquired trait rather than a natural ability or faculty, whereby one is praised for their virtuous acts, and blamed for their vicious acts, but never for their natural faculties. The logic further expands into holding that since virtue is concerned with choice, it is unnatural for one to possess virtues unless one chooses the relevant acts that leads towards virtues.

Thus, using Aristotle's reasoning, character and choice play a crucial role in achieving good motives, for one specifically requires to choose the right acts in order to lie in the mean (Snow, 2018). Aristotle's views are further elucidated by Hursthouse (1999) who asserts that moral

virtues are acquired traits which requires one to choose. In her views, one must act in certain sort of ways for certain sort of reasons, meaning that to have the virtue of honesty for example; one must be able to perform the right acts – which translate to telling the truth when they should (Hursthouse, 1999). This however does not just end at telling the truth, the said person must also have the right motives of telling the truth because it is the *right thing* to do, not because they do not want to be caught telling a lie. From this account, it is clear to the reader that the understanding of virtue brought here rests on asserting that virtues have a good motives function instilled within them. Not only is virtue an acquired trait, but it is also acquired through choosing different actions that one wishes to pursue.

On the same note, Zagzebski (1996) agrees with Aristotle (2014) and Hursthouse (1999), on the account that intellectual virtues and vices are acquired character traits for which one can be blamed or praised. To her, intellectual virtues are character traits that include among other things having an open mind, possessing intellectual humility, and intellectual courage – and these are not like memory or vision. Moral and intellectual virtues require the right motives, since performing right acts appears as not enough, such that if one has the virtue of open mindedness, it follows that one must do more than performing rights intellectual acts (Battaly, 2015; Zagzebski, 1996). Added on the above, one must have the right intellectual motives to constantly care about the truth, to such an end that if a politician promises about certain aspiring policies, but only does so in the face of election to gain re-election; that politician unfortunately lacks open mindedness [quite the characteristic of many politicians the world over], and so are his motives fake or false. The irony with the above illustration rests on the position that was followed by leaders in a certain HIC, who say actions of vaccine nationalism as a motion to enhance their chances of getting the popular vote and possibly getting re-elected.

From this study's account, VGM follows a course of acquired character traits, and choices that results in good motives. The reader might wonder, well then what should a person use between good effects/ends or good motives? The answer to that question is not simple, as taking VGE stance might draw parallels with those that strongly believe in VGM. This study however encourages the reader to use both interchangeably or complementary, such that if faced with an action that requires analysis on ends, one can follow the teleological stance; and when teleological does not give a satisfactory reasoning – then VGM will surely help provide the required answers.

2.3.6 Agent based virtue ethics.

Apart from looking at good ends or motives, this study also operationalises agent-based virtues ethics, rooted in the rightness of an action on the moral goodness of inner traits of the agent (Brady, 2004), such that a right action can be seen as a virtuous action – but it all rests with/on the agent’s character traits, motives, and or certain inner qualities (Doviak, 2011). The agent-based virtue ethics approach regards the moral or ethical status of actions as entirely originating from the independent and fundamental aretaic moral considerations of motives, inner qualities, and character traits of a particular individual (Slote, 2001). Thus, a quick reference to VGM and VGE, the reader will notice that this approach takes a slightly different view because Aristotle focuses largely on the assessment of agents and their character traits more than on the assessment of actions (Kraut, 2008), since for him an action is noble in as far much as it is done or performed by a virtuous person.

Agent based virtue ethics sees rightness in terms of good motivations and wrongness in terms of possessing insufficiently good motives, in short acts are correct/right when they are practised from virtuous motives (Hurka, 2010). At this point, it is imperative to remind the reader that; looking at agent-based virtue ethics is of paramount importance especially in the moral dilemma discussion on actions of vaccine nationalism. The linchpin here is to look at the actions of the agents who authorised the wholesale purchasing of vaccines leaving little to nothing for other countries; and establish arguments and or conclusions entirely based on such agent’s actions. This study is of the view that, if any agent’s action hindered other people to enjoy the same benefits that another group of people were benefiting or scheduled to benefit; then such actions are not virtuous at all, but rather are lacking virtues. Simply put, the agent’s actions of agreeing to hoard vaccines from the world market screams of vices – cleverness, which is the agent’s capabilities to follow the correct necessary steps towards achieving an end (Foot, 2002). The reason this study regards such an action a vice rests on the foundation that, the contrast of cleverness is wisdom; a virtue that is associated with good ends to human life (Foot, 2002). Thus, if the actions of taking up all the available vaccines were associated with protecting only a few human lives at the expense of the greater population; then such actions from this study’s point of view are lacking wisdom. Wisdom would have entailed that the agents worked towards a solution that made it clear that each country in the global health system got a share and guaranteed access to vaccines before they were made, rather than such actions coming after actions of vaccine nationalism had created a global catastrophe with regards to access to vaccines.

2.3.7 Criticisms of virtue ethics.

While virtue ethics has many valuable insights to offer, it is not without its criticisms. Critics have pointed out that virtue ethics may be too focused on individual character, may lack a clear method for determining what virtues or character traits are morally good, and may not provide a clear framework for resolving moral conflicts (Louden, 2012). These critiques should be considered when evaluating the use of virtue ethics as a moral framework. Moreover, some of the criticism of virtue ethics is found within scholarly debates that advance more on utilitarianism and or Kantianism as the best set of ethical theory to discuss about moral behaviour and character than virtue ethics. The *raison d'être* rests on the foundation that virtue ethics is not a thing of its own, when and if compared to Kantianism and or Utilitarianism (Nussbaum, 1999). Another criticism against virtue ethics has been its *failure* to provide an adequate account for right action, given that there is a plethora, if not multitudes of what denotes right action and not (Louden, 1984). Recently modern ethical scholars have launched a striking criticism on virtue ethics on the grounds that work in situational social psychology proves that there are no such things as character traits; thus throwing the claims for virtues for virtue ethics into oblivion (Doris, 1998).

In as far much as these critics are correct, this study still maintains the option to go for virtue ethics as the main goal is to assess the character traits of individuals in positions of influence and make claims on how their action of hoarding vaccines before they were manufactured can be seen as a moral dilemma (as earlier espoused) and if not then following the trail of virtue ethics explained in this section will best explain how such actions fall short. Another option would have been to do utilitarianism or focus on Kant as advised by critics of virtue ethics, but unfortunately that would have left the discussion hanging on a thread mostly because the approach focuses on largely on the consequences of the actions more than on the character of the person under review. What this means is that, instead of finding the best character in the global health, arguments will chiefly focus on whether the agents' actions yield good consequences, and the discussion will end there. Thus, again it seemed more plausible then and now that virtue ethics with its focus on character, traits, motives, effects, ends, amongst other things works best for the purposes of further analysis for this study.

2.4 Section III Moral dilemmas through the lens of moral philosophy.

This section is organised as follows; a philosophical interpretation of moral dilemmas will kick start the discussion in the hope of giving the reader an understanding of what this study refers to whenever it mentions aspects of moral dilemmas. The philosophy viewpoint serves as a pillar of explaining how duty bearers within the health system arrive at a point where their decisions appear to be at conflict with their obligations. From this viewpoint I am particularly interested in navigating through normative narratives of moral dilemmas with the purpose of explaining how leading literature illustrates dilemmas through words. This is particularly done to draw the reader's attention to the important aspect of understanding moral dilemmas by getting a normative philosophical baptism first, before being ushered into arguments about vaccine nationalism in the coronavirus pandemic.

2.4.1 Moral dilemmas from a normative perspective

Since the basis of this research rests on making arguments on moral dilemmas in global pandemics, it is important to introduce the reader to what this study refers by moral dilemmas after all. The motivation rests on highlighting why this study defines certain actions as moral dilemmas, and under which auspices do these actions appear as moral dilemmas. In the hope of providing the reader with an interesting and captivating discussion, this study will entertain definitions and operationalisations of moral dilemmas from a purely normative stance. By so doing, this study provides an attempt to link between the moral dilemmas, and the operationalised concepts of virtue ethics and global health ethics; to later show the reader how actions can be moral dilemmas on one foot and can be vicious actions on another.

As such, Blackburn (2016) defines moral dilemmas as situations in which any given possible course of action breaches some other wise binding moral principle, such that whichever action the duty bearer decides to do, they end up doing something wrong, or something s/he ought not to do. McConnell (2010) regards moral dilemmas as scenarios and or situations in which one must consider two or more moral values or duties, of which s/he must consider or honour only one, holding that the individual will abrogate at least one important moral concern without considering the decision made. From this standpoint, which this study refers to as the normative stance, the dilemma arises when moral values to be considered are of the same weight and importance, such that all decisions to be made are of the same and or equal value, yet one must go. Another interesting yet important regard of moral dilemmas follows Tessman (2017)'s postulations that regard moral dilemmas as situations of moral conflict where there is a moral requirement to do A, and a moral requirement to do B; and one cannot do both A and B. From

this latter definition, Tessman (2017) highlights that neither of the two actions that a duty bearer must do lose their moral requirement to be done simply because there is a conflict. There are certain actions that can be overridden on the basis that the requirement to do A might be stronger than B, hence a duty bearer might do B.

For further clarity and illustration, this study operationalises the following actions Act A and Act B as follows:

- a) Act A (vaccine nationalism): buy COVID-19 vaccines from the pharmaceutical market before they have been made but buy all the available vaccines for your country alone. There is a moral requirement to do A
- b) Act B: buy COVID-19 vaccines from the market before or after they have been made, **but** buy what is enough for your country, or buy all and share with other low medium income countries that might not have access to such vaccines.

Picking from Tessman (2017)'s postulations on moral requirements, this study notes that that these two actions have similar moral requirements but did not lose their moral requirement to be done because they are clashing, instead a duty bearer was bound to do either one of these actions or none. The dilemma arose when the duty bearer opted to do one action in favour of the other and in this case, deciding over which Act to pursue be it Act A or B while leaving one out is in itself a dilemma.

Finally, throughout this study moral dilemmas will refer to this study's perspective whereby a duty bearer is faced with decisions that result in moral conflicts, which go against that duty bearer's moral requirements, and have a negative impact on the duty bearer's moral values. The reason behind this reflection is to give a constant reminder to the reader that, when engaging with moral dilemmas in this study, one must pay particular attention to these three, in the sense that one way or the other they play a significant role in the shaping of moral dilemmas.

Chapter 3 Methodological framework and methodology.

The purpose of this chapter serves to outline the methodology used in gathering information on vaccine nationalism in the corona virus pandemic. The approach used comprised of two different methods, one for collecting data, and the other for constructing balanced analysis of the gathered information.

This study used an applied ethics qualitative research design, aimed at exploring the field of global health ethics focusing on actions of vaccine nationalism occurring in the corona virus pandemic. The motivation for pursuing such a research design stemmed from the need to manufacture philosophical norms from societal problems (Almond, 2011; Dare, 2012) with the hope of providing balanced philosophical inputs over the various global health issues that might arise because of conflict in morality values. I should also note that the writing of philosophy is not an effortless process for which a clear-cut method can be articulated, since there are various philosophers who have various philosophical viewpoints; thus, to solve this rubric I used scoping review and reflective equilibrium as my methods of collecting and analysing data respectively.

The goal of this study aimed towards analysing the main themes from literature on vaccine nationalism occurring in the corona virus pandemic and reflect with moral dilemmas and virtue ethics, and further provide arguments on these actions using an interpretivism philosophical approach – an approach that is useful in studies that concentrate on social phenomena and tries to discuss the possible outcomes using various information sources (Kooli, 2021). A descriptive design was used to describe the findings on the findings on vaccine nationalism and this method has been taunted to be useful when it involves situations that require to be described based on existing information in the areas of concerns (Zangirolami-Raimundo et al., 2018). Majority of the data for this study was collected mainly from primary peer reviewed sources such journal articles, since this is where most of the information concerning vaccine nationalism, moral dilemmas found. The following sections elaborate on data collection method used in this study, and the analysis framework that was used for the gathered data. The first section explains scoping review as a methodology for gathering information from the various databases, how to do it, and why I selected it as a method of choice. The second section provides a detailed discussion on reflective equilibrium, explaining in detail what the method entails, by incorporating views from Rawls (1999); Rawls (1971) and other leading scholarly authority on the topic coupled with a graphic representation of what the process all looks like.

3.1 Scoping review

I designed a scoping review methodology to provide an outlook on peer-reviewed research on vaccine nationalism in the coronavirus pandemic between April 2020 and January 2023. I selected this time period because April 2020 marked the period of vaccine discovery and subsequent vaccine purchasing and or actions of vaccine nationalism in the coronavirus pandemic, and January 2023 as the exit point for this study's research. In consultation with the librarians, I used April 2020, in order to filter out any research on vaccine nationalism that could have occurred earlier – as I was only interested in information from the coronavirus pandemic thereby limiting possible contamination of the results. I specifically intended to describe the main themes found within research on vaccine nationalism, particularly themes on arguments or reasons advanced for vaccine nationalism, themes on the challenges associated with vaccine nationalism, and themes on the nature of dilemmas reported in the pandemic. Coupled with the above, my interests laid on understanding what literature is saying about vaccine nationalism, and if there is any attempt to include moral dilemmas when doing so, then follow the trail and see if it suffices my research gap discussed in the earlier sections of this research.

One major advantage of using the above method stems from postulations made by Arksey and O'Malley (2005); Levac et al. (2010) among others who note that researchers can conduct a scoping review to examine the extent, range, and nature of the research activity; and in the process identify gaps existing in literature. I used scoping review as method because they are touted as a relevant tool to determine the scope or the breadth and depth of literature coverage on a given study (Anderson et al., 2008; Davis et al., 2009), and are helpful when examining emerging evidence within a particular field (Munn et al., 2018), or when the information on the given topic has not been comprehensively reviewed (Sucharew and Macaluso, 2019). Scoping review is touted to be most appropriate when the vast majority of literature has not undergone comprehensive review, and is most useful when one seeks to respond to wider scale topics (Munn et al., 2018). In addition, scoping reviews are applauded for locating evidence within literature that is dominated by large research (Moher et al., 2015), a feat that elbowed out the systematic review as an option of data collection. On top of the above, I could have done a systematic review of reasons, but as a result of limited funding, time, rigidity of the method, and the inclusion of grey literature (Foster and Jewell, 2017), the scoping review became of interest and better suited for this study.

Following the above reflection, I employed the checklist recommended by Arksey and O'Malley (2005) and Tricco et al. (2018) on how to conduct a scoping review as shown below:

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Activity	Identify the review's research question(s).	Identify relevant studies.	Select the relevant studies.	Chart the data.	Summarise and report the review.
Action	State the question(s) key to the review.	Searching electronic databases, reference lists, & hand searching in physical journals and books.	Using the inclusion and exclusion criteria for studies that do not qualify in for this review.	Arranging according to key issues and themes.	Giving priority to certain aspects of the review.

Table 2 Checklist on conducting Scoping reviews.

In conducting this review, I was aiming to answer the following questions:

- a. What and which type of arguments have been placed for and against the action of vaccine nationalism in the corona virus pandemic?
- b. What types/nature of moral dilemmas have been discussed in the corona virus pandemic?

I sought the help of the university librarians at the Medical Library and the Humanities Library to create a search strategy necessary to pull out all the relevant publications on selected specific databases shown in Table 2. The search strategy included the search terms I would use specifically for this study and the databases in which I would run this search. In consultation with the librarians, I opted to search in PhilPapers, Scopus, Web of Science, and Embase as their recommendations supported the claims that within these databases the search would hopefully yield sufficient results capable of supplying saturation level. Using specialised databases helps in finding more studies than can be retrieved from one database alone (Stevinson and Lawlor, 2004) since it is recommended that more than one database be employed in any attempt to find relevant literature in the field of bioethics (Walters and Wilder, 2003).

Database	Search term
PhilPapers	vaccin* AND (nationalism* OR patriot*)
Embase	1. vaccination/ or vaccine/ 2. vaccin*tw

	3. 1 or 2 4. nationalism.tw 5. 3 and 4
Web of Science	vaccin* AND ((nationalism* OR patriot*))
Scopus	TITLE-ABS-KEY (vaccin* AND (nationalism* OR patriot*)) AND (LIMIT-TO (PUBYEAR, 2022) OR LIMIT-TO (PUBYEAR, 2021) OR LIMIT-TO (PUBYEAR, 2020))

Table 3 Database search strategy

Following the above, I conducted my search in the four noted databases, and from the results obtained, I first read the title and abstracts of all the retrieved documents by using the eligibility criteria shown in Table 4 below:

Criterion	Inclusion	Exclusion
Time period	April 2020 – January 2023	Any article before March 2020
Language	English	Non-English articles
Article type	Peer-reviewed	Non-peer-reviewed articles
Literature focus	Articles reporting on vaccine nationalism in current corona virus pandemic. Articles that defined vaccine nationalism, and provided the arguments for and the arguments against the action of vaccine nationalism	Articles that reported on vaccine nationalism before the corona virus pandemic Articles that included vaccine nationalism in their subject terms but did not define nor operationalise it. Articles that reported on other forms of nationalism other than vaccine nationalism.

Table 4 Inclusion-Exclusion criteria

Following extraction of information, I used Endnote 20 as a medium of gathering and sorting all the extracted citations as supported by Bramer et al. (2017). I initially reviewed the articles in each database based on title, abstract and subject term. In order to find out if an article met the inclusion and exclusion criteria, I first reviewed articles that were indexed in the database but did not have vaccine nationalism in their titles would by doing an abstract or full text review before articles that included vaccine nationalism in their title. The full process on how I

reviewed and accessed information is documented in the PRISMA flow diagram in Figure 2 to follow.

The search results from literature on vaccine nationalism did not yield concrete or substantial results on moral dilemmas, thus in consultation with the librarians I also conducted another supplementary literature search on moral dilemmas in the current pandemic, with the purpose of showing whether literature on moral dilemmas included actions of vaccine nationalism or not. I arrived at the decision to do this search in consultation with the librarians because using vaccine nationalism (vaccin* AND nationalism*) and moral dilemmas (moral* dilemm*) did not produce any hits in the various databases, hence the decision to do it as a separate supplementary search. For this search I used moral* AND dilemm* and covid* as the main search terms and ran these search terms in PubMed, and Google Scholar. I selected a total of 30 studies in consultation with the university librarians from this search, illustrated in the appendix section. I selected the above 30 studies because what I included from the information on moral dilemmas from these 30 studies could be easily replicated within other studies from the same search after reading the title and abstracts.

3.1.1 Ethical clearance

Since this research involved desk work research, the study was instructed in consultation with the study coordinators against the need to look for ethical clearance from NSD or from the institution since I was not processing any personal data or information. An excerpt of the clearance is attached in the Appendix of this study.

PRISMA Flow diagram

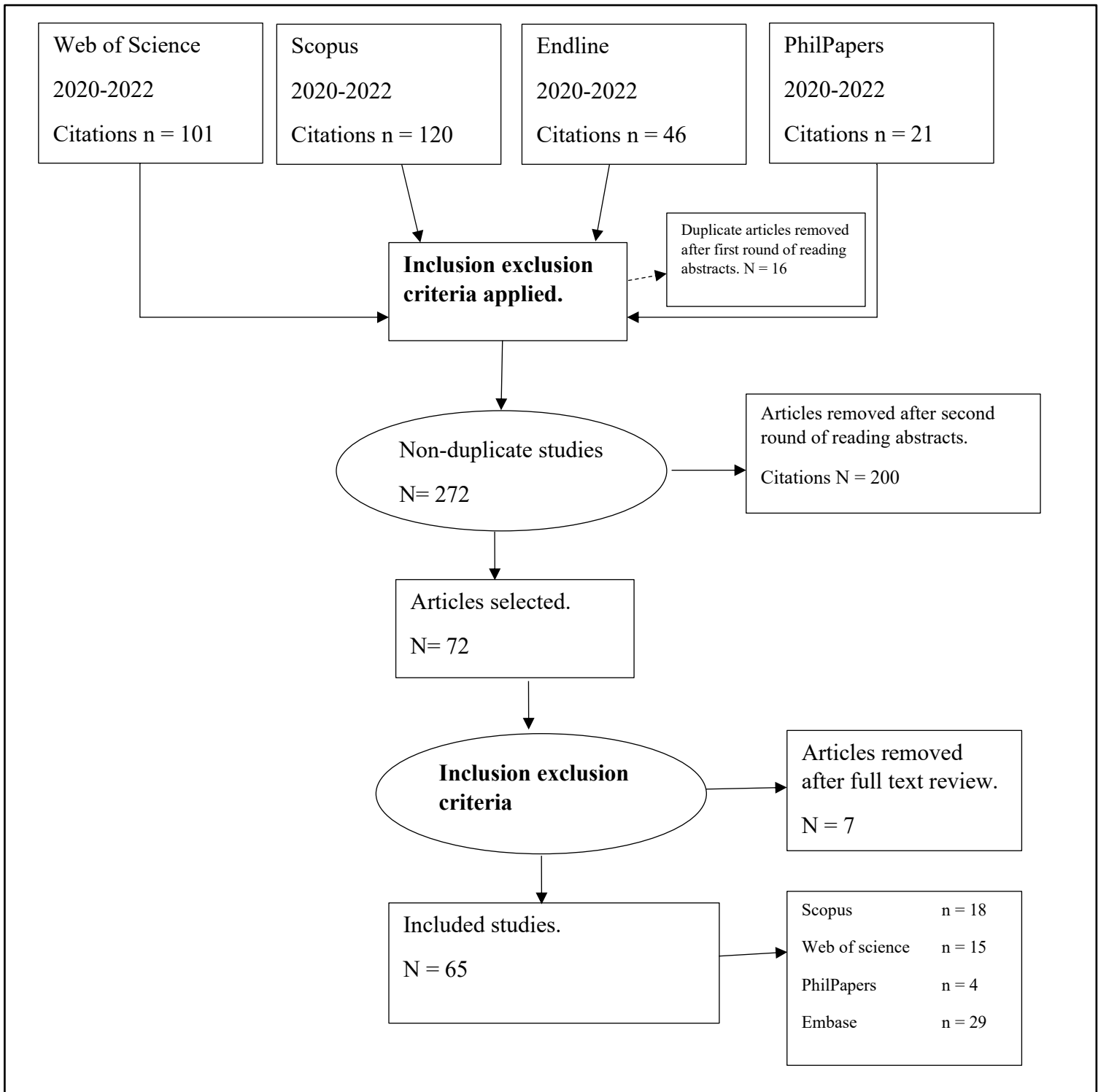


Figure 1 PRISMA SC-R Flow diagram

3.2 Reflective equilibrium

After extraction of information in the various databases, I then sought a method of analysis that would bring a balance between my own judgements, the existing relevant theories, and the issue at hand. I was drawn to attention by Doorn and Taebi (2018) who note that research involving ethics often concerns on finding morally justified action in a specific situation, beginning with an abstract theory that is applied to concrete cases (theory-centred approach), or either focus on the case itself and find the morally justified action from the particularities of the specific case (bottom-up approach).

An infusion of the above two approaches results in John Rawls' reflective equilibrium approach, (RE) which is understood as the position where one's judgements, moral values, and principles are in liaison with each other (Rawls, 1999). To achieve this liaison, one engages in a back-and-forth movement between one's judgements and moral values or principles, coupled with the introduction of alternative moral theories to reflect on these beliefs (Tersman, 1993); such that if the beliefs are not in line with one's judgements, then one must keep some judgements and drop some, and or revise or adjust the said kept judgements (Conte, 2017). By so doing, one inches closer to achieving a state of RE by providing the reasons for keeping and or rejecting some judgements (Daniels, 1996), providing a clear indication of how the kept judgements are superior to the rejected judgements (Rawls, 1999). The understanding drawn here lies over the fact that, for one to arrive at a sensible judgement over a particular moral issue, a back-and-forth movement involving constant revision leads to a position of reflective equilibrium.

Thus, from the provided definitions and explanations, this study used RE throughout this study as a method to arrive at a coherent and consistent moral framework in the hope of reaching a consistent and defensible moral viewpoint regarding the morality tensions associated with vaccine nationalism. The diagram to follow provides a graphical depiction of what the process of reflective equilibrium entails, providing the reader with a sense of how this study conducted reflective equilibrium in reflecting on actions of vaccine nationalism in the corona virus pandemic.

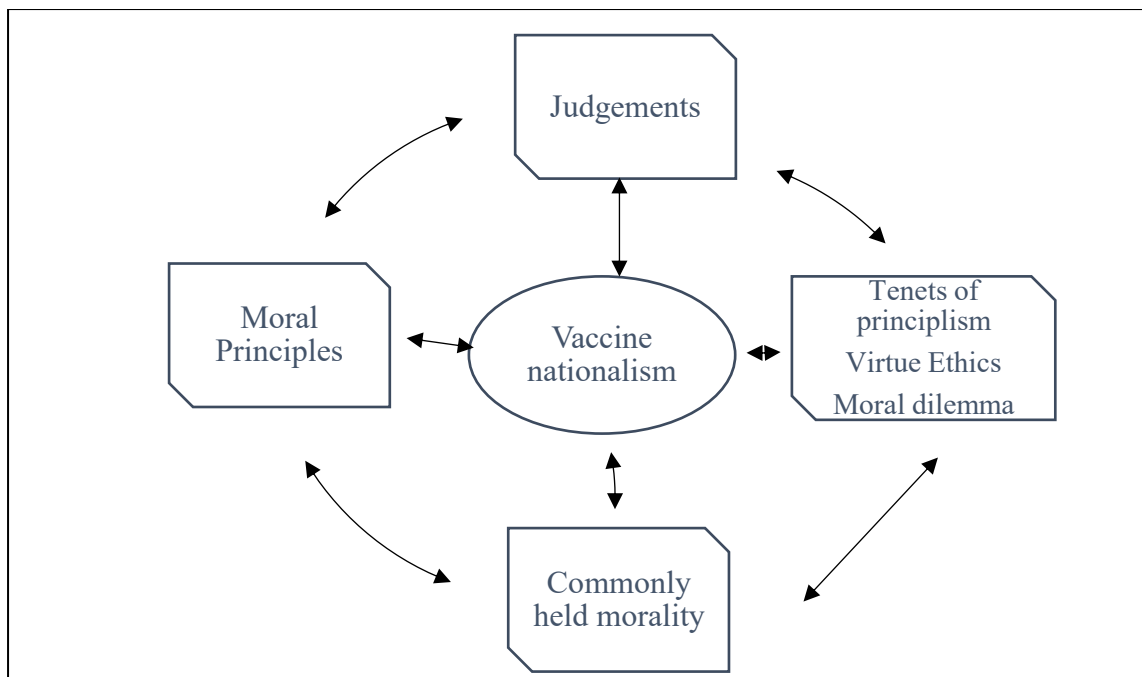


Figure 2 Reflective Equilibrium process

As such, I used this method as a way of constructing reflective moral arguments on the action of vaccine nationalism occurring in the corona virus pandemic by doing a back-and-forth engagement between tenets of principlism, virtue ethics, and moral dilemmas (from a normative stance) in trying to show that vaccine nationalism can be a moral dilemma on one foot and can be virtuously, and morally wrong on the other. By using reflective equilibrium, one can identify and resolve moral conflicts and dilemmas regarding a pertinent problem or situation (Daniels, 2008).

In addition, RE serves a vehicle for transporting evaluations of the moral implications of the various decisions and actions that might raise potential morality questions (Arras, 2009), and provides guidance on the moral values and principles that should be used to direct the course of society's actions in the given situation or context (de Maagt, 2017). Equally important, RE is a method that assists in assessing the implications of policies, such that by considering the impacts of such policies on society and reflecting how they suit with society's moral values and principles – one can arrive at a well nuanced and reasoned standpoint. Nussbaum (1990) considered RE to bring a balance between judgements and beliefs, an absence of inconsistency and the dominance of intellectual judgment. Thus, by constantly reflecting on one's moral beliefs and principles and how they relate to unique moral situations, one can land at a clear coherent and consistent viewpoint of what is morally right or incorrect in a particular context (Daniels, 2008).

3.3 Methodology justification

I was drawn by the insight that doing philosophy means embracing the possible as well as the actual, the messy, cluttered, and untidy as opposed to the tidiness of scientific and their concern of what ought to be and what is (Reichling, 1996). Philosophy research enables the reader, be it one interested in philosophy or not; to asks questions about what the text means, whether the statements expressed have an element of truth, whether what the text writes about is consistent with earlier made statements or not (Reichling, 1996). Furthermore, I was drawn to Jorgensen (2006: 176) who notes that when one engages in philosophy, one is interested with the meaning of words, mostly because words are the means of communicating ideas, such that selecting the right word is seen as a means of clarifying the meaning of a certain idea under expression. By the above view, I was particularly interested in using philosophical methods to guide my data collection and analysis, and further provide arguments on vaccine nationalism and moral dilemmas occurring in the corona virus pandemic.

I was also drawn by the fact that philosophy is not expected to furnish irrefutable proofs, but to provide concepts that lead to further insights and discoveries (Reichling, 1996). Thus, by using tenets of principlism, virtue ethics, and moral dilemmas as the guiding philosophical concepts, I was interested in providing further discussions and insights on using philosophical concepts to provide recommendations for analysing political decisions that occur in times of disaster and despair – like the context of this study. The above created what Reichling (1996) describes as the process of gravitating towards inventiveness and creativity that enables the person pursuing philosophy the ability to spawn new meanings from old words and phrases, and to generate novel words and phrases as well.

Added to the above, using reflective equilibrium as a method of analysis gave me the opportunity to consider the full length of moral considerations that are relevant to a particular issue (de Maagt, 2017) – in this case the action of vaccine nationalism. Reflective equilibrium also assists in the critically examining and assessing society's moral beliefs (Daniels, 2008) and aides in getting at well-balanced and justified moral conclusions.

The philosophical method has a limitation in that a study done using philosophical method cannot provide empirical testing or ex post facto analysis (Reichling, 1996). However, this is the usual paradigm contestation between studies undertaken in qualitative research and those undertaken in quantitative research, such that it would be *nonsensical* to argue over this; as a fair share of earlier research has undertaken this quest. Instead, it is worth noting to the reader

that this study acknowledges some of the limitations of pursuing a certain methodological stance – although this should not be seen as a reason of not doing this particular methodology. Instead, it is the reminder to the reader that, given the opportunity, this study would have pursued such a method – with the limitation being it would be difficult to construct empirical testing on normative studies. These are some of the reasons that motivated me to pursue such a method for this study, as I am bent on providing moral arguments that any average person might find interesting by looking at the topic of the study and finding that urge to engage with the text and understand what it is all about.

In summation, this chapter highlighted the research methodology and methods of this study that followed a qualitative research design supported by a scoping review of literature on vaccine nationalism and a reflective equilibrium as the method of analysis. Throughout the course of this study, these methods were used interchangeably be it in gathering information or in providing analysis.

Chapter 4 Results from the review

In this section, I largely show the results from the literature regarding discussions on vaccine nationalism shown by a discussion on vaccine nationalism first, and then later a discussion on findings from literature focusing on moral dilemmas in discussions in the current pandemic. The reason behind this was to show the reader that discussions on vaccine nationalism rarely included moral dilemmas, and even when they did include or mention anything to do with morals, they did not focus on vaccine nationalism. I also show that the same can be said for discussions on moral dilemmas in the pandemic, highlighting that the moral dilemma scholarship focused largely on three subthemes, and within these subthemes neither was there a mentioning or discussion about the action of vaccine nationalism. I then lay out the foundation of my argument(s) that research on vaccine nationalism and moral dilemmas should include dilemmas that occur because of duty bearer's actions. I go further to mention that say the reader feels that vaccine nationalism is not a moral dilemma, then the best the reader must do is analyse such an action with virtue ethics and see whether it befits virtue or vice.

The findings on vaccine nationalism are based on information extracted from a total of 65 included studies, while the results on literature on moral dilemmas is from a selected total of 30 included studies. The selected studies satisfied the requirements of providing information on what I wanted to answer the research question on the type and nature of themes on moral dilemmas discussed in the coronavirus pandemic. The discussion on the findings will cite or refer to the literature that made the most striking inputs, as some either mentioned a problem caused by vaccine nationalism or referred to other challenges in passing; and including them all in this section would be an extraordinary task.

With the help of NVivo12, I was able to categorise the information I got on vaccine nationalism into two key themes namely arguments and moral considerations on vaccine nationalism, and the challenges associated with vaccine nationalism. I did the same for information obtained from the supplementary search on moral dilemmas and I produced three sub themes, namely health care dilemmas, dilemmas on health versus rights, and ethical dilemmas occurring in the pandemic. Thus, I divided this chapter into two sections, the first section discusses the results from the literature search on vaccine nationalism, while the second chapter discusses literature findings from the supplementary search on moral dilemmas as to be shown.

4.1 Section 1 Literature findings from review on vaccine nationalism

In this section, I represent the results of the identified studies that addressed vaccine nationalism in the coronavirus pandemic with a specific focus on literature published between April 2020 and January 2023 – the period of focus for this study. The majority of the findings show vast literature engagement on the challenges posed by vaccine nationalism, and the various arguments that were projected in favour for practising vaccine nationalism, with scant or little engagement in including moral dilemma aspects on actions of vaccine nationalism as to be shown.

4.1.1 Arguments for vaccine nationalism

Under this theme, there were schools of thought that played the devil’s advocate by providing the means to which vaccine nationalism became an *accepted* norm across the field. Collste (2022) sparked the debate by highlighting that, any given state is comprised of the willing consent of its given citizens such that; consent means that their interests are considered or taken into account when there are arising issues or problems. Collste (2022) further explains that the above scenario implies that citizens expect their states to do what is necessary to tally their needs especially during a pandemic – meaning citizens will be fully expecting the state to produce a comprehensive vaccine strategy that considers how to fully protect the citizens first. Equally important, aspects of statism or nationalism gives moral reasons for states to act or pursue their own interest based on the treatise between the it and the citizens (Collste, 2022). The reasoning behind the above follows the logic that citizens elect leaders to act based on the citizens’ interests – of which health is one of the many interests. This position has been supported by previous literature, with Miller (1999) cited by Collste (2022) providing that political leaders are morally obliged to their fellow citizens more than they are obliged to any global obligation.

In tandem with the above, Schuklenk (2021) was of the point that it was unlikely that citizens of democratic countries (of which most HICs are) would have taken kindly to their governments sharing their purchased vaccines with LMICs without considering what ethical critics would say to that. Schuklenk (2021) goes on to highlight that, pursuing vaccine internationalism (which resonates to this study’s asserted Act B presented in section 2.4) would have been detrimental to any government seeking re-election – making vaccine nationalism an act of political machination aimed at winning hearts for re-election.

Equally important, Walter (2022) brought the issue of securitisation as another argument for countries to pursue vaccine nationalism, as states and countries moved to secure their boundaries and citizens first before thinking of contributing towards securing other countries and their citizens. Cook (2010) as cited by Walter (2022) defines securitisation as the process whereby a pressing issue is moved from being a political to a security agenda, following the argument that the identified issue poses a huge existential threat to the status quo. Thus, it becomes clear when one looks at why HICs pursued vaccine nationalism; they did so on the backdrop of pursuing national security, mostly because they wanted to protect and secure their borders and citizens first.

On another foot, Beaton et al. (2021) presented the instrumental approach as another way through which countries pursued actions of vaccine nationalism. The instrumental approach regards that, duty bearers are meant to concern themselves with the interests and needs of their own members when conducting policy making (Beaton et al., 2021). Under the current pandemic, Beaton et al. (2021) highlighted that the instrumental approach would support vaccine nationalism from countries with large populations, large elderly populations or low to income countries with less robust healthcare.

Kirgizov-Barskii and Morozov (2022) elucidated that vaccine nationalism is the usual strategy of developed countries, whereby they tend to focus on their interests and ignoring the rest of the global divide, and, that vaccine nationalism brought the world effective and trustworthy vaccines through pre-purchasing agreements. Their latter argument to this study sought of strives to tell a story whereby had they not made these pre-purchases, then the world would still be in limbo to find the perfect vaccine.

Thus, from the selected studies, the above presented as the main arguments in favour of states pursuing vaccine nationalism. Let this be a reminder to the reader that being in favour of vaccine nationalism did not mean that literature was saying they could do that, and that alone; instead, literature was showing the other side of the coin on how some actions of vaccine nationalism might occur – with some of the reasons cited valid yet not advisable at the same time.

4.1.2 Morality takes on vaccine nationalism.

There were some studies that placed morality takes on vaccine nationalism asking whether if it was the case that people should not think of others when making their efforts of solving the pandemic – should one purchase vaccines without morally thinking of others.

Morality takes on vaccine nationalism from the literature focused mostly on global injustice, and understanding if it is morally acceptable for one to think of their people first before thinking about others – whether moral partiality is morally justified or not. On the aspect of global justice Collste (2022) argued that the distribution of vaccines in the coronavirus pandemic followed a course that was against the principles of global justice, in the sense that vaccine distribution became synonymous with vaccine nationalism as most of the vaccines were distributed to the countries that were pursuing vaccine nationalism. To Collste (2022) global justice meant the equal distribution of social primary goods in society borrowed from Rawls (1971)'s seminal work on justice, and to him by pursuing vaccine nationalism, HICs failed to honour justice in the global health system.

Furthermore, Ferguson and Caplan (2021a)'s take on understanding why vaccine nationalism might be morally justified, presented the act of vaccine nationalism as an act done for the interests of members of a given community – with membership explicitly being narrowed to smaller-scope communities. They laid their claim by stating that a nation-state has legitimate moral reasons to get and distribute vaccines in a 'selfish' or self-interest manner, mostly because members of a given community have moral reasons to act in the interest of others than any others (Ferguson and Caplan, 2021a).

They further elucidate that the current pandemic created grounds where some would be privileged to the vaccine but not the right to receive the vaccine, while others will have the primary obligation to acquire the vaccine – but that obligation limited to privilege their own alone (Ferguson and Caplan, 2021a). In their submissions, Ferguson and Caplan (2021b) they highlight that obligation does not mean ignoring or overlooking others that are not part of the immediate others, instead members will continue to have the obligation of thinking or considering about others that are not within their immediate community; but will work towards satisfying the needs of those that are closer to them. They mention that one might owe beneficence to any, and all, but only owe reparation and gratitude to some, most because being a member of a specific community and partaking in some intracommunal roles give birth to certain special obligations which might be used to justify partial allocations of vaccines. Thus, from the above, the authors were trying to highlight that in as much as the act of vaccine nationalism is seen and regarded as unethical – there is a moral justification to pursuing such actions.

4.1.3 Challenges associated with vaccine nationalism.

As the theme tells, majority of the literature reviewed under this theme had much to do with the various problems or challenges that were/are associated with the action of vaccine nationalism. This study is of the view that, the challenges' theme presented as the most common theme that appeared in almost all of the included studies, save for some that did not go further into explaining the various problems associated with pursuing the act of vaccine nationalism.

4.1.3.1 Disparity challenges

From the literature disparity challenges presented as one of the commonly cited problems that occurred because of vaccine nationalism. Top of the list was the disparity in accessing vaccines between HICs and LMICs, with HICs blamed for jeopardising equitable distribution of vaccines globally (McMahon, 2020). Another notable challenge presented with how vaccine nationalism meant that some LMICs were to purchase the vaccines at a much higher price, as compared to the relatively low and accessible price that other HICs were purchasing the vaccines for (Kirgizov-Barskii and Morozov, 2022).

Apart from the cost of the vaccine itself, there was outcry over the fact that hoarding vaccines will disrupt the equal distribution of vaccines globally (Katz et al., 2021), since some countries will have stockpiled a hefty sum of vaccines while others will have no such stock. Not only did vaccine nationalism deter the equal distribution of vaccines, but it also made the COVID-19 Vaccines Global Access Facility (COVAX) facility one of the competitors in the global market (Duan et al., 2021; Peacock, 2022). COVAX was a vaccines procurement facility that was designed specifically to accelerate access to vaccines to all countries in the world, supported by GAVI, CEPI and the WHO (Peacock, 2022). Thus, COVAX became a competitor to the countries that had already agreed prepurchase agreements with vaccine manufacturers, on the basis that vaccine manufacturers were faced with the obligation to honour the prepurchase agreements before giving any preferential access to vaccines to the COVAX facility. For instance, Duan et al. (2021); Van De Pas et al. (2022) reported that the European Union (EU) and Italy issued threats and even blocked vaccine shipments by AstraZeneca to countries outside the EU citing over reduced vaccine deliveries, a move that coincided with the company's efforts to delivering vaccines to the COVAX facility.

4.1.3.2 Legacy of colonisation or the monopoly of the west

The act of vaccine nationalism was seen as an act of colonial powers controlling their past sense of ownership [colonial dominance] over vaccines, since colonisation has a history of deceiving others to achieve the goals of dominance, control, and exploitation (Blume, 2022). Some sections of literature regarded vaccine nationalism as a post colonisation project with Fallah and Ali (2022) arguing noting that the post-colonial project came to be when some HICs continued to exercise their colonial dominance on the global market by hoarding all the vaccines and leaving little to nothing for the struggling LMICs which also occur to be their former colonies. Some sections saw vaccine nationalism as a tool in the hands of the rich capitalistic nations to suppress and cower poor nations during the pandemic. By pursuing actions of vaccine nationalism, Ahen (2022) was of the view that, rich countries presented themselves as the experts in who gets what when and how, because they practiced tactics used during colonial times of controlling resources for one group and depriving other groups. Vaccine nationalism is also taunted as a perpetuation of how western powers play a hegemonic role in managing the global pandemic, such that if the HICs hoard vaccines, the LMICs must wait for the HICs to determine how they should proceed with their efforts of solving the crisis in their countries (Ahen, 2022).

Ahen (2022) regards the perpetuating of vaccine nationalism as a power mechanism undertaken by HICs, whereby the hoarding of vaccines allows the powerful countries to maintain the status quo, that further weaken governance structures in the LMICs. Furthermore, vaccine nationalism is seen as the continuum of the monopolisation of medical scientific products by HICs whereby they create a system of dependency or reliance on donations for majority of LMICs (Ahen, 2022). Apart from the HICs some big pharmaceutical companies such as Pfizer for instance, argued for bigger benefits when negotiating for vaccine deliveries in some LMICs particularly in the Latin American region, where the company asked for collateral in form of buildings, military installations, or other national natural resources that would be forfeited to Pfizer if payment was not made (Blume, 2022).

4.1.3.3 Socio-Economic challenges

The action of vaccine nationalism was taunted to contribute to significant economic damage to the world economy on the reasoning that hoarding of vaccines prevent the fast or quick reopening of economies and borders, on the backdrop that few will have accessed the vaccine. Research conducted by the RAND corporation estimated that vaccine nationalism alone could result in the loss of about USD 1.2 trillion a year (Peacock, 2022), further projected to USD

9.2 trillion of the global economy (Amankwah-Amoah, 2022; Parray et al., 2022). Furthermore, vaccine nationalism was seen as a catalyst to exacerbate global poverty and triggering greater income inequality and social immobility across the globe. Moreno et al. (2021) were of the idea that politicisation of medical science can impede the pooling of resources within the international context, and the same could be seen with how vaccine nationalism affects any actions to try and pool resources, when and if such resources are construed by a limited few.

4.1.3.4 Health challenges

The action of vaccine nationalism was cited as one of the reasons as to why COVID-19 will continue to mutate (Murhula and Singh, 2022), become increasingly transmissible, deadlier, and or resistant to vaccines. Some scholars saw global health stuck in a continuous cycle of new vaccine resistant variants constantly emerging, coupled with the need to continuously develop new vaccines. There was consensus amongst some authors that vaccine nationalism will only prolong the pandemic, delay the global success of ending the pandemic (Md Khairi et al., 2022; Murhula and Singh, 2022), or undermining the chances of a collaborative solution to ending the global health crisis (Vanhuysse et al., 2021). Vaccine nationalism was also cited as the chief cause of undermining vaccination efforts in Africa (Idris et al., 2022) given that majority of the countries there could not access the vaccines that had been moped up the wealthy HICs.

4.1.3.5 Geopolitics

Without any doubt, vaccine nationalism was infused with geopolitical debates, with literature noting that such actions had the potential to elevate less democratic nations through vaccine diplomacy (Amankwah-Amoah and Hinson, 2022), whereby for instance countries such as Russia and China will use vaccine diplomacy [by sending vaccine donations to LMICs] to cover the gap caused by vaccine nationalism of HICs. There were concerns raised regarding the absence of an international legal agreement for vaccine distribution, which in turn made countries to act alone in the manufacturing of their own standardised vaccines – mostly because the space of vaccine distribution had been distorted by HICs pursuing vaccine nationalism.

Thus, the studies presented thus far show what kind of themes majority of the literature discussed largely on when it came to vaccine nationalism, with Table 5 showing a list of selected studies and their accompanying summaries. The important takeaway for the reader is to understand that although literature results presented in this section discuss the challenges brought about by vaccine nationalism and the arguments for pursuing vaccine nationalism,

there still exists scant literature engagement on arguing if vaccine nationalism can be regarded as a dilemma, a virtuous disposition, or a vice.

Author	Source	Summary
Amankwah-Amoah and Hinson (2022)	Journal article	An analysis of the emerging themes involving the COVID-19 pandemic, vaccine nationalism, and counterfeit goods.
Beaton et al. (2021)	Journal article	On whether crisis nationalism is justifiable during a global pandemic
Collste (2022)	Journal article	On the global distribution of vaccines in the coronavirus pandemic
Duan et al. (2021)	Journal article	Showing the problem with disparities in vaccination between LMICs and HICs
Ferguson and Caplan (2021a)	Journal article	Response on allocation of vaccines in the corona virus pandemic
Idris et al. (2022)	Journal article	Showing why African countries will fail to achieve 2022 COVID-19 vaccination targets.
Moreno et al. (2021)	Journal article	The vaccination cold war between the west and its foes
Peacock (2022)	Journal article	Highlighting that vaccine nationalism will continue in the pandemic and calling for the need for effective engagement of citizens across the globe.

Table 5 Selected literature summaries from the review on vaccine nationalism

4.2 Section II Literature results on moral dilemmas

The following subsections detail reveal results from the supplementary search conducted to show whether literature on moral dilemmas in the coronavirus pandemic theorised about actions of vaccine nationalism. Information presented here was drawn from 42 selected studies. From these studies two studies attempted to theorise on the moral dilemma nature of vaccine nationalism but the theorisation was not direct as was intended by this study. Tandon (2021) demonstrated that vaccine nationalism was an ethical dilemma when contrasted with what he referred to as vaccine cosmopolitanism. To him (Tandon, 2021) vaccine nationalism is an idea that subscribes to ethics of communitarianism which supports the notion that our identities are shaped by the different communities we all belong to – which in turn form our moral obligations. On the same vein vaccine cosmopolitanism follows a course that calls for the equal and equitable sharing and access to vaccines in the global community an approach used by Borowicz et al. (2022) in light of showing the other side that contrasts vaccine nationalism. The above approach was borrowed from Tandon (2021) who used Ferguson and Caplan (2021a)'s approach that regards the value of any given act by measuring its impact on overall wellbeing – where overall wellbeing refers to the number of countries that are able to provide protection to their most vulnerable members from COVID-19. Together these studies provide an outline that shows that there was an ethical dilemma regarding pursuing vaccine nationalism or pursuing vaccine cosmopolitanism; a feat that this study will revisit in the implications part of this study.

Moreso, from the supplementary search this study classified three areas of common reporting on moral dilemmas occurring in the coronavirus pandemic as health care dilemmas, dilemmas on health versus rights, and ethical dilemmas that were occurring in the pandemic. The reason to include these dilemmas was meant to show the reader that the scant literature engagement on theorising vaccine nationalism as a moral dilemma was due to the fact that there was an inherent need within scholarship to engage on the above identified themes.

4.2.1 Health care dilemmas

From the healthcare dilemmas, this study identified resource allocation, prioritisation, and moral injury as the main subthemes key for this study's attention.

Resource allocation presented as the biggest dilemma if not of them all, given that the question of which resource to give, who to give, and why to give them other than the next person; still remains a difficult and yet complex one to answer. At the onset of the pandemic, most countries

were left with the important question of who to give access to PPE, the leadership or the citizens, or the frontline workers given that resources availability varied between days and or time periods (Bauchner et al., 2020). As the pandemic worsened, it became an issue of channelling more resources to purchase PPE or to purchase hospital beds, and or purchase ventilators. It became more complicated when news that a vaccine to fight the corona virus had been developed, such that it became a matter of whether to channel resources to purchasing vaccines over any other underlying necessities such as face masks, sanitisers amongst other things.

Another moral dilemma that surfaced in the onset of the COVID-19 pandemic had more to do with the prioritisation of patients with regards to which patient(s) clinicians had to prioritise first – those in need of intensive care unit (ICU) provisions regardless of sickness, or those who need to be saved from breathing complications related to the viral infection. On the onset of the pandemic, Roy et al. (2021) revealed that there was a mortality rate of 2-7%, with close to 20% of those infected requiring hospital admission, while more than 60% required ventilator support and almost 14% of the admissions in need of ICU services. What this meant was that a lot of hospitals had a lot of patients flocking their hospitals in need of either ventilator the services and or ICU admission, leaving the hospital staff and or clinicians between a hard rock and a difficult place. The biggest question had more to do with who to put first in favour of whom, and the justification for doing so. An equally interesting observation had more to do with understanding whether it was best to prioritise a multi-morbid 30 something young person with a somewhat longer life ahead, than a 60-year-old with an assumed lower risk of mortality and length of stay (Roy et al., 2021); or was it best to prioritise health care workers who might have contracted COVID-19 from treating patients to be treated first so that they can quickly get back to their feet and comeback to work and continue saving lives? Any possible answer to such observations will have one playing God, on the basis that whatever decision one makes, there is a possibility to attract backlash from one's own decision. Archard and Caplan (2020) presented an interesting argument on the above matter noting that if young people where to be given preferential treatment, then there are problems of differentiating between two patients who differ by say a year between them. On the same view, arguments on fair innings were brought forward with regards to prioritisation, with consensus centred on the maxim that everyone should have an opportunity to lead a life of certain duration (Archard and Caplan, 2020), such that when faced with a tricky situation resource should be shared selectively to ensure that those who are yet to live their length of life are prioritised over those who have

managed to do so. The biggest dilemma with the above view rests on the submissions that life is a matter of luck and circumstances, such that others are fortunate than others, others have life circumstances that are different from others; and it is different to determine what kind of life has been led and or (is yet) still to be led.

Furthermore, Farrell and Hayward (2021) provided a depiction that aimed at conceptualising moral injury with layers that separate clinicians and policy makers within the healthcare context; with the policy makers conceptualised as the generals and or leading figures within a military brigade at war, while the clinicians and all the frontline workers as the troops at the battle forefront. The generals have a clear strategy on how to win the war (pandemic), but at the same time the soldiers on the forefront are left to make their own decisions in the heat of the war. They must decide what artillery to use, whether to launch airstrikes, whether to rescue injured soldiers or not, if they should keep on firing towards the enemy, or if they should retreat regroup and restart again. In a typical war scenario, these decisions are commonly believed to be left to the generals to decide, but in this war, it is the frontline troops who must fight and decide how they want to fight all at the same time.

Thus, following the above analogy, moral injury will occur when a clinician must quickly decide on how to save a patient, with such quick decisions less likely to engage in discussion of ethical principles like non-maleficence, autonomy, justice, beneficence, and autonomy (Farrell and Hayward, 2021). Furthermore, situations where it became difficult to satisfy enshrined moral commitments were widely believed as sources of moral injury (Shale, 2020); such that avoiding personal health injury because of increased participation within clinical care settings with patients infected with COVID-19 presented itself as a moral wound on the basis that some would feel as if they have abandoned ship. In some healthcare settings some healthcare personnel provided care to patients infected with COVID-19 on a voluntary basis as their biggest fear was contracting the virus whilst caring for a patient – thus putting their needs first before the patient (Farrell and Hayward, 2021). Decisions such as the luxury of physicians to exit intolerable situations (Asken, 2020), or the time spent on the bedside with a patient with COVID-19 or whether to enter a hospital room with an infected patient (Farrell and Hayward, 2021), amongst others became quite common across several healthcare settings as residents and clinicians sought ways to weigh their personal health versus their own moral beliefs [putting the patient first]. Table 5 overleaf presents some of the key authors engaged in this section and the key summary points from their studies.

Authors	Type of source	Summary points
Archard and Caplan (2020)	Journal article	Asking questions on the moral correctness of prioritising younger patients infected with COVID-19
Asken (2020)	Journal article	Moral injury in the COVID-19 pandemic
Bauchner et al. (2020)	Journal article	Calling for ideas on ways to conserve PPE in the COVID-19 pandemic
Farrell and Hayward (2021)	Journal article	The dilemmas of moral distress amongst health care personnel
Roy et al. (2021)	Journal article	The dilemmas associated with prioritisation of patients infected with COVID-19
Shale (2020)	Journal article	An introspect on moral injury and who it affects in the COVID-19 pandemic

Table 6 Literature summaries on selected healthcare dilemmas recorded in the coronavirus pandemic

4.2.2 Health versus rights.

This subsection highlights some of the selected dilemmas involving actions that sought to advance more for health but ended up being seen or regarded as a clash with the human rights of the intended people it was meant to benefit.

Another moral dilemma that surfaced during the corona virus pandemic had to do with government regulation and the limiting of freedoms. Bent on exercising control of the state affairs, certain governments-initiated limits on freedoms with actions such as imposing curfews, reducing human interaction, reducing visits between people and families; and to some extent banned holding of funerals or burying of loved ones (Gilbert et al., 2020; Regjeringen, 2020; Renzaho, 2020; Sherwood, 2020). To the naked eye, such actions reek of an authoritarian stance, whereby governments went into overdrive to limit people's freedoms; while at the same time there was immediate need to limit such freedoms to reduce spreading of the disease. The only contentious issue regarding limiting of freedoms regards the suppression of rights under the guise of lockdown rules and or regulations. By this, this paper refers to instances where certain governments went overboard into violating human rights of citizens mainly because they had violated the lockdown regulations (Kassa and Grace, 2020). The dilemma here regards the actions of governments versus personal freedoms, whereby by limiting movement of people

during certain hours, meant that it would be difficult for certain people to either access necessities or even try to look for help if they happened to require it.

While in some sections it was economically workable to start lockdowns as a means of controlling mobility of populations, it became a dilemma in other parts of the world where people depend on movement and human to human interaction for daily livelihood. Eva-Maria et al. (2020) developed a statistical model that revealed that less than two in ten urban households were prepared for a prolonged lockdown, with less than one in ten or simply put no household in the rural areas prepared for a prolonged lockdown. On this view, this study is of the opinion that initiating a lockdown in sub-Saharan African countries had the biggest challenge of also initiating prolonged hunger and what this study might refer to lockdown food deprivation. If majority of the people survive on human interaction for their livelihood, then logic is lost when authorities ask them to live in their houses for more than a month without any provisions for economic relief. Kassa and Grace (2020) present the lockdown situation as a race to live or die for many Africans given that one could either be locked in at home and possibly die of starvation or violate the lockdown to work for survival, and possibly get the virus and die as well. Furthermore, it was quite difficult for health authorities in a setup like this one to not do anything on the basis that people might lose their economic livelihood, especially when and if the lives of a lot of people are at stake. Thus, the constant see-saw between providing for one's mouth versus lockdowns for containing spread of the disease does appear as a difficult and complex moral dilemma that has far reaching consequences on doing one against doing the other, or not doing both if one had to factor it that way.

At the same time as the global community was fighting for the equitable sharing of vaccines to low resource countries, high income countries launched mechanisms aimed at limiting who can or cannot access certain facilities, or their borders based on their vaccination status, or they could do so in possession of special vaccine passports. By vaccine passports, this study particularly refers to the documentation that states one's vaccination status as either vaccinated or not within a certain health authority (Hall and Studdert, 2021; Sleat et al., 2021). Secondly, in the follow up to vaccine passports, certain countries in the West announced that they will not be considering vaccine passports from certain countries on the grounds that they did not use the same vaccine as they did (Taylor, 2021). The biggest implication behind this rests on the assertion that such actions create a rift within efforts to fight or curb the spread of the virus, by selectively marking certain vaccine solutions as valid and others as invalid. Although the discussions on such practices remain divided, the morality test of vaccine passports and vaccine

nationalism are yet to pass the test of global health ethics using virtue ethics. The above thus creates the impetus for this study's quest to analyse such dilemmas with virtue ethics in the bid to uncover the best practices that can/should be followed during pandemics. Table 6 below thus provides a tabular summary of the engaged literature and the summary points from the selected literature publication.

Authors	Type of source	Summary points
Gilbert et al. (2020)	Journal article	Discussing the preparedness of certain African countries and the vulnerability that arose from lockdowns
Renzaho (2020)	Journal	The call for a correct socio-economic response to the effects of the coronavirus in Africa
Kassa and Grace (2020)	Journal article	The impact of COVID-19 in Africa presents as a race against death and or starvation.
Eva-Maria et al. (2020)	Journal article	The dilemma of lockdowns in Africa
Hall and Studdert (2021)	Journal article	The ethical considerations on vaccine passports

Table 7 Literature summaries on selected health versus dilemmas recorded in the coronavirus pandemic

4.2.3 Ethical dilemmas occurring in the pandemic.

The corona virus pandemic brought complex and difficult challenges involving the morally correct or ethical way to conduct research. The humanitarian crisis has initiated an urgent need for scientific evidence to underpin lifesaving interventions for individuals and communities, such that ethical considerations might end up being overlooked or disregarded (Calia et al., 2021). One notable dilemma regards issues to do with informed consent procedures involving vaccine trial participants with issues such as disclosure of risks such as injection site reaction, and other generic information on possibility of death amongst other things (Cardozo and Veazey, 2021). On this view, rests the submissions that specific risks emanating from biological mechanisms are rarely mentioned nor included because of the vagueness of their applicability. Added to the above, Cardozo and Veazey (2021) notes that risks to participants found in some of the informed consent forms obtained from Pfizer, Moderna and Johnson and Johnson, is located at the bottom of the list of the risks that might be incurred by the research participants. In addition, Moderna and Johnson and Johnson classify the risk of vaccine-elicited

disease enhancement (VEDE) as theoretical, while Pfizer and Moderna note prior evidence of VEDE with other diseases such as dengue fever, RSV; but omit information on corona virus related diseases (Cardozo and Veazey, 2021).

There is still an ongoing a huge debate surrounding vaccine trials that focus on a specific kind of situation – where there is no evidence that there is proven efficacy of the proposed vaccine, limiting the debate to whether there should be conducted on randomised studies or just provided to many unsusceptible candidates as possible (Monrad, 2020). From previous experience, Adebamowo et al. (2014) argued against the practice of researching on interventions for a highly infectious disease outbreak using randomised human participants on the basis that it might withhold the product being tested from sick or susceptible individuals. There is also another view that clinical research on human participants must be conducted under clinical equipoise conditions – when the expected harm or benefit of the treatment to the participant is unknown as supported by key ethical guideline that govern clinical research (CIOMS, 2002; Monrad, 2020). Thus, one potential ethical dilemma that has risen in the pandemic regards challenge trials on human participants, were participants are deliberately infected with strains of the virus with the hope of advancing more knowledge on the vaccine and the disease itself. Writing his own viewpoint, Sulmasy (2021) noted that the conduct of (NCT04865237) satisfied several set criteria regarding fundamental ethical considerations required for a conducting a study, but raised possible concerns on exploitation and manipulation given that the participants were awarded £4565 (Killingley et al., 2022) to participate in the study. There were also concerns against infecting volunteers with SARS-CoV-2 in challenge studies on the basis that, they fail ethical requirements of just selection of participants, social and scientific value, and the benefits and harms associated with partaking in such a study (McPartlin et al., 2020). The other potential argument raised was that challenge studies make *healthy* participants fall ill for the sole reasons of scientific ends, on the basis that the corona virus was still not yet fully known or understood than previous known viruses where such challenge studies have been conducted.

Common in any pandemic setting, aspects to do with vaccine patents quickly became another contentious topic within the moral dilemma debate – as a tug of war emerged on whether it was worthwhile for pharmaceutical companies to release patents or not. Those in favour of releasing patents were of the idea that, letting countries develop their own vaccines in the pandemic does good than harm, because it limits the time needed for countries to access the vaccines quickly enough to shield their respective populations from the impact of the disease

(Editorial, 2021). Apart from reducing time constraints, waiving vaccine patents also meant the best way possible to establish equitable vaccine access to the COVID-19 vaccines across the world (Maxmen, 2021), since this meant that every country in the world will have the various vaccines at their disposal when needed. One compelling argument noted by Editorial (2021) in favour of waiving patents, comes from the understanding that patents were never designed for use in global emergencies and or pandemics, mostly because patents are regarded as spoils of innovation aimed at safeguarding the inventor from unfair competition for a set period. The argument further notes that a global pandemic is not a ripe field for competition between inventors, but a race between a virus and humanity, such that companies and countries all must come together and one and help each other to bring the pandemic to an end (Editorial, 2021).

However, the dilemma in advocating for the releasing of patents lies within the reluctance by high income countries and their pharmaceutical giants (located in these HICs) to comply with releasing patents for everyone to use. The reasoning follows that:

1. Vaccine development is entirely costly, cumbersome, and takes quite a lot of time; and hence it would present a huge loss for a company or country that has invested billions of dollars in research and development (R&D) to just throw away all the research they have for free consumption for all.
2. Releasing patents does not necessarily mean accelerated vaccine development nor increase in vaccine supply, if all; it does not necessarily explain if the countries in the global south have the capacity to match up the required needs – training, setting up factories, legislation amongst other things.
3. HICs and the giant pharmaceutical companies noted with concern that they were already supporting the COVAX vaccine scheme, which was designed primarily to assist countries in the global south to have accelerated access to vaccines. With that alone, they could not see the onus to release patents for something that they are already supporting (Editorial, 2021).

Thus, looking at the above presented arguments alone, one can see that it is an entirely difficult and contentious case involving the releasing of patents within the global health system. This study is of the view that COVID-19 vaccine patents should have been released for all given that such vaccine research was done following the onset of the pandemic; it is not something that pharmaceutical companies had been working for a long time.

Whenever there is global pandemonium, trust in leadership generally goes up the roof as people are conflicted on whether the leaders are doing more than enough to find solve solutions for whatever crisis there might be at that time. The main reason this study is highlighting trust in leaders as a possible dilemma rest on the understanding that most decisions that occur in pandemics or global disasters weigh heavily on what decisions the leaders do more than what the citizens are obliged to do. Leaders are at the centre of attraction of any disaster, and it is what they decide that becomes much of the centre of attention more than what others who are not duty bearers or leaders (Everett et al., 2021).

Robust evidence suggests that, following health guidelines from public health officials is a key determinant of how citizens trust their leaders in fighting a disaster and or global pandemic such as the one that the world is currently fighting against (Udow-Phillips and Lantz, 2020). The possible dilemma that might arise when citizens are conflicted on whether to trust their leaders in fighting the pandemic or to trust other people other than their own leaders – as they might perceive that such people might have more concrete solutions than those provided by their leaders. In summation, the evidence presented in this chapter shows that there is still scant literature engagement on vaccine nationalism as a moral dilemma save for the aforementioned studies that gave a theorisation of vaccine nationalism as an ethical dilemma. In the hope of adding knowledge to the identified scant literature engagement, this chapter sets up the bedrock of making further arguments for this study that follows in the next chapter. Table 7 overleaf provides a highlight on the selected literature summaries engaged within this section.

Authors	Type of Source	Summary points
Calia et al. (2021)	Journal article	Ethical dilemmas related to conducting research in the COVID-19 pandemic.
Cardozo and Veazey (2021)	Journal article	Issues of informed consent in COVID-19 vaccine trials
CIOMS (2002)	Book	Guideline for ethical considerations involving human subjects in research.
Editorial (2021)	Journal article	The need to release COVID-19 vaccine patents.
Everett et al. (2021)	Journal article	Dilemmas associated with moral distress and trust in leaders in the coronavirus pandemic.
Killingley et al. (2022)	Journal article	Ethical dilemmas involving human participation in challenge trials.
Monrad (2020)	Journal article	Ethical considerations for vaccine trials in epidemic situations.
Sulmasy (2021)	Journal	Asking questions on the ethical nature of human challenge trials in the coronavirus pandemic.

Table 8 Selected literature summaries on ethical dilemmas recorded in the coronavirus pandemic

Chapter 5 Discussion

In this chapter, I discuss the results from the review, with some but not all of the results being discussed in light of understanding the various themes found in literature on the actions of vaccine nationalism. To achieve the above feat, this chapter re-engages with the concepts of virtue ethics and moral dilemmas found in chapter 2 to make a wider scale argument on the need for duty bearers to possess some certain virtues within themselves in the execution of their duties. Thus, this chapter will begin by revisiting the research question, and provide a discussion of the findings from the literature search on vaccine nationalism and the supplementary search on moral dilemmas. A section on this study's implications will follow where this study will try and answer this study's research question using the results from the review, setting the tone for this study's conclusion preceding after this chapter.

5.1 Restating the research question and research gap

The main purpose of this study was to analyse the main themes emerging from literature on vaccine nationalism occurring in the corona virus pandemic and place moral arguments on citing that vaccine nationalism should be considered as a moral dilemma, or it should be seen as a vice – negative disposition that occurs when one has an excess in bad motives. From the included and analysed studies, the literature presented certain arguments that had moral elements to be considered as moral dilemmas or scenarios that would fit to be regarded as vices as will be shown in the following sections.

5.2 Findings from scoping review on vaccine nationalism

By researching on vaccine nationalism, this study was ushered into the dimension of national partiality and challenges that arose as a result of pursuing vaccine nationalism. The arguments placed for national partiality had a hint of a dilemma, and vice although literature did not explicitly refer to this. Let me take the reader fewer chapters back where this study presented the analogy on moral dilemmas from the normative stance [see sections 2.5.2], where the presentation largely focused on how it is difficult for a duty bearer to pursue Act A, and the same time pursue Act B; one had to choose between the two.

The subtle hint from the findings regarding moral dilemmas rests on the submissions found in Beaton et al. (2021) and Ferguson and Caplan (2021a) who presented two scenarios where duty bearers had to select between vaccine nationalism or vaccine internationalism. Since the above scholars gave the distinct reasons why some nations would opt for vaccine nationalism over vaccine internationalism, it is this study's opinion that selecting between the two actions

presents as the dilemma that this study is after for. As presented in the subsection on moral dilemmas, the above scenario would typically present as the moment where a duty bearer had morally conflicting situations and had to select one action over the other.

What seems interesting here regards how arguments for pursuing vaccine nationalism were infused with rhetoric that supported pursuing selfish interests over placing importance on people one is not directly related to. The important take here comes from Ferguson and Caplan (2021a) who gave three conceptions of vaccine nationalism: ugly, blind, and good vaccine nationalism. The ugly vaccine nationalist does not see the equal worth of persons as they regard the lives of their own citizens as valuable alone more than any other person's lives. The blind vaccine nationalist has a certain moral obligation towards outsiders but does not consider themselves responsible for the progress towards outsiders accessing vaccines. The good vaccine nationalist recognises obligations to persons and communities globally, but also feel the obligation to take care of their own population even if it means that the outsiders must wait for them to achieve that obligation towards their population (Ferguson and Caplan, 2021a).

The reader might pick the dilemmas and vices presented by the above three conceptions of vaccine nationalism on the basis that one references this study's discussion on vices provided in sections 2.3.1 and 2.3.2, as well as the operationalisation of moral dilemmas found in section 2.4.1. To begin with the arguments on vices, an ugly vaccine nationalist might pursue their action of being an ugly vaccine nationalist because of the virtue they have to their own citizens. Whilst on the other hand the good vaccine nationalist might find themselves in a deep moral dilemma especially if they buy say for example 100 million vaccine doses against a total population of 5 million, while outsiders with a population of 50 million people have 0 vaccine doses at their disposal. The dilemma occurs from the provided understanding that in the books of the good vaccine nationalist, outsiders might have to wait because the good vaccine nationalists are occupied with serving their citizens first (Ferguson and Caplan, 2021a). Again, if we are to refer the act with the criteria set in section 2.3.1 the above action will be virtuous in the sense that the good vaccine nationalist thinks of outsiders, but then when the outsiders are at 0 vaccine doses and the good vaccine nationalist is at 100 million vaccine doses – this study considers that as an outright vice on the basis that it resonates with incontinence presented in Table 1 in section 2.3.2.

As noted in the findings chapter, vaccine nationalism brought with itself a plethora of challenges amongst some of them, the legacy of colonisation, inequality, health challenges,

prolonging the pandemic amongst others. From this study's perspective these challenges presented as vices more than they presented themselves as dilemmas due to several reasons. Considering the view that vaccine nationalism is the perpetuation of colonisation and monopoly of the west on countries of the global south, that alone is a vicious action that the vast of scholarship should have made greater emphasis on. This study is of the view that emphasis should show how, not only these problems affect the global health community – but how they are dispositions that do not have any virtue at all. For instance Aristotle (2014)'s virtue ethics highlighted that virtue is concerned with a choice that concerns one's desires on one hand, and reasoning on the other (Hursthouse, 1999), such that unjust acts result mostly because of undeliberated passions more than deliberative choice. What this means to the reader is that the decision to hoard vaccines came from an unjust position or passions that do not arise from choice or virtue. Moreso, the discussion on the legacy of colonisation revealed an interesting take presented by Blume (2022), where he postulated that the legacy of colonisation is laden with deception, dominance, control, and exploitation; which the reader will see that they fall right in the bracket of vices. The assertion imposed here rests on showing the reader that some of the challenges brought about by vaccine nationalism are vicious in nature if one were to benchmark them with the discussions made in section 2.3.1 of this study.

Equally important, Aristotle (2014)'s concept of pleonexia, which is the vicious act of greed for material goods and excessive acquisitiveness of all available sharable goods within a society (Balot, 2001), is of importance when one discusses about the wrongness of hoarding vaccines from the global health world market. As the definition spells out, the greed to purchase vaccines from the market is seen as a vice than just a problematic action pursued by HICs. On the same note the disparity challenges that were identified a result of vaccine nationalism provided means for this study to assert that vaccine nationalism is a vicious act than it is a moral dilemma. The reasoning behind this follows the Battaly (2015)'s VGE theory which holds that attaining good ends is the highest peak for an action to be considered virtuous. A quick recap to the disparity challenge shows that vaccine nationalism not only affected accessing to vaccines on time, but it also affected vaccine equality across the world, thus threatening the less economically advantaged countries from accessing vaccines due to immediate stockpiling and hoarding of vaccines. Take for instance the teleological approach of VGE which highlight that virtues are qualities that enable a thing or a person to perform their specified function or in simple to attain their end. Thus, if one hoards vaccines, affects equality and justice, threatens health systems, and puts the global economy on standstill amongst other things; the telos of

that action does not resemble a virtuous end – because humanity is at stake instead it is a clear vice.

To this study, vices threaten the existence of humankind more than virtues on the reasoning that if one pursued the action mostly for the preservation of lives, protecting the vulnerable, increasing equality, and strengthening health systems; then this study would support such an action as virtuous on the basis that its end goal aims towards human preservation. Thus, by using VGE, the disparity challenges caused by vaccine nationalism made vaccine nationalism a vice because the telos did not aim towards preserving humankind, but a selected few ‘privileged’ members of the global health community. Thus, relating to the problem under review, if an agent decides to pursue an act of vaccine nationalism, this study is of the view that such an act does not have a good teleological function or outlook simply because it would not benefit most of the global health community. The ends of such an action would lack virtuosity on the grounds that it was done mainly by using cleverness – the antithesis of wisdom.

More still, using this study’s other concept of VGM, the challenges of prolonging the pandemic, causing economic and social problems present as vices that do not bring good motives. VGM as a concept focuses on making valid assertions on virtuous actions that bring good motives in the end, meaning that at this point the motive behind vaccine nationalism does have good motives for preservation of humankind. The main idea behind VGM rests on selecting choices that result in good motives, be it for oneself or for society, such that this study regards pursuing actions of vaccine nationalism does not present any good virtuous motives, but rather strong vices.

To this end, the scoping review done by this study managed to show that there is still a silent voice on making moral dilemma arguments over vaccine nationalism and making virtue or vicious claims on vaccine nationalism as well. Although the literature did not directly point this out, this study managed to identify how vaccine nationalism is not just an action pursued by duty bearers, but instead is an action that when pursued can be a moral dilemma, and at the same time be a vicious act. The action of selecting one’s community first before thinking of others is a dilemma when it is done say in a pandemic setting, at the same time it can be a virtuous action – only if it is done in a ‘good vaccine nationalist’ way, which to this study is rare and still a dilemma. This same dilemma surfaced within literature with regards to why certain countries favoured vaccine nationalism first before supporting COVAX – because

COVAX was seen as a competitor to the vaccine nationalists (Peacock, 2022). What this means is that it was entirely impossible for countries to do Act A and B at the same time – although this is what literature was basically asking the duty bearers to do.

The literature findings revealed the research gap identified by this study regarding placing moral dilemma questions on aspects of vaccine nationalism with the coronavirus pandemic. It thus became clear that when writing about moral dilemmas within a global disaster most preferred to opt for what this study might refer to as the *usual* daily dilemmas faced in health settings – triage, resource allocation, amongst other things. It thus became important for this study to place moral dilemma arguments on duty bearers' actions due to several reasons, one of it being that duty bearers are expected to possess wisdom when executing their duties – but not just any wisdom: Aristotelean wisdom. As earlier highlighted, wisdom enables the soul to function well as wisdom is what gets humankind all the knowledge required in the execution of daily moral obligations. As such, this study seeks to establish a relation between the discussion of the soul briefly discussed in the conceptual framework, and actions of duty bearers during the pandemic. The discussion of the soul highlighted the contemplative and calculative parts of the soul as the categorised rational part of the soul, with the former responsible for getting theoretical knowledge and the latter truths and knowledge about things. It thus becomes clear that duty bearers who pursued vaccine nationalism did not use their rational part of their souls in the execution of their duties to the best of their abilities. For instance, under the calculative part phronesis or practical wisdom helps one to guide their actions towards the noble and good and assists in making right judgements when faced with situations that require acting for the goodness of humankind. What this means is that faced by the action of whether to hoard vaccines or not, a duty bearer would have used their practical wisdom to make the right judgements, especially foreseeing the challenges that might arise from buying all the vaccines and leaving nothing for others in the global health system.

On the same view, vaccine nationalism thus presents as an action that was pursued without using one's phronesis on the grounds that, those who pursued it did so not for the noble nor the goodness of humanity. Even though there are arguments on national security, or crisis management, this study argues that phronesis would have given duty bearers the ability to see that global health pandemics know no boundaries – such that if one decided to hoard vaccines en masse on the grounds of shielding one's population alone, that same population will still be at risk from contacting other deadlier mutations of the virus from those who are not yet vaccinated. Furthermore, the discussion on virtues of good motives brought to attention

Zagzebski (1996)'s important discussion on intellectual virtues as traits that one can be blamed or praised for – on the understanding that these virtues requires one to have the right motives to perform the right acts. In all, if a duty bearer used their phronesis or their calculative part very well, vaccine nationalism would have been pursued as vaccine internationalism – which is a virtue more than it is a vice.

Using Aristotle (2014)'s virtue ethics helps global health decision makers understand that before embarking on a policy or action, one should be aware of what that action is intended to give, that is the telos of the action, the motives behind pursuing that same action.

This study's concept of agent-based virtue ethics becomes key in making claims on vaccine nationalism being a vice more than it can be regarded as a virtue. This study is of the view that, if any agent's action hindered other people to enjoy the same benefits that another group of people were benefiting or scheduled to benefit; then such actions are not virtuous at all, but rather are lacking virtues. Simply put, the agent's actions of agreeing to hoard vaccines from the world market screams of vices – cleverness, which is the agent's capabilities to follow the correct necessary steps towards achieving an end (Foot, 2002). The reason this study regards such an action a vice rests on the foundation that, Foot (2002) noted that the contrast of cleverness is wisdom; a virtue that is associated with good ends to human life. Thus, if the actions of taking up all the available vaccines were associated with protecting only a few human lives at the expense of the greater population; then such actions from this study's point of view are lacking wisdom. Wisdom would have entailed that the agents worked towards a solution that made it clear that each country in the global health system got a share and guaranteed access to vaccines before they were made, rather than guaranteeing access to vaccines to all countries after actions of vaccine nationalism had occurred.

5.3 Findings from supplementary review on moral dilemmas

The research findings on moral dilemmas showed that literature did attempt to consider the actions of vaccine nationalism as potential moral dilemma actions but did so using indirect means. What this means for this study is that, in as much as vaccine nationalism might be an action that is lacking virtue using the arguments in the discussions in 5.2, it still remains a moral dilemma that is typical of everyday life. In addition, literature on moral dilemmas further revealed three emerging themes presented that showed that majority of dilemmas explored were concerned with issues that had a direct effect on the individual more than it influenced the agent. Take for instance the dilemma from prioritisation that showed how it was difficult

for the physicians working on the frontline regarding whom to prioritise in the ICU, such that only those infected with the SARS-COV2 virus were either attended to first before those who might had underlying health conditions. The same could be said for resource allocation, or trust in leaders, lockdowns amongst other things. In as much as other dilemmas presented in the findings might have the involvement of the duty bearer, this study is of the view that they did not explicitly go into the actions of public duty bearers and place moral obligations to their actions in the hope of creating dilemma arguments on their actions. The absence of such a discussion in literature should ring a bell to the reader on why it is important to have a multi-dimensional view of looking at actions of duty bearers – especially in a pandemic. The important task to note here rests on the earlier argument raised by Stapleton et al. (2014), on why the global community should be concerned more to act upon the different global health goals, with this study arguing that such a commitment is achievable when there is the possibility of placing moral dilemma and virtue ethics arguments on the various actions of duty bearers.

5.4 Implications sought from the review.

At this point this study seeks to make several implications from the reviewed findings discussed in length in the preceding sections. The first implication regards strongly making a case over vaccine nationalism as a moral dilemma following what this study found in the review and what this study had operationalised in the conceptual framework. Using the arguments put forth by Tandon (2021) and Borowicz et al. (2022) support these claims through their operationalisation and conceptualisation of how vaccine nationalism is an ethical dilemma within the coronavirus pandemic. In addition, this study asserts that the results from these two studies support this study's implication that any duty bearer during the wave of vaccine nationalism was faced with the deliberative act of selfish national interests before considering others, such that purchasing vaccines meant purchasing vaccines for one's country and one's country alone. This means that, before any attempt to reflect on the above actions with virtue ethics, duty bearers across the global health divide were left with an arduous task of doing what they felt was the best of their citizens first before they think of what might be best for others in another dimension.

Furthermore, revisiting this study's concept of moral dilemmas discussed in length in section 2.4. gives an interesting view that corroborates to this study's attempt to put actions of vaccine nationalism as moral dilemmas. The arguments presented in the normative stance of moral dilemmas in section 2.4 gives the action of vaccine nationalism moral dilemma status. Tessman

(2017) provided a classification of moral conflicts whereby certain actions possess the same moral requirement to be done, but one cannot do both. The same analogy could be used to explain how vaccine nationalism and vaccine internationalism (introduced to this study in section 4.1.1) have the same moral requirements to be done, but cannot be done at the same time, leaving the duty bearer with the option of pursuing one action over the other. In this section, this study presented the following scenarios:

- i. Act A (vaccine nationalism): buy COVID-19 vaccines from the pharmaceutical market before they have been made but buy all the available vaccines for your country alone. There is a moral requirement to do A
- ii. Act B: buy COVID-19 vaccines from the market before or after they have been made, **but** buy what is enough for your country, or buy all and share with other low medium income countries that might not have access to such vaccines.

As presented above, the moral conflicts of selecting Act A over Act B, resonates with Schuklenk (2021)'s identified problem of competition between COVAX and the vaccine nationalists – where vaccine nationalists could not pursue the act of vaccine internationalism before their action of vaccine nationalism was fulfilled. The implication from this analogy rests on the understanding that duty bearers from HICs later pursued Act B – when they started to support the COVAX facility. To this study, this presents as a typical dilemma case, which is common in everyday life whereby one decides to do one action over the other, or either pursue the action they had morally forgone on the basis that it had lesser moral requirements to be done.

The second implication from this study regards considering vaccine nationalism as a vice when and if one follows the conceptual framework of this study. As discussed in section 2.3.1 and 2.3.2 virtue is seen as excellence of character that results in good choices or right actions, while vice is regarded as the opposite of the above. Revisiting the submissions by Curzer (2018), shows that wrong passions gives wrong reasons, that result in wrong choices. From the above, this study implies that the act of selfishly hoarding vaccines emanates from wrong passions – in this case selfish nationalistic goals, which have wrong reasons – ostensibly thinking that hoarding the vaccine will protect and shield one's country, resulting in wrong actions problems associated with the act of vaccine nationalism and vaccine nationalism itself. The above view thus rekindles the discussion in section 2.3.3 where this study presented Aristotle's vice on pleonexia – the insatiable greed to possess material goods, and from this study's view pleonexia

resonates well with the action of hoarding vaccines from the world market for a few selected countries alone. As implied earlier, everyday life is full of dilemmas and it is quite common for an action to fast become a vice, it is only by pursuing the right ends, or the right motives that an individual who is situated in a life full of dilemmas might deliberate well.

The third implication from the review concerns the notion of beneficence and justice introduced in section 2.2.2. and 2.2.3 of this study respectively – which when linked with the discussion in section 2.3.4, creates the impetus to advance that actions of vaccine nationalism are vicious in nature as to be illustrated. Section 2.2.2. presented chiefly on beneficence and emphasised on the importance of acting on the benefit for others using arguments by (Beauchamp and Childress, 2013). The pandemic presented a situation fertile for countries to possess the moral obligation to act for the benefit of others, in the sense that countries in the global health system were meant to devise plans that would see LMICs benefiting from accessing the vaccine at the same time as those nations that have the resources to purchase these vaccines. The implication drawn here builds on the understanding that the pandemic had the similar comparison to the drowning child analogy template by Singer (1972) presented in 2.2.2 which begs for us to prevent something bad from happening if it is in our power to do so. To this study, this means that countries that pursued vaccine nationalism were pass-byers who instead of doing something to prevent someone from drowning rather watched and later on made efforts to assist after the drowning person had already submerged or lost consciousness.

The discussion in 2.2.3 brought to the fore the understanding that global health is infused with greater health inequalities that have a rooting to the past injustices committed by HICs on LMICs. Thus, this study implies that a virtuous person would in their deliberation understand the past injustices that have been suffered by LMICs because of the actions of HICs – particularly with regards to biomedical justice; and in their deliberation make strides to avoid pursuing vaccine nationalism at the first go. The implication here rests on this study's understanding that when one deliberates well, they pursue the right actions that strive for the preservation of humanity more than the preservation of their own citizens – because this study's good global health vaccine internationalist understands that pandemic knows no boundaries. What would it benefit three hundred million people to be fully vaccinated 'alone' in the world versus more than 2 billion unvaccinated persons? This study however reminds the reader on the illustration raised by Curzer (2018) in section 2.3.2, where he gave the various state of characters, and the passions, reasons, and actions that each state of character leads to. Thus, the above question of protecting three hundred million out of more than 2 billion people might be

for instance incontinence, but this study holds that a virtuous person only has right passions, reasons, and actions – such that the incontinence action might present a worthwhile alternative, but it still does not have the right passions and reasons as highlighted before.

The fourth implication of this study rests on reminding the reader on the virtue of good ends and good motives discussed in length in section 2.3.5 and 2.3.6 of this study. The importance of going back to these sections rests on refreshing the reader's mind on why it is important to place moral dilemma or virtue ethics arguments on actions of vaccine nationalism. The VGE theorem by Battaly (2015) presented two prongs to look at virtuous actions, that is teleological action that focuses on the telos of an action and the non-teleological, that focuses on the effects of a pursued action. Again, the implication raised here concerns the fact that vaccine nationalism is an act that does not have a good telos or good effect – mostly because the above theorem argues that virtues are qualities that make a person perform their function well. When looking at the above statement a dilemma arises from the fact that one might say, the aspect of hoarding vaccines for one's country is performing their leadership duties well – buy as much vaccines as one might get in order to shield one's population until the pandemic ends. *Correct* as it might appear, this study reminds the reader that when looking at actions or performance of functions, the virtuous person will see to it that their functions do not harm other people when they are pursuing their actions for their own citizens. The reader should recall the illustration on telos presented in section 2.3.4, where the telos of eyes is to see, ears to hear, and so on; with the acceptance that our eyes might not see correctly, our ears might not hear correctly and so on. From the above illustration, the same can be implied on the actions or duties of agents in the sense that the telos sought in the coronavirus pandemic was one that navigated the course where an agent takes actions that will not harm or prevent other people from enjoying the same benefit being sought by the agent.

On the same note, the same can be said for virtue of good motives, in the sense that VGM theorem argues that duty bearers should possess good motives in the pursuit of any given action. The above claim again leads the reader to the depiction on state of character, on the basis that good motives resonate well with the section on the virtuous person who has the right passions, has the right reasons, which give the right actions. When these two are combined, they show that a virtuous person should think about the telos of their actions, and that their actions should only have good motives – with good motives focusing on the betterment of one's community and others. It thus gives the reader a picture that vaccine nationalism fails the telos, and the good motives test – making the action a vice since this study see no telos in

hoarding vaccines for a selected few and sees no good motives in protecting a few people in the world because of selfish reasons.

The final implication raised from the review regards the discussion on agent-based ethics in section 2.3.6 where this study presented that agent-based virtue ethics is largely concerned with looking at the actions of the agent based on their inner moral traits. This implies that, the inner moral traits of an agent make them pursue the correct deliberations, or simply put the inner motivations of the agent shapes the kind of action they will pursue. In section 2.3.6 Doviak (2011) illustrated the above by noting that the right action of an agent is a virtuous action – depending on the inner moral traits of the agent. The reader can see that the implication drawn above follows the basis that a virtuous action solely depends on what kind of inner traits the agent has, and this again rightfully leads to this study's reengagement with Curzer (2018)'s passions, reasons, and choices theorem. To this end, this study implies that an agent's pleonexia results in the pursuit of wrong actions, and thus falling far off from the virtuous act scale. On the same note, if agents had good inner moral traits of say for instance justice, where they will understand that buy hoarding all the vaccines, they might create more problems than they ought to solve.

Thus, in summation, this chapter presented a discussion of this study's review findings by actively engaging with the findings together with the conceptual framework of this study. In the process of engaging with the findings, this study revealed that vaccine nationalism has morality tensions whereby on one foot it fits the criteria for a moral dilemma, whilst on the other foot it is an action infused with viciously wrong actions that are morally incorrect as shown in the study's implications.

Chapter 6 Conclusion

This chapter provides the overall conclusions of this study by restating the research purpose of this study, and how I responded to this study's research question. I will also note this study's strengths and shortcomings and give the recommendations for further research.

6.1 Restating the research purpose

This review was driven by an inherent interest to understand the main themes in literature on vaccine nationalism in the corona virus pandemic and make philosophical arguments on whether the action is a moral dilemma or an action that lacks virtual disposition. In the hope of showing whether such actions are dilemmas or vices/virtues I carried out a scoping review on literature focusing largely on vaccine nationalism, and then reflect on the themes sought using reflective equilibrium to construct philosophical reasons/arguments on the action of vaccine nationalism. Before conducting the scoping review, I operationalised concepts of global health and tenets of principlism, virtue ethics, and moral dilemmas in chapter 2 of this study, as these concepts directed how I engaged with literature, and how I made my discussion and arguments in chapters 4 and 5.

After the conceptual framework, Chapter 3 comprised of the methodology of this study where I detailed a scoping review process which included a comprehensive screening of studies obtained from four databases namely Web of Science, Embase, PhilPapers, and Scopus. I will categorically state that the search might have missed some information that could not be found in the various databases searched, and that alone is one of the potential weaknesses of this study. However, being cognisant of the above point, the comprehensive search and screening employed in this study led this study to a variety of studies that discussed vaccine nationalism in depth – since the main aim was to see what kind of literature engagement was found within literature that discussed vaccine nationalism. The results of seventy-one included studies from vaccine nationalism and 30 from the supplementary search on moral dilemmas were discussed in length in chapter 4. The results from the review noted with concern that literature on vaccine nationalism in the pandemic did not explicitly make moral dilemma arguments on the actions of vaccine nationalism, nor did literature on moral dilemmas make arguments over the actions of vaccine nationalism. Instead, results showed that literature focused on explaining the problems associated with vaccine nationalism, and subtly discuss on the morality takes on vaccine nationalism, and or the arguments for a country to pursue vaccine nationalism. The same was noticed with literature on moral dilemmas, where not much was said on the actions

of vaccine nationalism but rather on the actions that were infused with dilemmas within the healthcare and other settings as discussed.

6.2 Strengths of the review

The strengths of the review regard the replicability of the search and the quality of the studies included in the review which focused entirely on vaccine nationalism alone. With the help of the University's librarians, I managed to conduct a comprehensive inclusion and exclusion criteria that narrowed the search to literature that discussed in particular aspects to do with vaccine nationalism alone. The included studies focused on actions of vaccine nationalism occurring in the corona virus pandemic, thus reducing any possible contamination from previous studies. Using peer reviewed journals gave the included studies a reliability stamp given that the information presented was obtained from sources that had been checked by academic experts. Chapter 3 detailed how I carried out this review, showing all the conducted steps undertaken in this study, thus making this study evidently transparent from the beginning to the end. From the results of the review, I was able to construct arguments on moral dilemmas and virtue ethics, something that would have been an arduous task had I not done a scoping review.

6.3 Limitations of this study and suggestions for future research

In liaison with the university librarians, I conducted a literature search in four electronic databases, meaning that there was a possibility that some grey literature – that is media, reports, theses, and other information could have been missed in the search. Some literature indexed in the various databases could not be accessed because the University Library had not subscribed to the publishing site. Due to time and resource constraints, I had to limit my studies to four databases only, thereby meaning that I could have left out some key literature indexed in other databases. The whole review process is time intensive and demanding, such that one does not know the correct amount of time needed to review all the studies required to fit a master's research study. Another limitation of this study pertains the absence of interviews or human interaction as a possible supplementary to the research findings, in the sense that explanations sought from interviews might give different meanings as the explanations derived from constructed systematic reasons.

From the findings, this study asserted that there still is a research gap in literature regarding using or discussing moral dilemmas on actions of agents with regards to the coronavirus pandemic, and there is an unexplored area of using virtue ethics on actions of vaccine

nationalism. It would be interesting to see how other conceptions of moral dilemmas such as standard deontic regards vaccine nationalism, and how virtue ethicists make arguments on individual actions in pandemic settings. This study suggests that by conducting this scoping review, there is a golden opportunity ahead to conduct a systematic review of reasons on moral dilemmas in the corona virus pandemic, or a systematic review of reasons on vaccine nationalism, so as to widen the area of knowledge on these subject matters.

From the findings of this scoping review, this study recommends that global health policies should follow virtuous deliberation, such that knowing and reflecting upon one's chosen actions will lead to policy actions that will work for the goodness of humanity than against it. This study recommends that when looking at morality issues especially in global health, there is no one size fits all solution or criteria to either constructing or executing policy, instead it is highly recommendable to follow an approach that includes several theories in the quest to produce a balanced health policy that incorporates all.

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Appendix I List of all the included studies for vaccine nationalism search by database

Included studies from searching in Embase

Author	Year	Title
1. P. C. Addo, N. B. Kulbo, K. A. Sagoe, A. A. Ohemeng and E. Amuzu	2021	Guarding against COVID-19 vaccine hesitance in Ghana: analytic view of personal health engagement and vaccine related attitude
2. L. N. Allen	2021	Are we complicit in vaccine nationalism?
3. J. Amankwah- Amoah	2022	COVID-19 and counterfeit vaccines: Global implications, new challenges and opportunities
4. O. E. Ariyo, E. K. Oladipo, O. G. Osasona, O. Obe and F. Olomjobi	2021	Covid-19 vaccines and vaccination: How prepared is Africa?
5. R. A. Atinga, A. Koduah and G. A. Abiuro	2022	Understanding the policy dynamics of COVID-19 vaccination in Ghana through the lens of a policy analytical framework
6. P. Badrinath	2021	Money, market, media, and vaccine nationalism in the pandemic era
7. J. Barcelo, G. C. H. Sheen, H. H. Tung and W. C. Wu	2022	Vaccine nationalism among the public: A cross-country experimental evidence of own-country bias towards COVID-19 vaccination
8. P. Basak, T. Abir, A. Al Mamun, N. R.	2022	Global Perspective of COVID-19 Vaccine Nationalism

Zainol, M. Khanam, R. Haque Md, A. H. Milton and K. E. Agho		
9. A. Binagwaho, K. Mathewos and S. Davis	2022	Equitable and Effective Distribution of the COVID-19 Vaccines - A Scientific and Moral Obligation
10. M. Bolcato, D. Rodriguez, A. Feola, G. Di Mizio, A. Bonsignore, R. Ciliberti, C. Tettamanti, M. T. Aurilio and A. Aprile	2021	Covid-19 pandemic and equal access to vaccines
11. D. C. Carneiro, J. D. Sousa and J. P. Monteiro- Cunha	2021	The COVID-19 Vaccine Development: A Pandemic Paradigm
12. Y. Duan, J. Shi, Z. Wang, S. Zhou, Y. Jin and Z. J. Zheng	2021	Disparities in covid-19 vaccination among low-, middle-, and high-income countries: The mediating role of vaccination policy
13. L. Eaton	2021	Covid-19: WHO warns against "vaccine nationalism" or face further virus mutations
14. M. Eccleston- Turner and H. Upton	2021	International Collaboration to Ensure Equitable Access to Vaccines for COVID-19: The ACT-Accelerator and the COVAX Facility
15. I. O. Idris, G. O. Ayeni and Y. A. Adebisi	2022	Why many African countries may not achieve the 2022 COVID-19 vaccination coverage target

16. N. S. Jecker and Z. Lederman	2021	Three for me and none for you? An ethical argument for delaying COVID-19 boosters
17. P. Jha, D. T. Jamison, D. A. Watkins and J. Bell	2021	A global compact to counter vaccine nationalism
18. Z. Lederman, G. Majadli and S. Lederman	2022	Responsibility and vaccine nationalism in the Israeli-Palestinian conflict
19. I. Lee and E. Tipoe	2022	Global COVID-19 vaccine inequity: Preferences for overseas vaccine donations over booster shots
20. A. McMahon	2020	Global equitable access to vaccines, medicines and diagnostics for COVID-19: The role of patents as private governance
21. L. N. H. Md Khairi, M. L. Fahrni and A. I. Lazzarino	2022	The Race for Global Equitable Access to COVID-19 Vaccines
22. K. Moodley, M. Blockman, D. Pienaar, A. J. Hawkridge, J. Meintjes, M. A. Davies and L. London	2021	Hard choices: Ethical challenges in phase 1 of COVID-19 vaccine roll-out in South Africa
23. A. Muralidharan, G. O. Schaefer, T. Johnson and J. Savulescu	2022	Funder priority for vaccines: Implications of a weak Lockean claim
24. A. A. Parray, U. N. Yadav, A. Das, A. R.	2022	Ensuring the global COVID-19 vaccine equity: Universal vaccine access strategy in the context of low and-middle-income countries

M. M. Ali, S. Mollick, S. Saha and S. K. Mistry		
25. S. J. Peacock	2022	Vaccine nationalism will persist: global public goods need effective engagement of global citizens
26. M. M. Sabahelzain, K. Hartigan-Go and H. J. Larson	2021	The politics of Covid-19 vaccine confidence
27. U. Schuklenk	2021	Vaccine nationalism - at this point in the COVID-19 pandemic: Unjustifiable
28. F. Venter	2021	Fear and COVID-19: Experiences on the ground
29. C. E. Wagner, C. M. Saad-Roy, S. E. Morris, R. E. Baker, M. J. Mina, J. Farrar, E. C. Holmes, O. G. Pybus, A. L. Graham, E. J. Emanuel, S. A. Levin, C. E. J. Metcalf and B. T. Grenfell	2021	Vaccine nationalism and the dynamics and control of SARS-CoV-2

Included studies from searching in SCOPUS.

Authors	Year	Title
1. Ahen F.	2022	Community-Level Health Interventions are Crucial in the Post-COVID-19 Era: Lessons from Africa's Proactive Public Health Policy Interventions
2. Boschiero N.	2022	COVID-19 Vaccines as Global Common Goods: An Integrated Approach of Ethical, Economic Policy and Intellectual Property Management
3. Murhula P.B.B., Singh S.B.	2022	The Impact of COVID-19 Vaccine Nationalism on Global Health and Human Rights to Health Standards
4. Kirgizov-Barskii A.V., Morozov V.M.	2022	Vaccine Diplomacy and Vaccine Nationalism
5. Fallah M.P., Ali S.H.	2022	Alternatives: When maximizing profit endangers our humanity: vaccines and the enduring legacy of colonialism during the COVID-19 pandemic
6. Collste G.	2022	'Where you live should not determine whether you live'. Global justice and the distribution of COVID-19 vaccines
7. Ashindorbe K., Olaiifa T., Udegbunam K.C.	2022	Vaccine nationalism and the quest for indigenous COVID-19 vaccine in Nigeria
8. Velásquez G.	2022	Rethinking Global and Local Manufacturing of Medical Products After COVID-19
9. Velásquez G.	2022	COVID-19 Vaccines: Between Ethics, Health and Economics

10. Mittelman J.H.	2022	Global transitioning: beyond the Covid-19 pandemic
11. Riaz M.M.A., Ahmad U., Mohan A., dos Santos Costa A.C., Khan H., Babar M.S., Hasan M.M., Essar M.Y., Zil- E-Ali A.	2021	Global impact of vaccine nationalism during COVID-19 pandemic
12. Moreno J.D., Sándor J., Schmidt U.	2021	The Vaccination Cold War
13. Vanhuysse P., Jankowski M., Tepe M.	2021	Vaccine alliance building blocks: a conjoint experiment on popular support for international COVID-19 cooperation formats

14. Beaton E., Gadomski M., Manson D., Tan K.-C.	2021	Crisis Nationalism: To What Degree Is National Partiality Justifiable during a Global Pandemic?
15. Kumar P., Sah A.K., Tripathi G., Kashyap A., Tripathi A., Rao R., Mishra P.C., Mallick K., Husain A., Kashyap M.K.	2021	Role of ACE2 receptor and the landscape of treatment options from convalescent plasma therapy to the drug repurposing in COVID-19
16. Ukaogo V.O., Orabueze F.O., Ojukwu C.K.	2021	Tertiary Teachers Strike (TTS) and e-Learning Deficit amidst Covid-19 Crisis in Nigeria
17. Borowy I.	2021	Perspectives on COVID-19 vaccine: The incredible success versus the incredible failure
18. Evenett S.J.	2021	Export controls on covid-19 vaccines: Has the eu opened pandora's box?

19. Wong W.K.O.	2021	Sino-Western rivalry in the COVID-19 “vaccine wars”—A race to the bottom?
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Included studies from searching in Web of Science

Author	Year	Title
1. Buffel O. A.	2021	The Bible of the poor in the context of poverty, COVID-19 and vaccine nationalism: Hermeneutics of liberation from the perspective of the poor. <i>Hts Teologiese Studies-Theological Studies</i> 77(1).
2. Chatterjee N., Mahmood Z. and Marcussen E.	2021	Politics of Vaccine Nationalism in India: Global and Domestic Implications. <i>Forum for Development Studies</i> 48(2): 357-369.
3. Corcoran K. E., Scheitle C. P. and DiGregorio B. D.	2021	Christian nationalism and COVID-19 vaccine hesitancy and uptake. <i>Vaccine</i> 39(45): 6614-6621.
4. Emanuel E. J., Buchanan A., Chan S. Y., et al.	2021	On the Ethics of Vaccine Nationalism: The Case for the Fair Priority for Residents Framework. <i>Ethics & International Affairs</i> 35(4): 543-562.
5. Gollier C.	2021	The Welfare Cost of Vaccine Misallocation, Delays and Nationalism. <i>Journal of Benefit-Cost Analysis</i> 12(2): 199-226.

6. Gruszczynski L. and Wu C. H.	2021	Between the High Ideals and Reality: Managing COVID-19 Vaccine Nationalism. <i>European Journal of Risk Regulation</i> 12(3): 711-719.
7. Heyets V., Lunina I. and Stepanova O.	2021	THE FORMATION OF FISCAL SPACE WHILE OVERCOMING VACCINE NATIONALISM AND ENSURING SUSTAINABILITY OF DEVELOPMENT. <i>Science and Innovation</i> 17(1): 29-41.
8. Kharkevich M. V. and Zinovieva E. S.	2022	"VACCINE NATIONALISM" AS A GREAT POWER COMPETITION: ANALYSIS FROM THE STANDPOINT OF THE SECURITIZATION THEORY. <i>Volgogradskii Gosudarstvennyi Universitet-Vestnik-Seriya 4-Istoriya Regionovedenie Mezhdunarodnye Otnosheniya</i> 27(2): 137-150.
9. Lagman J. D. N.	2021	Vaccine nationalism: a predicament in ending the COVID-19 pandemic. <i>Journal of Public Health</i> 43(2): E375-E376.
10. Nhamo G., Chikodzi D., Kunene H. P., et al.	2021	COVID-19 vaccines and treatments nationalism: Challenges for low-income countries and the attainment of the SDGs. <i>Global Public Health</i> 16(3): 319-339.

11. Qobo M., Soko M. and Setlhalogile M.	2022	The Political Economy of Global Vaccine Nationalism: Towards Building Agency for Africa's Drug Manufacturing Capacity. <i>African Security</i> 15(1): 4-25.
12. Rahman M., Hossain A., Abu S., et al.	2021	COVID-19 vaccine demand, hesitancy, and nationalism: a case of protection motivation behavior in Bangladesh. <i>Journal of Infection in Developing Countries</i> 15(10): 1388-1395.
13. Riaz M. M. A., Ahmad U., Mohan A., et al.	2021	Global impact of vaccine nationalism during COVID-19 pandemic. <i>Tropical Medicine and Health</i> 49(1).
14. Vanderslott S., Emary K., Naude R. T., et al.	2021	Vaccine nationalism and internationalism: perspectives of COVID-19 vaccine trial participants in the United Kingdom. <i>BMJ Global Health</i> 6(10).
15. Wagner C. E., Saad-Roy C. M., Morris S. E., et al.	2021	Vaccine nationalism and the dynamics and control of SARS-CoV-2. <i>Science</i> 373(6562): 1488-+.
16. Zhou Y. R.	2022	Vaccine nationalism: contested relationships between COVID-19 and globalization. <i>Globalizations</i> 19(3): 450-465.

Included studies from searching in PhilPapers

Author	Year	Title
1. Ferguson K. and Caplan A.	2021	Love thy neighbour? Allocating vaccines in a world of competing obligations. <i>Journal of Medical Ethics</i> 47(12): 20-20.
2. Ferguson K. and Caplan A.	2021	Phantom premise and a shape-shifting ism: reply to Hassoun. <i>Journal of Medical Ethics</i> 47(11).
3. Hassoun N.	2021	Against vaccine nationalism. <i>Journal of Medical Ethics</i> 47(11): 773-774.
4. Højme P.	2021	Biopolitics and the COVID-19 Pandemic: A Foucauldian Interpretation of the Danish Government's Response to the Pandemic. <i>Philosophies</i> 7(2): 34.

Appendix II List of the included sources for the supplementary search on moral dilemmas

Author	Year	Title
1. Adebamowo C., Bah-Sow O., Binka F., et al.	2014	Randomised controlled trials for Ebola: practical and ethical issues
2. Archard D. and Caplan A.	2020	Is it wrong to prioritise younger patients with covid-19?
3. Asken M.	2020	Now it is moral injury: the COVID-19 pandemic and moral distress
4. Blackburn S.	2016	<i>The Oxford dictionary of philosophy</i>
5. Calia C., Reid C., Guerra C., et al.	2021	Ethical challenges in the COVID-19 research context: a toolkit for supporting analysis and resolution
6. Cardozo T. and Veazey R	2021	Informed consent disclosure to vaccine trial subjects of risk of COVID-19 vaccines worsening clinical disease.
7. CIOMS C. f. I. O. o. M. S.	2002	International ethical guidelines for biomedical research involving human subjects.
8. Editorial	2021	It's time to consider a patent reprieve for COVID vaccines.
9. Eva-Maria E., Sam J., Patricia J., et al.	2020	Africa's lockdown dilemma
10. Everett J. A. C., Colombatto C., Awad E., et al.	2021	Moral dilemmas and trust in leaders during a global health crisis.
11. Farrell C. M. and Hayward B. J.	2021	Ethical Dilemmas, Moral Distress, and the Risk of Moral Injury: Experiences of Residents and Fellows During the COVID-19 Pandemic in the United States.
12. Gilbert M., Pullano G., Pinotti F., et al	2020	Preparedness and vulnerability of African countries against importations of COVID-19: a modelling study
13. Hall M. A. and Studdert D. M.	2021	“Vaccine Passport” Certification — Policy and Ethical Considerations.
14. Ishmaev G., Dennis M. and van den	2021	Ethics in the COVID-19 pandemic: myths,

Hoven M. J.		false dilemmas, and moral overload
15. Kassa M. D. and Grace J. M.	2020	Race against death or starvation? COVID-19 and its impact on African populations
16. Killingley B., Mann A. J., Kalinova M., et al	2022	Safety, tolerability and viral kinetics during SARS-CoV-2 human challenge in young adults
17. Kirkpatrick J. N., Hull S. C., Fedson S., et al	2020). Scarce-Resource Allocation and Patient Triage During the COVID-19 Pandemic: JACC Review Topic of the Week
18. Maxmen A.	2021	The fight to manufacture COVID vaccines in lower-income countries
19. McPartlin S. O., Morrison J., Rohrig A., et al	2020	Covid-19 vaccines: Should we allow human challenge studies to infect healthy volunteers with SARS-CoV-2?
20. Monrad J. T.	2020	Ethical considerations for epidemic vaccine trials
21. NCT04865237 C. g. i.	2021	ClinicalTrials.gov identifier NCT04865237. In: Chiu C. (ed).
22. Regjeringen	2020	<i>Timeline: News from Norwegian Ministries about the Coronavirus disease Covid-19.</i>
23. Renzaho A. M. N	2020	The Need for the Right Socio-Economic and Cultural Fit in the COVID-19 Response in Sub-Saharan Africa: Examining Demographic, Economic Political, Health, and Socio-Cultural Differentials in COVID-19 Morbidity and Mortality
24. Roy M., Hansen P., Sullivan T., et al.	2021	Rapid Development of a Tool for Prioritizing Patients with Coronavirus Disease 2019 for Intensive Care
25. Shale S	2020	Moral injury and the COVID-19 pandemic: reframing what it is, who it affects and how care leaders can manage it.
26. Sherwood H.	2020	UK councils begin to ban funeral ceremonies due to coronavirus.
27. Sleat D., Innes K. and Parker I.	2021	Are vaccine passports and covid passes a valid

		alternative to lockdown?
28. Sulmasy D. P.	2021	Are SARS-CoV-2 Human Challenge Trials Ethical?
29. Taylor A.	2021	New U.S. travel rules close door on those fully vaccinated with Russia's Sputnik V
30. Udow-Phillips M. and Lantz P. M.	2020	Trust in Public Health Is Essential Amid the COVID-19 Pandemic

Appendix III REC and NSD clearance

UiO : **Faculty of Medicine**
University of Oslo

Rushwaya Thembinkosi

Date: 01 May, 2022

Statement from the Program Ethical Committee

The Program Ethical Committee have processed your application, number 20718998, about your project “ *The morality tensions caused by vaccine nationalism in the corona virus pandemic: results from a scoping review*”

The committee believe your project does not fall under the Norwegian Health Research Law (helseforskningsloven and forskningsetikkloven) nor the Personal Data Law (personopplysningsloven). Therefore, you do not need to apply to the Regional Committees for Medical and Health Research Ethic (REC) nor to Norwegian Centre for Research Data (NSD) for approval.

Supervisors for **Rushwaya Thembinkosi**’s master project are:

- **Rosemarie de la cruz Bernabe**-at the Institute of Health and Society, UiO

Sincerely yours



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