GLOBAL HEALTH AND LOCAL REALITIES: A CASE STUDY OF COVID-19 IN MALAWI AND THE ROLE OF PLACE-BASED KNOWLEDGE SYSTEMS

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SANTÉ MONDIALE ET RÉALITÉS LOCALES : UNE ÉTUDE DE CAS DE LA COVID-19 AU MALAWI ET LE RÔLE DES SYSTÈMES DE CONNAISSANCE LOCAUX

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Abstract

As a novel virus, there are still many unknowns surrounding the Coronavirus 2019 disease (COVID-19). The research currently being disseminated largely stems from European, North American, and East Asian sources, and is biomedical in focus. This study is an attempt to take the understanding of COVID-19 out of the current epistemic confines of Eurocentric biomedicine and place it in a health-geographic context where place-based interrogation supplements existing knowledge gaps and recontextualises the disease from African and Black perspectives, offering a different way of knowing that is not often heard from in international conversations on public health.

With the COVID-19 pandemic in Malawi as a case study, this research uses a modified Black geographies framework to (1) Examine the socio-spatial drivers of COVID-19; (2) Inquire into the politicisation of and social meanings accorded to COVID-19 and associated mitigation measures; (3) Determine how past and present epidemics and experiences with communicable diseases mediated the COVID-19 experience; and, (4) Analyse the roles of space and place in determining the individuals' ability to navigate and respond to the COVID-19 pandemic.

A hermeneutic phenomenological approach to qualitative methodology was used to achieve the research objectives. The data collection process was divided into two phases as a means of taking into consideration the mutable travel guidelines of the COVID-19 pandemic. Phase 1 took place with the lead researcher at distance between September and December 2021 with a total of forty-one in-depth semi-structured key informant interviews. Phase 2 took place with the lead researcher on the ground in Malawi in June 2022 with a total of three in-depth unstructured key informant interviews. Key informants came from a wide array of professional backgrounds including religious leaders, university professors, students, healthcare workers, traditional healers, fishermen, market sellers, and farmers.

The findings of this dissertation expand the use of the Black geographies framework to a positivist field of study and broaden the scope of understanding of the causal dynamics of COVID-19 and

its effects by examining how place and place environments in Sub-Saharan Africa bear on the spread and impacts of the pandemic. Some of the more substantive findings include a look at some of the public health communications and narratives that were successful in raising awareness in Malawi and combating misinformation; grassroots organising and actions that built resilience in communities in absence of formal leadership; the importance of historical events in understanding placemaking and its implications on reactions to and perceptions of illness and disease; and, the implications of global power dynamics and politics in high-income nations on the everyday lives of people in a small sub-Saharan African country. Rooted in themes of repositioning Black concerns, challenging global narratives, and valuing Black knowledge, the study utilises ways-of-knowing like co-becoming to dissect the interconnections among disease, health, and environment. Findings shift the focus from barriers and "saving" Africa to highlighting Black knowledge in responding to the pandemic and underlining the significance of Black perspectives in public health conversations.

Using Malawi as a case study, this research reveals the importance of taking a place-based approach to handling new diseases, managing the consequences of a pandemic, and elevating multiple voices and knowledge systems to participate in global discussions and shared learning. By exploring the impact that place has on the dynamics of disease spread in Malawi, this study democratises knowledge and challenges "western" paradigms that often devalue African and Black proficiencies, philosophies and ways of being. The findings of this dissertation hold promise for informing policy and responses to new disease outbreaks, facilitating a nuanced approach sensitive to cultural contexts and encouraging recalibrated responses to existing endemic and epidemic diseases, particularly in sub-Saharan African countries.

Résumé

Il y a encore de nombreuses inconnues en matière de la nouvelle maladie à coronavirus 2019 (COVID-19). La recherche actuellement diffusée proviennent en grande partie de sources européennes, nord-américaines et est-asiatiques, avec un focus sur la biomédecine. La présente thèse vise à sortir l'étude de la COVID-19 hors des limites épistémiques actuelles de la biomédecine eurocentrique et de la placer dans un contexte de géographie médicale où l'interrogation géoréférencée et territoriale remplit les lacunes créées par l'accent biomédical et recontextualise la maladie d'un point de vue africain et noir, offrant une manière différente de savoir qui n'est pas souvent explorée dans les conversations internationales sur la santé publique.

En prenant la pandémie de la COVID-19 au Malawi comme étude de cas, cette recherche utilise un cadre théorique modifié de géographies noires pour (1) examiner les moteurs socio-spatiaux de la COVID-19 ; (2) enquêter sur les significations sociales et la politisation accordées à la COVID-19 et aux mesures d'atténuation associées ; (3) voir les façons dont les épidémies passées et actuelles, ainsi que les expériences vécues avec les maladies transmissibles, ont affecté la manière dont les gens ont vécu la pandémie de la COVID-19 ; et (4) analyser les influences des concepts d'espace physique et d'espace conceptuel dans la capacité des individus à réagir et à répondre à la pandémie de la COVID-19.

Le processus de collecte des données a été divisé en deux phases afin de tenir compte de la mutabilité des directives de voyage pour la pandémie de la COVID-19. La première phase s'est déroulée avec le chercheur principal à distance entre septembre et décembre 2021 avec un total de quarante-et-un entretiens semi-structurés avec des informateur.rice.s clés. La deuxième phase s'est déroulée avec le chercheur principal au Malawi en juin 2022 avec un total de trois entretiens non structurés avec des informateur.rice.s clés. Les informateur.rice.s clés consulté.e.s provenaient d'une diversité de milieux professionnels.

Les résultats de cette recherche élargissent le champ de compréhension de la dynamique causale de la COVID-19 et de ses effets en examinant les façons dont les espaces conceptuels et les environnements en Afrique subsaharienne influent sur la propagation et les impacts de la pandémie. Parmi les résultats significatifs, l'on cite : l'efficacité des campagnes de communication en santé publique qui ont permis de sensibiliser la population malawite et de contrer la désinformation ; l'autonomisation des communautés qui a renforcé leur résilience, même en l'absence de leadership formel ; la compréhension de l'impact des événements historiques sur la perception de l'espace conceptuel et ses implications pour la réaction face aux maladies ; et les conséquences des dynamiques de pouvoir mondial et des politiques des pays à haut revenu sur la vie quotidienne des habitant.e.s d'un petit pays en Afrique subsaharienne. Ancrée dans les thèmes de priorisation des préoccupations des personnes noires, de contestation des récits globaux et de valorisation du savoir des personnes noires, cette étude utilise des méthodes de compréhension telles que *co-devenir* pour analyser les liens entre les maladies, la santé et l'environnement. Les résultats recentrent les discussions autour de la COVID-19 en passant des obstacles et du concept de « sauvetage » de l'Afrique à la mise en avant des connaissances des personnes africaines et noires dans la réponse à la pandémie, mettant ainsi en avant l'importance des perspectives noires dans les discussions sur la santé publique.

En examinant le cas du Malawi, cette recherche offre un usage plus dynamique du cadre théorique de géographies noires et révèle l'importance d'adopter une approche locale pour traiter les nouvelles maladies, gérer les conséquences d'une pandémie et permettre à de multiples voix et systèmes de connaissances de participer aux discussions mondiales et à l'apprentissage partagé. À travers la reconnaissance des impacts du concept d'espace conceptuel sur la dynamique de la propagation des maladies au Malawi, cette étude démocratise la connaissance et remet en question les paradigmes « occidentaux » qui dévalorisent souvent les compétences, les philosophies et les façons d'être africaines et noires. Les découvertes de cette thèse encouragent une approche nuancée prenant en compte les réalités culturelles et incitant à des réponses adaptées aux maladies endémiques et épidémiques existantes, notamment dans les pays d'Afrique subsaharienne.

Dédicaces

Je dédie la présente thèse à mon directeur de recherche, le docteur Éric Crighton, pour qui je suis son premier et son dernier doctorant. Je ne prends pas cet honneur à la légère.

Je dédie la présente thèse à toutes les personnes issues de la marginalisation qui ont franchi les portes des espaces universitaires, des espaces qui n'étaient pas (et qui ne sont pas) conçus pour elles, qui, malgré les défis, les barrières, les microagressions, l'ignorance et la discrimination, ont persisté jusqu'au but. Je vous voie. *I see you*.

Reconnaissance

Je me souviens encore de la première fois où j'ai pris la décision de poursuivre un doctorat. C'était après ma première année de maîtrise à l'École de Santé publique de l'Université de Montréal. J'ai tellement apprécié l'institution, l'apprentissage et la recherche que je me suis dit que c'est ça ma voie, que c'est ça mon parcours professionnel. Lors de ma quête pour trouver un.e directeur.rice de thèse, j'ai eu le plaisir de rencontrer le Dr Éric Crighton, avec qui le courant est passé immédiatement. Nous avons discuté de nos voyages, de sa manière de soutenir ses étudiants, de mes besoins et de nombreux autres sujets. J'étais vraiment enthousiaste. Cependant, après avoir commencé, j'ai fait face à une révélation brutale : je suis noir.

Lors de mon premier cours à l'Université d'Ottawa, au cours de ma première session, une étudiante blanche a utilisé le mot en « n » lors d'une leçon sur la géographie de la race. La professeure blanche n'a rien dit. Au cours de ma deuxième session, deux incidents ont été signalés concernant le harcèlement des étudiant.e.s noir.e.s par la sécurité du campus. C'était accablant. Lors d'une session ultérieure, une autre professeure a utilisé le même mot en « n » et a été licenciée. Par la suite, l'ensemble du média québécois est venu à son secours avec une fiévre désesérée de lutter pour le droit de cette femme blanche à utiliser un mot pour laquelle elle ne comprenait pas les implications. Et plusieurs professeur.e.s à mon université ont écrit une lettre pour soutenir cette liberté académique. Finalement, la réponse décevante de mon université face au mouvement Black Lives Matter en 2020. Au-delà de ces actes d'agression anti-noire, je me souviens également de cas moins évidents, comme les questions de mes professeurs sur mon origine (« D'où viens-tu ? », « Calgary », « Non, d'où viens-tu vraiment? »), les petits commentaires sur ma vie, mes valeurs et ma personnalité. J'ai perdu le compte du nombre de fois où j'ai envisagé d'abandonner mes études, principalement pour ne pas avoir le nom de cette université écrite sur mon CV en permanence.

J'ai d'autres histoires, mais avant de m'égarer, je veux revenir à l'objectif de cette section : la reconnaissance. Je fournis ce contexte pour expliquer pourquoi la première personne que je veux reconnaître, c'est moi-même. J'ai survécu. J'ai été victime de nombreuses formes de violence d'un système brisé (ou d'un système fonctionnant comme il est conçu...), une violence mentale, émotionnelle et spirituelle qui a parfois eu des répercussions sur mon corps. Cependant, je suis là, avec une thèse complète. Une thèse que j'ai réalisée moi-même, que j'ai portée jusqu'à la ligne d'arrivée. Moi-même.

Cela étant dit, je suis extrêmement reconnaissant d'avoir rencontré la Dre Renate Sander-Regier lors de ma première semaine à l'Université d'Ottawa. Elle a été une mentor pour moi. Sa façon d'enseigner, d'innover ses cours, l'empathie qu'elle montrait envers ses étudiant.e.s... j'ai beaucoup appris d'elle, et je suis un meilleur enseignant et formateur grâce à elle. En plus d'avoir travaillé avec elle pendant plusieurs années en tant que son auxiliaire d'enseignement, elle m'a toujours offert une oreille attentive où je pouvais exprimer mes préoccupations, recevoir la validation de mes expériences et écouter ses conseils, ses mots réconfortants et son soutien. Je tiens à reconnaître le travail émotionnel et affectif qu'elle a accompli pour moi. Merci infiniment. *Herzlichen Dank für deine Unterstützung! Ich bin Ihnen sehr dankbar.*

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En parlant de ma recherche, je tiens à remercier toute l'équipe de Soils, Food and Healthy Communities (SFHC), en particulier la cheffe Esther Lupafya, pour leur soutien, leur travail et leurs actions. Je n'aurais jamais pu réaliser cette thèse à ce niveau de qualité et de profondeur sans vous. Un grand merci surtout à Gladson Chirwa, David Banda, Lizzie Shumba et Laifolo Dakishoni. Merci d'avoir réalisé les entrevues de la Phase 1, vous êtes extraordinaires ! Un grand merci à toutes les informatrices clés et tous les informateurs clés d'avoir accepté l'invitation de faire partie de ce projet, d'avoir partagé leurs pensées, leurs réflexions et leurs observations avec moi. Surtout, merci d'avoir partagé vos connaissances et vos vécus. Je ne peux jamais vous remercier assez. *Zikomo kwambiri*.

La direction de ma thèse a été complexe, mais je tiens à exprimer ma reconnaissance envers les trois professeur.e.s qui ont été impliqué.e.s : le Dr Éric Crighton, le Dr Paul Mkandawire et la Dre Sonia Wesche. Éric était présent dès le début, offrant tout ce dont j'avais besoin d'un superviseur. Paul a fourni des contacts, des conseils et des rétroactions tout au long du processus, tandis que Sonia est intervenue pour prendre le relais lorsque Éric devait s'absenter. Je tiens également à reconnaître les membres de mon jury de thèse, actuels et passés : la Dre Louise Bouchard, qui m'a enseigné la sociologie de la santé et m'a fait découvrir l'histoire grecque de Panacée et Hygié, une référence constante pour moi (passée); le Dr Huhua Cao, qui a accepté de faire partie de mon jury, comblant ainsi une exigence non-écrite du département (passé); la Dre Josephine Etowa pour avoir accepté mon invitation (passée); le Dr Marc Saner, toujours présent pour me soutenir, que ce soit pour mon examen de synthèse ou mon jury de thèse (actuel); la Dre Evelyn Mayanja pour ses perspectives (actuel.le); le Dr Michael Orsini, pour son engagement rapide, ouvert et enthousiaste envers ma thèse (actuel); et en tant qu'examinateur externe, le Dr Elijah Bisung - je me sens honoré de pouvoir accueillir un expert renommé dans le domaine de la géographie médicale et de la santé, auquel je tiens en haute estime, lors de ma soutenance de thèse. Merci infiniment !

Finalement, je veux exprimer ma reconnaissance envers tout mon village. Ma thérapeute, Anya; mes coiffeurs, Ladda, Mitch, Farhaan et Jaylen; mes techniciennes des ongles, Ailee, Alex, Fifi et Yaya; mes collègues, Rahima, Gina, Amanda, Beatrice, Susanna, Christina; mes ami.e.s, Joel, Muhammad, Patricia, Jay, Curtis, Brett, Camille, Steph, Jackie, Ryan, Pierre-Antoine, Raphaël, Travis, Caroline, Braden, Julie, Betty, Ro (parmi d’autres); la grande famille: Sister Itoro, Odera, Auntie Amaka, Doreen, Somto, tou.te.s mes cousin.e.s, tous mes oncles et toutes mes tantes. Chacun.e de vous a été une source de lumière lorsque je me suis trouvé dans l'obscurité. *Merci, Marsi tchógh, Thank you, Daalụ,* 谢谢, ありがとう, *maarsi,* تشكر, *Nt'oyaxsn.*

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ATM	African Traditional Medicine
CDC	United States Centre for Disease Control
CEPI	Coalition for Epidemic Preparedness Innovations
COVAX	COVID-19 Vaccine Global Access
COVID-19	Coronavirus 2019 disease
CTM	Chinese Traditional Medicine
DALYs	Disability-adjusted life years
GCTM	World Health Organisation Global Centre for Traditional Medicine
GDP	Gross Domestic Product
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
ITM	Indian Traditional Medicine
MERS	Middle East respiratory syndrome
MERS-CoV	Middle East Respiratory Syndrome Coronavirus
RNA	Ribonucleic acid

SARS	Severe Acute Respiratory Syndrome
SARS-CoV	Severe Acute Respiratory Syndrome Coronavirus
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
SFHC	Soils, Food, Healthy Communities
WHO	World Health Organisation

Reflexivity Statement

As is common with many marginalised peoples in what is currently Canada, academia can often be used as a vehicle to better understand the realities that we navigate on a daily basis and provide an avenue to collect knowledge with the goal of collective liberation. I am colloquially defining collective liberation as *freedom* from the implications of what it means to hold complex and intersectional identities in a country that, despite holding an image of multiculturalism and diversity, can often be stifling, limiting and even heavy. I am no exception to this trend.

Something that has captured my curiosity throughout my career in environmentalism is the importance of space and place when accessing good health. In 2012, the Canadian Parks Council released a report that identified time spent in nature as being a key priority for Canadians in improving public health outcomes [1]. Their report discussed the various benefits of being in nature, encompassing not just the positive impacts on physical health but also the mental, social, emotional, and even spiritual well-being [1]; however, a separate report by Park People in 2021 identified that people of colour, especially Black peoples, in Canada often face significant barriers to accessing outdoor spaces and reaping the aforementioned benefits that nature provides [2]. These health disparities were further compounded and highlighted during the COVID-19 pandemic. Surveys showed that Black populations in Canada experienced higher incidence and mortality rates from COVID-19 compared to the rates observed in the general population [2]. During the pandemic, I was following recommended COVID-19 practices (isolation, social distancing, wearing a mask, keeping to the house) in the province of Québec, where I was domiciled at the time. I remember turning on the news one day and seeing a news story that shook me to my core.

One of my Canadian heroes, and someone who inspired me to look into the crossroads of public health and the environment, is Dr. Joanne Liu. Although she was born and raised in Québec, she made a name for herself internationally as the previous president of Médecins sans frontiers (MSF). She led the

organisation during the 2014-2015 Ebola crisis that took central and western Africa by a chokehold [3,4]. Through incredible advocacy work, innovative public policy design and collaborative co-creation, she was able to act quickly, build trust with rural African communities and create systems that limited the spread of Ebola and drastically reduced the death count [5,6]. During the COVID-19 pandemic, she too was quarantining in Québec. As the province went into lockdown, she offered her knowledge and expertise to the government of Québec who very quickly and publicly brushed her off, citing that her experience in Africa was not pertinent to the province of Québec. In fact, the exact response from the government was "On lui a offert d'aller dans le Grand Nord [parce que] son expérience en Afrique coïncidait plus avec les réalités autochtones" [7,8].

I still remember the outrage I felt when I first saw that news story. Why was the knowledge built in a Black place being dismissed so casually? Why was the knowledge collected through Black bodies deemed not pertinent to the province of Québec, despite its significant Black population [9]? These questions gave birth to the central question that became this thesis: **In responding to global public health crises, can we learn from Black peoples, Black knowledge systems and Black places?**

While this story is specific to the province of Québec, it exhibits a discernible universality. There is a widespread ongoing trend where knowledge produced in, or stemming from, Africa is disregarded by the global community and seen as otherworldly or not applicable in "western" spaces [10–12]. We see this distrust of knowledge produced in Africa, African knowledge, extended to Black bodies both within and outside of Africa, producing a paradigm of knowledge where Black knowledges are inferiorised and dismissed, even in situations where "western" science is still within an exploratory phase with no concrete results [13]. In the context of the COVID-19 pandemic, despite the disease outbreak playing out very differently on the African continent than in Europe and North America, African voices were not sought out as a means of providing additional experience/expertise [14,15]. In 2020, only 1% of papers published on COVID-19 stemmed from research based in Africa [14].

As someone who identifies as a Black Francophone man from the province of Alberta in what is currently Canada, I wanted to use this dissertation as a way to explore the value of Black voices and

Black knowledges, produced through time, space and place, in informing public health policy and public health outcomes. This forced me to confront the reality of what it means for me to be Black in a "post-Colonial" world and navigate these intricate truths and weave them into this dissertation with intentionality.

To start, *Black* as a concept stems from colonisation fuelled by capitalism. In his book *La Pensée blanche*, Lilian Thuram explores where the idea of *whiteness* or the white race comes from and its implications in creating a Black identity and defining *Blackness* in a way that continues to impact Black peoples to this day [16]. As he so eloquently states, "[à] un Noir - partout dans le monde - la société renvoie en permanence le fait qu'il est noir [...] C'est une sensation qu'aucune personne non victime de discrimination ne peut connaître, parce que cela ne fait pas partie de son expérience du monde" [16]. Being Black is an inescapable element of Black life. While race has been proven numerous times to have no biological implications [17], the social realities that stem from being perceived as a certain race hold very real consequences in the lives of people. Throughout colonisation, Black peoples were seen as inferior, their personhood, cultures, knowledges, foods, and very essence of being, dismissed as unimportant in shaping the world. Even after countless liberation movements to recognise Black people as human, culminating in civil wars, political movements, coup d'états (all started thanks to the first Black republic in the world: Haiti), there still lingers much anti-Blackness in the world. This anti-Blackness is especially evident when witnessing international relations and how Africa and the Caribbean, regions that hold many nations with a majority Black populace, are treated on the global stage. These countries are treated as lacking autonomy, imagination or potential, often infantilised through the white saviour trope. This sentiment is captured by Victor Hugo, a white French poet, in his text *Discours sur l'Afrique*, written in 1867, "Le Blanc a fait du Noir un homme" [18]. But did he? Did the white man make the Black man, a man? Or did the white man rob the Black man of his manhood?

Stemming from *Black* as a colonial etiquette, we then arrive at *Black* as a personal identity. When I think of my identity, I think of a quote by Amin Maalouf who wrote in his book *Identités meurtrières*, "Ce qui fait que je suis moi-même et pas un autre, c'est que je suis ainsi à la lisière de deux pays, de deux

ou trois langues, de plusieurs traditions culturelles. C'est précisément cela qui définit mon identité" [19]. Throughout his book, Maalouf (2001) constantly emphasises just how complicated identities can be, and how harmful their simplification is for the personhood of those who are invisibilised by society [19]. Through ignoring contemporary understandings of race and historical implications of holding racial identities, global societies create hermeneutical injustice, a concept that Fricker (2007) defines as "the injustice of having some significant area of one's social experience obscured from collective understanding owing to a structural identity prejudice in the collective hermeneutical resource" [20]. In other words, it is the injustice of not knowing your own needs because you do not see yourself reflected back to you in society. Mason (2021) extrapolates the danger of hermeneutical injustice by explaining that "victims of hermeneutical injustice suffer from a cognitive gap, they also suffer from being unable to contribute to the dominant hermeneutical resource, to resist dominant interpretations of their experiences, to develop epistemic confidence, and to align their sense of moral injury with descriptions of the experience. These sufferings are mostly due to their social position of power and the very structural ways in which their experiences cannot access the dominant hermeneutical resource" [21]. These musings englobe my experience in Canada where *Black* as a societal identity, feels too shallow to capture my social experience, yet *Black* forms my social experience. It both gives me language to describe the cognitive gap that exists while doing nothing to actually fill it. As De Maio and Kemp (2010) demonstrate, there is danger in not including (Black) peoples in decision-making, especially in a multicultural society where (Black) people exist [22].

This continued existence in society where the need for liberation has been demonstrated time and time again and remains at the forefront of the *Black* individual experience gives rise to *Black* as a worldview, which in turn gives rise to *Black* as knowledge. In a letter that Robyn Maynard, a Black activist in Canada, wrote to her Indigenous homologue, Leanne Betasamosake Simpson of the Michi Saagiig Nishnaabeg, she articulated Black worldviews as follows: "Black and Indigenous communities [are] on the frontlines of world-making practices that threaten to overthrow the current (death-making) order of things. Put otherwise, our communities, quite literally the post-apocalyptic survivors of

world-endings already, are best positioned to imagine what this may be" [23]. In their exchange, Robyn and Leanne discuss the historical knowledges their respective communities possess(ed) in respect to health and to the land. They discussed technologies created by Black and Indigenous peoples and the ways in which these innovations were actively stolen, dismissed or dismantled by colonisers, and the ensuing impacts on human, non-human and more-than-human beings [23], Black *and* non-Black. Through these apocalypses that eradicated entire civilisations and cultures, that wiped away knowledges and learnings collected since time immemorial, Black and Indigenous peoples were able to form new knowledges that gave rise to resilience, resistance and world-building. Through witnessing the end of their world, time and time again, Black and Indigenous peoples have been able to rebuild worlds, rebuild spaces and rebuild personhood. Black knowledge is formed through the collective wisdom of our ancestors, past and present, living and dead, old and young, as they reshape a world that was not made for them, in their image.

All of these feed into what it means to be Black in the world today. These labels, identities and worldviews coalesce together to produce knowledge born not only of the need to survive, but of the desire and determination to thrive. I am Black, and that means a lot more than the colour of my skin, it means a lot more than a history of struggle, and it means a lot more than casual stereotypes attached to Black peoples. As I position within my *Blackness* as part of this dissertation, I also have to look at the origin of *my* Blackness. That is to say, as a Black Canadian of direct African descent and ancestry, my Blackness is rooted in Africa, and my story of Blackness comes in part from Africa. I am a child of the Black Atlantic, of the African diaspora. I am African, and at the same time, I am not. My parents come from *Ala Igbo*, often translated to Igboland, a realm split between the countries of Nigeria and Cameroon. As a child, I was raised in an Igbo household, where my mother cooked Igbo foods for me and my father educated me with Igbo stories and sayings that were passed down from his father, and those before him. But what it means to be Igbo today has also been formed and reshaped by colonisation. The Igbo people are largely Christian and have adopted non-Indigenous ways of living making it challenging to definitively discern pre-colonial cultural practices from those influenced or altered by colonisation. Additionally,

distinguishing practices that emerged post-colonisation, often associated with collective trauma, liberation and independence, further complicates this differentiation. In addition to this connection with Western Africa, I am also a child of the East. My parents were stationed in Uganda for much of their careers, my two sisters were born there, and everything I know of Africa comes from Uganda. I am familiar with the language *Luganda* from the Baganda people, I know Baganda myths and legends, including the origin of the universe via Kintu. When I go to Africa, Uganda is often my first stop as it floods my heart with images from my childhood. Thus, as much as I am Canadian and call the lands of the Métis, the Blackfoot Confederacy (Siksika, Kainai, Piikani), the Tsuut'ina, and the Îyâxe Nakoda Nations home, I am also a child of Africa with homes in Ala Igbo and the Buganda Kingdom.

These identities, worldviews, experiences all informed how this research project came to be, was designed and was executed. My ability to enter Malawi, form a relationship with the community partner Soils, Food and Healthy Communities (SFHC), and interact with the key informants, in such an intimate manner was primarily made possible by the fact that I share the social identity markers of "Black" and "African". My experiences in East Africa, a part of the continent Malawi holds strong sociocultural and political relationships with, enabled me to more easily access and understand Malawi and "see" beyond the surface. I held what Chavez (2008) describes as a relative-insider positionality, which allows for an understanding of "the cognitive, emotional, and/or psychological precepts of participants as well as [...] a more profound knowledge of the historical and practical happenings" [24]. However, I am not Malawian. As a consequence of this simple fact, there are limits to my ability to capture the local contexts, understand the deeper meanings of knowledges shared and comprehend the lived experiences that I heard/observed. This means that my dissertation is written less for Malawi, and more for the world to learn from Malawi in the same way that I did. I entered this exploratory research project with the goal of learning from the Black knowledges of Malawians, and this dissertation is an ode to that learning, and a thank you to all the people who were willing to share with me.

Academia, geography and medical geography in particular, still struggle to grapple with *Blackness* in a way that is authentic, meaningful and carries the dignity of Black peoples. I wanted this

dissertation to be a step in that direction, where *Blackness* and Black knowledges are engaged with on par with western sciences and modes of being. A lot of intentionality went into the design of this research project and the data collection processes to ensure that Black voices, Black frameworks, Black methodologies and Black worldviews were centred and celebrated, and when needed, paired with western Science or Indigenous knowledges to supplement and enhance the research connection or interpretation outcomes. In the words of Annamie Paul, the first Black leader of a major Canadian political party: “Nous devons considérer la quête de l'équité et de la justice comme une course de relais et non comme un sprint. J'ai porté le bâton aussi loin que possible - jusqu'à l'étape des débats. Je compte sur la prochaine personne pour le prendre à partir de là où je le passe et pour nous rapprocher de la ligne d'arrivée.” This dissertation is part of my segment of the relay race.

Chapter 1: Introduction

1.1 Introduction

The Coronavirus 2019 disease (COVID-19) pandemic is considered a singular global event whose impacts continue to unfold in every sovereign nation across the world. Upon its discovery in December 2019 in Wuhan, Hubei, China, the disease quickly spread, eventually being declared a pandemic by the World Health Organisation in February 2020 [25]. The use of the word pandemic, beyond identifying a rampant spread of disease, implies a certain universality that leads to the expectation that we all somehow experience the global event in the same way. This perspective is reflected in the global pandemic response where respected public health authorities such as the World Health Organisation and the United States Centre for Disease Control (CDC) released pandemic response directives for the entire world allegedly rooted in the best science available and based on the recommendations of disease experts including epidemiologists and virologists. Despite these directives, however, the spread of COVID-19 across the world remained uneven, and the impacts differed from country to country and even locale to locale [26]. While some countries saw more death, others experienced greater economic hardship, and some descended into a state of war and strife [26].

Ali et al. (2016) argue that it is not the simple act of spreading that elevates a disease to a pandemic status; rather, it is also "the social, political, cultural, economic and biophysical conditions and factors" that coalesce together to create the conditions through which a pandemic is born [27]. Geographers consider these conditions and factors as integral to the concept of place, a concept that elevates our understanding of spaces beyond their physical confines and quantifiable elements to incorporate the human components and other contextual factors that shape the realities that people face. Place thus reminds us of the interrelatedness of health, the local and other social phenomena [28]. By addressing the COVID-19 pandemic through the concept of place, we quickly realise that the pandemic was not one individual global event, but a series of varied smaller local events despite a common origin.

This position reveals the limitations to the global response to COVID-19, citing the apparent universalism of the responses, and current COVID-19 literature, especially given that the knowledge that informed the design of and responses to the pandemic has largely stemmed from North American, Western European and East Asian sources [29]. These geographic specificities and, therefore, limits of the knowledge available also place socio-spatial boundaries on the applicability and effectiveness of mitigation measures and potential solutions that can be imagined to reduce/eliminate the spread of COVID-19. A limited geographic scope in knowledge production restricts the development of tools, policies and solutions when problem-solving, which in turn restricts the effectiveness of the crafted solutions in places that do not fall within said geographic scope.

The continent of Africa provides an interesting backdrop from which to broaden and diversify knowledge about COVID-19 as the continent's unique history translated into a uniquely different pandemic experience from the rest of the world, one that defied all manner of prediction [30]. Of the twenty-seven countries currently listed by the World Bank as Low Income Economies, twenty-three are located in Africa [31], leading so many to predict that COVID-19 would be catastrophic across the continent [30]. By August 2020, these predictions had proven themselves false. Despite being the second most populous continent with an estimated 17% of the world's population, Africa accounted for only 5% of the total cases and 3% of the overall mortality [32].

This dissertation uses qualitative methodology and a Black geographies framework to examine the role of place in confronting, analysing and shaping local, national and international responses to new disease outbreaks. Using the COVID-19 pandemic in Malawi as a case study, this research not only re-affirms the importance of taking a place-based approach to lend new insights to diseases, but also extends the boundaries of public health scholarship by showcasing the indispensable significance of building place-centric approaches through adaptive models that integrate multiple forms of knowledge production. This research ultimately contributes to revolutionising pandemic mitigation strategies and fostering true collaboration at an international scale by amplifying a myriad of voices and knowledge systems in global discourse. By exploring the impact that place has on the dynamics of disease spread in

Malawi, this study participates in the democratisation of knowledge and the elevation of African and Black proficiencies, philosophies, and ways of being.

1.2 Study Objectives

This dissertation aims to advance the theoretical understanding and policy innovation that can come from inclusive participation of diverse voices and knowledge systems in global public health discourse through acknowledging and centring the role of place when investigating new disease outbreaks. Using the COVID-19 pandemic in Malawi as a case study, this dissertation celebrates African and Black knowledges in the context of disease response, adaptation and resilience by highlighting the learning that can come from worldviews and experiences produced in a low-income nation in Sub-Saharan Africa. Specifically, this research seeks to:

1. Examine the socio-spatial drivers underlying the transmission and spread of COVID-19;
2. Inquire into the social meanings accorded to and politicisation of COVID-19 and associated mitigation measures;
3. Determine how past and present epidemics and experiences with communicable diseases mediated the COVID-19 experience; and,
4. Analyse the roles of space and place in determining the individuals' ability to navigate and respond to the COVID-19 pandemic.

1.3 Organisation of the Dissertation

This dissertation is divided into seven chapters. The first chapter uses the concept of place to reframe the COVID-19 pandemic, challenge the universalism of global pandemic responses, and outline the objectives of the thesis. The second chapter provides a literature review that contextualises the COVID-19 pandemic and associated pandemic responses within larger political architectures of power and colonialism, builds out a Black geographies theoretical framework that informs study design and data interpretation in order to realise study objectives, and describes Malawi as the study location, providing a historical and geographic overview of the country. The third chapter focuses on the two-phase qualitative

methodology and methods used in carrying out this study, including community partners, ethical spaces and in-depth interviews. The fourth, fifth and sixth chapters are all journal articles that segment the key findings of this research, thereby meeting the research objectives. The fourth chapter addresses objectives 1 and 3 by examining the stories shared by healthcare workers in Malawi about being on the frontline and how they adapted to the new disease outbreak (African/Black knowledge). The fifth chapter addresses objectives 1 and 2 via an inquiry into COVID-19 vaccine hesitancy through the notion of place in Malawi and the role of policy and politics in vaccinating a population (African/Black knowledge). The sixth chapter addresses objectives 1 and 4 by using co-becoming, an Indigenous knowledge which stems from Bawaka Yolŋu ontology (Indigenous/Black knowledge), to explore the COVID-19 pandemic in Malawi through the worldviews and experiences of Malawians (African/Black knowledge). The seventh chapter summarises the major findings and conclusions from these studies and discusses both the applied and theoretical contributions of this research. Limitations and directions for future studies are also addressed in this final chapter.

Chapter 2: Setting the Scene

2.1 Background and Theoretical Framework

Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is an enveloped positive-sense single-stranded ribonucleic acid (RNA) virus that belongs to the Coronaviridae family of the order Nidovirales, an order of viruses with both animal and human hosts [33]. This family of viruses is defined by the four structural proteins that manifest as bulbous protrusions on the surface of the viral envelope, resembling a crown [33]. These protrusions, referred to as Spike proteins, are responsible for the virus' ability to attach to and fuse with the membranes of host cells [33].

As the newest discovered member of the Coronaviridae family, SARS-CoV-2 was first identified in Wuhan, Hubei, China in December 2019 [34]. Since then, various mutations have emerged in many countries across the world [35]. Once in the human body, the virus causes high fever, chills, cough, fatigue, shortness of breath and dyspnoea, collectively diagnosed as the Coronavirus 2019 disease (COVID-19) [36]. In extreme cases, patients developed a fatal case of pneumonia [36]. COVID-19 spread at an extraordinary rate across the world, with preliminary studies showing a higher binding affinity between SARS-CoV-2 and human host cells when compared to other coronaviruses such as the Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV; SARS) and the Middle East Respiratory Syndrome Coronavirus (MERS-CoV; MERS) [37,38]. Typical of many diseases that spread rapidly, COVID-19 has a relatively low mortality rate of approximately 2% [39]. Within the first year of discovery, however, the disease killed more people than the 2003 SARS outbreak (9% mortality rate; 774 people out of 8098 cases) and the 2012 MERS epidemic (35% mortality rate; 912 people out of 2494 cases) [40,41] with just under two million deaths worldwide as of December 31st 2020 [42].

When investigating new infectious disease outbreaks, an epidemiological perspective is favoured; looking at the characteristics of the disease itself, including the ways in which it propagates, symptoms of exposure and treatment options [43]. The global approach to understanding and responding to the

COVID-19 pandemic has been no different, with epidemiologists and other biomedical scientists across the world having dominated in providing accounts of aetiology, modes of transmission, signs and symptoms, and prevention and control strategies [44]. Governments and governing bodies then designed mitigation measures and policies built on this science, promulgating globally accepted recommendations that included social distancing, wearing a mask/face covering, and getting vaccinated (once the vaccine became available) [45]. Due to the uniformity of COVID-19 measures, the associated messaging and campaigns accordingly spoke to being "in the same boat" and stating that "we are all in this together" [46]. There is now, however, a growing realisation that universalising statements like these obfuscate not just wide variations in COVID-19 related social vulnerabilities, but also act as an ideological smokescreen that diverts attention away from those that actually have amassed profits from the pandemic [47,48]. This sort of messaging has also had the effect of concealing the fact that the impacts of COVID-19 have been socially and spatially uneven with official accounts often presenting increased risk of incidence and/or mortality in marginalised communities, regardless of age and immunity [49]. These inequalities are also transposed onto a world stage where pandemics have historically presented greater hardship to low-income nations, with many of these countries exhibiting economic malaise and increased dependence on international aid [50,51].

At the time this research project was proposed in December 2020, eighty-two million cases of COVID-19 had been reported around the world with 23, 17.2 and 21.8 million cases in Europe, Asia, and North America respectively [42]. COVID-19 was already being studied extensively in these regions as the efficacy of certain measures were noted whilst emerging struggles and challenges were acknowledged and addressed, such as COVID-19 denialism [52]; however, circumstances were different in the other three continents of Africa, South America and Oceania. Africa, for example, is a continent with many endemic and recurring diseases, such as Ebola, Lassa fever, Human Immunodeficiency Virus (HIV), tuberculosis, and malaria; and many emerging chronic medical conditions such as cervical cancer, high blood pressure and diabetes [53]. As the second largest continent in the world by size, Africa contains 54 countries and 17 dependencies with over 1.2 billion inhabitants, making it the second most populated continent after

Asia with 16.4% of the world's citizenry [54]. All of Africa's nations are considered middle-to-low income, with the Sub-Saharan states scoring medium-to-low on the human development index (HDI) as well [55]. With these circumstances, Africa was primed for decimation by a virus that brought the healthcare systems of high-income nations like the United Kingdom, the United States, Italy and France to their proverbial knees. In their opinion piece, Nkengasong and Mankoula (2020) asked "What might happen to Africa—where most countries have weak health-care systems, including inadequate surveillance and laboratory capacity, scarcity of public health human resources, and limited financial means— if a pandemic occurs?"[56].

Yet throughout the two and a half years following the appearance of COVID-19, Africa has apparently remained resilient to a significant degree. When this research project was proposed in December 2020, the African continent had a case count of 2.5 million, much lower than comparatively richer continents, with much speculation as to the reason behind these oddly lower numbers [42,57,58]. At the time of writing this dissertation in December 2022, two years later, Africa's case count stood at an estimated 13 million, which was still much lower than the 200 million cases in Europe and over 94 million cases in North America [59]. Why? How? There were several theories attempting to reason as to why the continent has not witnessed the highest incidence rates from COVID-19, contrary to expectations. In their perspective piece, Njenga et al. (2020) outlined some of the more prevalent theories [57].

The first theory is rooted in globalisation, based on Africa's degree of connectivity to the rest of the world. African countries' airspace receives lower flight volume from the countries that have been heavily impacted by COVID-19, and the continent is not easily reached by road from Europe or Asia, thereby reducing "outside" access [60]. Njenga et al. (2020) is sceptical of this explanation, arguing that given the rapid pace at which COVID-19 is able to spread within densely populated communities, the few introductory cases in Africa should have been enough to trigger widespread community transmission as was seen on other continents [57].

The second theory centres an admixture of demographic and epidemiological reasoning, particularly related to the largely youthful population across the continent [57]. The median age in Africa is 19.7 years, whereas in Europe it is 43.1 and in North America it is 38.6 [61,62]. As a virus that targets the respiratory system, COVID-19 has been demonstrated to be deadlier in individuals of advanced age, and in those with existing chronic conditions, many of which are not as prevalent in Africa [57]. Nevertheless, the reality is that although young people are less likely to die from COVID-19, they are not any less prone to catching and spreading the disease, thereby not impacting incidence rates [63]. Furthermore, as the pandemic went on, there was a shift in the incidence and death rates where young people were dying at a higher rate than the elderly, thereby undermining the veracity of this theory [64].

The third theory is rooted in biophysical factors, with the average temperature in African nations seen as a major environmental determinant. Although the specific weather patterns in Africa are as varied as the continent is large, the climate primarily ranges from desert to tropical. Very few African countries experience extreme forms of winter, and those that do tend to have milder temperatures than countries in more Northern or Southern hemispheres. Njenga et al. (2020) acknowledge that there is a strong possibility that warmer weather impedes the spread of COVID-19, with speculation as to whether this stems from the characteristics of the virus or changes in human behaviour in higher temperatures [60,65]. Although this theory has some merit, with warmer countries like Thailand also having seen comparatively fewer cases, the impact of COVID-19 in Brazil has shown the contrary. Brazil has seen over 35 million cases and around 700 thousand deaths (as of December 2022), more than the entire continent of Africa, making it one of the hardest hit countries by the pandemic, thereby demonstrating that a hot tropical climate alone may not offer sufficient protection from the COVID-19 pandemic [42,66].

The final theory is biomedical. It rests on the potential of pre-existing immunity in the continent's population due to prior exposure to other coronaviruses [57]. Since the Coronaviridae family of viruses are zoonotic in origin, stemming from animals such as bats, and there has been considerable encroachment on natural ecosystems for the purposes of agriculture or due to rapid urbanisation in Africa, it has been suggested that less deadly forms of coronaviruses have already transitioned to infecting

humans on the continent [57]. Studies estimate, for example, that the antibodies produced for SARS are 76% identical to the antibodies produced to fight off COVID-19 [67]. Thus, if there has been regular exposure to any coronavirus, it implies a population with higher immunity to COVID-19.

Regardless of the relative plausibility of some or all of these theories, or more likely, a combination of elements of each of these theories, they remain circumstantial. These theories barely acknowledge the agency of Africans in responding to the pandemic, nor the possibility that the reduced incidence rate and impact of COVID-19 seen in the world's second most populous continent may be contingent on the deliberate actions, practices and/or leadership of Africans themselves. This in part speaks to the larger issue of epistemic bias in studies surrounding health and Black bodies, portraying Africans as incapable of taking ownership of their own health, and needing to be rescued by some external saviour [68]. This status quo ignores (African/Black) knowledge built through culture, history, experiences, resilience and place which is evidence to the assumed universality of scientific knowledge developed in Eurocentric spaces and its (failed) application to the health and wellbeing of Black bodies [69,70]. This reality is problematic because it creates geographic limits to the value of knowledge which impedes learning, and in the case of disease response, the innovation and creativity in the strategies implemented to protect public health [71].

The circumstances of COVID-19 in Africa teach us that the "standard" epidemiological approach to new infectious diseases is, in fact, not standard, but steeped in bias and worldview, stemming from Eurocentric thought and shared around the world through mechanisms of colonisation, colonialism and racism where other ways of knowing and forms of knowledge production are deemed inferior and not worthy of consideration [72]. In the early days of the pandemic, COVID-19 literature came almost exclusively from North America, Western Europe and Eastern Asia and were used to inform global recommendations such as the World Health Organisation COVID-19 guidelines, which then impacted the initial actions of most nations across the world who enacted almost identical policies and measures against COVID-19 [45]. This inability to recognise the geographic origin of knowledge, the place where the knowledge comes from, and how its claims are inseparable from the culture in which it is developed,

created shortcomings in how COVID-19 was handled and limited global conversations. In this situation, the limitation of these global conversations not only harmed the places that had no input in them with failed mechanisms of action, but also those who did have input as they did not benefit from the learning captured elsewhere. In recognising the wealth of knowledge available in Africa regarding disease prevention and resilience, this dissertation uses a Black geographies framework to elevate and centre African/Black experiences, knowledges and voices during the COVID-19 pandemic as a means of diversifying COVID-19 knowledge and inspiring more robust policies in the face of new disease outbreak.

Black geographies refer to the interdisciplinary field of study that examines the ways in which Black people, communities, and experiences are shaped by and shape space, place, and the built environment, while also addressing issues of power, inequality, and resistance. McKittrick and Woods (2007) define Black geographies through three central themes (see **Figure 1**) [73]:

1. **Resituating Black peoples and their concerns as relevant:** Black geographies goes against "the ways in which essentialism situates black subjects and their geopolitical concerns as being elsewhere (on the margin, the underside, outside the normal), a spatial practice that conveniently props up the mythical norm and erases or obscures the daily struggles of particular communities."
2. **Interrogating the "common-sense" workings at a global level to highlight the exclusionary nature of metropolitan society:** Black geographies questions "how the lives of these subjects demonstrate that 'common-sense' workings of modernity and citizenship are worked out, and normalised, though geographies of exclusion."
3. **Situating the knowledge and contributions of Black communities as real, valuable and important:** Black geographies acknowledges "the situated knowledge of these communities and their contributions to both real and imagined human geographies [as] significant political acts and expressions."

The Black geographies framework emerged as a response to the colonial Eurocentric forms of geography that shaped the discipline and dominated academic discourse [74]. Similar to the

pseudoscience of racial biology that sought to build a scientific basis for white supremacy, geographic study was used to establish spatial limits to Blackness, highlighting location as a reason for the inferiority of some and the supremacy of others [74]. While racial biology has largely been discredited, geographic framings of space are still used as a means of circumventing the necessity of race in important conversations, and discrediting Black knowledge as being otherworldly, less than and not relevant to global discourse [74]. Geographers, academics and the public at large will use sanitised terms like “the West” and “the Global North”, creating a dynamic where power and wealth seem to be geographic happenstance and not purposefully gathered and hoarded through systemic decisions that sought (and oftentimes still seek) to disenfranchise Indigenous peoples of their cultures and lands [75]. Black geographies thus aim to reframe the narrative and respond to “geography's troubling history with regard to questions of race and Blackness” by recontextualising contemporary problems and uplifting the knowledge produced in Black communities [74].

Erroneously, Black knowledge is often equated to, and confined within, the concept of Black bodies, linking it to the false narratives of biological difference [76]. As Katherine McKittrick (2006) states, “black lives are necessarily geographic, but also struggle with discourses that erase and despatialise their sense of place” [73]. Black geographies therefore take Blackness out of the Black body and root the knowledges in place. This is supported by pioneer authors seeking to define Black geographies such as Lewis (2018) who describes Blackness as analytic, and thus Black geographies as demanding interdisciplinary modes of study that stretch “western” modes of analysis beyond their current limitations; this thereby elevates Black knowledge from being secondary and complementary, to being primary and independently relevant [77]. According to Hawthorne (2019), Black spatial knowledge negotiates resistance and domination, addressing issues of colonialism, slavery and imperialism as part of the analysis of space and the construction of place [74]. Noxolo (2020) describes Black geographies as a means of shifting from the historical narrative of pre-colonial Africa to recognising Black bodies as producing places that act as tangible intersections of where the inherited past meets present-day adaptations, thereby re-rooting ancient cultures, knowledges and worldviews in modern discourse [78].

It is important to take a moment to distinguish between Black knowledge and African knowledges, as these terms encapsulate distinct forms of knowledge production. Black knowledge emerges from the resilience, experiences, and contributions of Black peoples rooted in the Black identity within society [79]. In contrast, African knowledge encompasses traditional wisdom, cultural practices, historical narratives, scientific advancements, and the lived realities of individuals identifying as Africans, an identity-marker not interchangeable with Black. African knowledges hold historical depth, tracing their roots back to time immemorial, perpetuated and refined through successive generations [80]. Black knowledge is relatively newer, having its origins in the twentieth century with the conceptualisation of race [81]. African knowledge is Indigenous knowledge, specifically referring to the Indigenous knowledges produced by cultures and civilizations geographically based on the African continent [80]. This distinction emphasises the rich and enduring legacy of African knowledges, while recognising the more recent emergence of Black knowledge within the broader socio-historical context. Finally, it should be noted that not all Indigenous Africans are Black, and not all Black people are African/hold African heritage. African knowledges exist independent of *Blackness*, although Black knowledges do not exist independent of Africa. There is much overlap and overlay as knowledge can be simultaneously African and Black, lived experiences can be simultaneously Black and African, but even in acknowledging the blurred lines, they are not synonymous with one another.

The concepts of space and place are central to the study of geography. Space speaks to a geometric view of the world, focusing on the physical make-up, design, layout and limitations of a given location. Place, on the other hand, refers to the construction of space, thereby infusing meaning into certain landscapes and layering over them dimensions of identity and positionality. The notion of place incorporates the physical components of a space, including the built and natural environments, as well as the social constructs, such as the dominant culture, gender roles and economic structure [82]. Black geographies are built around the spatialisation of Black experiences and knowledge, thereby crafting a framework that recognises space as a necessary tool of analysis and place as critical to considering any issue.

The idea that local context is key to understanding disease is not new. This view is evidenced in various reiterations across a multiplicity of cultures and worldviews, both Indigenous and non-Indigenous. The Jola (The Gambia), for example, take a psychosocial approach to medicine where a person's body, mind and soul are conceived as an indivisible whole, and ill health in this case reflects "discord in the social body." [83]. Similarly, the Inuit (Canada) hold a holistic view of health, captured by the word *inuuqatigiittiarniq*, a concept that centres the respect for the other, seeking balance and harmony of the social, economic, cultural, and biophysical environments [84]. Achieving success in *inuuqatigiittiarniq* leads one to be recognised as *inummarik*: a true Inuk [85]. The Maori (New Zealand) have a vision of health described as Tapa Whā where one's health is held up by four walls, using the image of a house: taha wairua (the spirit); taha hinengaro (thoughts and feelings); taha tinana (the physical side); and taha whanau (family) [84]. If one of these walls were to fall, the entire house would fall as well. Cutting across these cultures from three different continents is the recurring understanding of health as being on a paradigm of self, as the individual, in the context of the world that surrounds them, whether that be the physical environment, the social environment or both. These worldviews localise health, taking away the belief that there are universal measures of health and of what it means to be in good health, and scaling health down to the community context: to space and place. These ideas are not necessarily foreign to modern medicine. The Hippocratic tradition of medicine, often cited as the founding base of modern medicine and mainstream comprehensions of health, built a system of diagnosis around clinical observation and logical reasoning [86]. According to Hippocratic teachings, patients were treated as psychosomatic entities where nature was often seen as both a source of the disease and a method of healing [86].

Through the evolution of conventional medicine, there was a notable shift in how diseases were conceptualised and approached following Louis Pasteur's discovery of the microbe; the focus shifted toward the particularities of the disease and away from the individual who is living with the disease or their physical and social environments. This led to the notion that health is the absence of disease which Christopher Boorse describes as a "value-free theoretical notion" [87]. He argues that health is societally

constructed, holding not an inherent value, but a value in line with the surrounding society and environment. As an example, Boorse (1977) speaks to how “Cowpox could save a person's life in the midst of a smallpox epidemic [and] myopia would be advantageous if it meant avoiding the infantry”. Using his example, cowpox is a disease, but whether this is a sign of poor health is not entirely related to the disease itself, but also to the circumstances under which the disease presents itself. In a smallpox epidemic, cowpox would serve to protect those who have it from catching and dying of smallpox (physical environment), whereas if a country were in the midst of a war requiring mandatory conscription, having a non-lethal chronic illness such as myopia would serve to keep one alive by saving them from being on the frontlines of a battle (social environment) [88,89]. In essence, while health can be discussed absent of disease, disease cannot be discussed absent of health. As health is intimately tied to place and context, it means that disease is too.

Confronted with these realities, conventional medicine, and by extension dominant understandings of public health, are experiencing a shift to better reflect the fundamental truths of place and context as being key to disease. The 1948 definition of health released by the World Health Organisation attempts to capture this where health is depicted as the wholesomeness of the human being where the human being is a collective composition of bodily, emotional, intellectual, and social parts [90]. Since the 1990s especially, there has been a considerable expansion of academic work highlighting the relevance of space and place in understanding health [91]. This has especially been championed by Geographers and Sociologists (see: [92–95]).

While a Black geographies framework is typically associated with social and political sciences, its use in this study is justified by the continued evolution in the way geographers see and approach disease and health, replicating the aforementioned conventional shift in public health [96]. This shift, captured in the transition between medical geography and health geography, is often characterised as a distancing from concerns with only disease and the biomedical understandings of health, to a more vested interest in well-being and the broader social models of health [96]. Emblematic in this is the awareness of place and the underlying premise that places matter with regards to disease and health; that health is

co-produced in the interactions between the social and physical components of a place [96]. The Black geographies framework recognises that Blackness emerges in the construction of place, and is thus a framework that offers the possibility of exploring all that Blackness entails (Black knowledges, cultures, worldviews, ways of being, oppression) within the context of disease spread. Furthermore, in recognising the inherently political nature of Blackness and Black identities, evidenced through the policing of Black bodies [97], Black geographies requires an understanding of politics, political power and power dynamics to feature in any analysis of place. This framework is thus apt for the reassessment of a pandemic within places that feature Black peoples and Black knowledges, such as Africa. The Black geographies framework allows for a correction of the biases that implicate our understanding of disease and health, following suit with the evolving awareness that health is more than just the absence of disease, and that diseases are but one component in a more complex web of larger structural elements that need to be recognised in order to properly evaluate and analyse vulnerability and resilience during the event of disease outbreak, thereby adequately protecting the most powerless.

Epidemiological approaches to disease outbreaks primarily use statistical models to map risk factors, identify transmission modes and predict potential consequences, placing a greater focus on what is happening, relative to how or why this came to be, and the potential long-term repercussions [43]. As an illustration, Patterson and Pyle (1991) use an epidemiologic lens to describe the impact of the Spanish influenza, citing that "[t]he highest death rates [were] generally from Africa and Asia, and the lowest from North America, Australia and Europe. Not surprisingly, poor populations suffered more than wealthier ones with better food and shelter."[98]. They go on to describe how some of these wealth disparities might have presented themselves on the ground (such as lack of access to medical care) [98]. While this research is important, the authors fail to examine the broader colonial, historical and political contexts that created the power structures at play in the African and Asian contexts which lead to both the wealth disparities and health inequalities identified. This is where Black geographies can fill an important gap in the analysis of disease and health.

For a long time, African and Asian countries were not free to make their own decisions, and instead were forced to rely on their colonial masters, who by and large, ignored them [99]. This was reflected in the treatment of the colonised populations including inadequate record keeping and active denial of medical care [99]. Diseases are often highly politicised; the Spanish influenza was not simply a pandemic, but also a pandemic in an unequal and unjust world. Patterson and Pyle (1991), by missing this crucial piece of information, give allusions of autonomy, poor decision-making and bad luck when in fact, Africans and Asians were not even part of the decision-making process. The epidemiologic approach used fell short in recognising the colonial basis of the Spanish influenza and the implication of global power dynamics and racial hierarchies in the uneven mortality rates from the disease. Black geographies, beyond acknowledging the role that place has in the spread and impact of disease, situates the study of health and disease squarely within the political and historical context of place and highlights the importance of understanding global power structures and dynamics in exploring how (racialised) populations experience disease.

Within the first year of the COVID-19 pandemic, it has been repeatedly shown in many national and subnational contexts the ways in which racial, political and social power structures created subsets of vulnerability within certain populations. Many news reports and government agencies have commented on higher incidence rates of and mortality rates from COVID-19 amongst ethnic and racial minorities, and socioeconomically disenfranchised groups. In the United States, for instance, the Centres for Disease Control and Prevention found that 30% of COVID-19 cases were African Americans, even though they only make up 14% of the total population [100]. In the United Kingdom, Black and Asian COVID-19 patients were found to be more likely to die from the disease than their white counterparts [101]. In Brazil, Indigenous people were facing what the media called ‘an extermination’ due to lack of political will on the part of the Brazilian president at the time to limit travel and ensure food security for those living in the Amazon [102]. These media and government reports highlight the need to not only understand the spread of the virus within the context of its pathology and epidemiology, but also via the

political, sociocultural, economic and environmental landscapes through which the disease interacts with people [103].

For one to become infected with COVID-19, the virus and the host have to come into contact by being in the same location at the same time; however, because place is not solely a geometric container, just knowing the location is not enough [104]. To explore the role that place plays in the spread and impacts of COVID-19, the political, economic, social, cultural and physical factors that define particular geographic locations need to be more clearly interrogated and integrated into the investigation of disease as they are inextricably linked. Many studies that discuss disease incidence and mortality neglect to examine the politics and power structures that impact the disease's ability to propagate within different contexts and populations, while effectively shielding others from concern [104]. In framing disease through Black geographies, the societal maladaptations that underlie disease outbreak and spread, such as the major social and economic dislocation in a region or the effects of the history of colonisation and subsequent present-day power dynamics at a local level, can be recognised and addressed, thereby incorporating place in the interpretation of disease [73]. Furthermore, Black geographies pay special attention to what it means to be Black in the context of place, and thus how Blackness is implicated in the spread or resilience to disease. This framework lays the foundation to create meaningful engagement with Black communities in academic study and discourse.

The objectives of this study encompass both the subfields of medical geography and health geography. While they can be argued to exist on a spectrum, where medical geography is a form of health geography, or health geography is the evolution of medical geography, they do remain quite distinct. Medical geography is seen as more positivist in that the focus is very much on disease and the absence thereof, whereas health geography takes a larger more encompassing view of health, with questions looking at the notion of wellbeing in the broader context. Given the clear focus that this research has on COVID-19, where the absence of COVID-19 signifies good health and the presence of COVID-19 means poor health (which is a very medical geography approach to health), it is important to be intentional about exploring the underlying place-based factors that are implicated in the spread of COVID-19 to avoid the

aforementioned shortcomings of positivist fields when it comes to healthcare (thus, health geography). Black geographies has been able to provide a framework through which (Black) health and wellbeing are evaluated holistically (health geography), as has been evidenced through studies looking at the convergence of anti-Black racism and toxic wastes in Badin, North Carolina, USA [105], places of respite that provide relief from the burdens of "oppressive articulations and experiences of society and space" at Florida A&M University [106], and the medical neglect of Black labourers in Panama [107]. However, the role of Black geographies in positivist fields like medical geography has yet to be fully explored. To fill in the epistemological gaps and achieve the study objectives, we draw from the framework of Therapeutic Landscapes.

Coined by William Gesler in 1992 as he discussed a "new direction for medical geographic study", therapeutic landscapes refer to "places which have attained an enduring reputation for achieving physical, mental, and spiritual healing" [108]. He postulates that these places should be adequately studied and analysed through two lenses in order to influence policy: (1) "inner/meaning (including the natural setting, the built environment, sense of place, symbolic landscapes, and everyday activities); and, (2) outer/societal context (including beliefs and philosophies, social relations and/or inequalities, and territoriality)" [108]. In this instance, as noted by Meinig and Jackson (1979), "landscape" is related to, but not synonymous with nature, scenery, the environment, places, regions, areas and geographies [109]. The term encompasses and describes human-environment relationships with the explicit acknowledgement of individual and collective agency(ies) in shaping these spaces and places. Gesler (1992) states that "landscapes, as well as being influenced by physical and built environments, are a product of the human mind and of material circumstances[;] that landscapes reflect both human intentions and actions and the constraints and structures imposed by society" [108]. In taking on the holistic view of good health, the landscape lens reflects the impact of an individual on society and in turn, the impact of the society on the individual; thereby providing the flexibility necessary to fully investigate the significance, burdens and repercussions of disease in human systems. Further embracing the non-static nature of societies, systems and diseases, Gesler highlights a dynamism within landscapes, defining them

as mobile interwoven systems that are constantly being "moulded by the interplay, the negotiation between, physical, individual, and social factors" [108].

Following their interpretation of Gesler's work, Vaguet, Lefebvre and Petit (2012) break down the therapeutic landscapes framework into three key components: physical, social and symbolic (see **Figure 1)** [110]. The physical component consists of the aspects of landscapes that can be assessed through the five senses of touch, sight, smell, hearing and taste [110]. This component centres around aspects of the natural and the built environments, creating discussions that touch upon geographic accessibility, pollution, visual impact, sensory overload and the like. The social component corresponds to the influence that society holds over a given landscape [110]. It encompasses culture, gender, politics, history, economic circumstances, power imbalances and discrimination, to name a few. The third component is the most difficult to delineate. The symbolic component speaks to a sense of place and how a landscape is "seen." It asks questions on "the identity, significance, meaning, intention, and felt value [that] are given to places by individuals, as a result of experiencing it over time" [111].

Using the definition McKittrick and Woods (2007) provide of Black geographies as a base, this research incorporates the strengths of the therapeutic landscapes framework, infusing the aforementioned physical, social and symbolic landscapes into a Black geographies framework. This adaptation equips the chosen Black geographies framework with an epistemological bridge allowing the adapted Black geographies framework to be applicable in a positivist setting, thereby strengthening the multidisciplinary element of plural knowledge studies and allowing for a more thorough exploration of COVID-19 without limitations built around the siloing of disciplines.

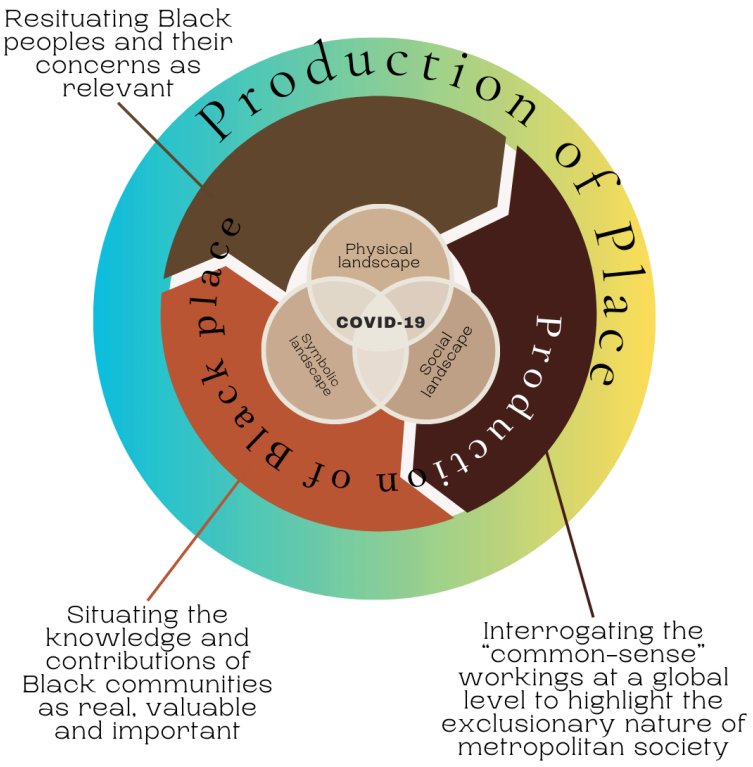

Figure 1: Black Geographies Theoretical Framework adapted from McKittrick and Woods (2007) and Vaguet, Lefebvre and Petit (2012)

This adapted Black geographies theoretical framework serves as a vital conceptual scaffold for this dissertation, aiding in the organisation, comprehension, and analysis of connections between different concepts and variables as identified throughout the study. The framework guided the articulation of specific research objectives, the selection of appropriate research methods, and the data analysis process. By framing relationships between variables and offering a lens through which to interpret results, this framework enhances the overall coherence of this dissertation, while also aiding in identifying gaps in existing COVID-19 knowledge.

2.2 Study Location and Context

Nicknamed "The Warm Heart of Africa," Malawi is a former British colony with a landmass of around 118,000km^2. Administratively, it is divided into three regions (northern, central and southern) with 28 districts [112]. Although its gross domestic product (GDP) has been increasing over the last few years, reaching 547.73 CAD per capita in 2019, Malawi remains listed among the world's least economically

developed nations [113]. The economy is largely agricultural with an estimated 80-85% of the population living in rural areas. The functional literacy rate is 62.14%, although there are wide regional variations [113–115], and large discrepancies between the sexes; the male literacy rate being 69.75% and the female rate being 55.2% [114]. The country is culturally and linguistically diverse, with over 10 ethnic groups, the largest of which are the Chewa, the Lomwe and the Yao.

With regards to health, Malawi's overall situation is consistent with many other lower-income nations where it is dealing with a historically significant burden of endemic transmissible diseases, such as Malaria, Cholera and HIV/AIDS [116]; and a growing burden of chronic illnesses including cancers, diabetes and hypertension [117]. With the advent of COVID-19, Malawi's already fragile healthcare system, ranked 185th out of 191 countries according to the World Health Organisation [118], now had to contend with the kind of additional pressure that even high-income nations struggled with. The country has a three-tier public healthcare system, a growing number of private hospitals and clinics, and many traditional and faith healers who are active in maintaining the health of residents [119]. The public sector is set up to offer free healthcare to the public, but in actuality, the system suffers from a lack of human resources (doctors, nurses, midwives, specialists, etc.), insufficient equipment and medicines, a shortage of beds, and little funding [120]. These shortcomings often lead to hidden user costs that present significant barriers to access. It is important to note that Malawi's healthcare system was initially designed by and modelled after the British healthcare system with one key distinction: it was mainly set up to serve the minority white population [121,122]. The system used medicine as a tool of colonisation to disenfranchise traditional knowledge holders and impede the evolution of a healthcare system that appropriately took into consideration the realities in Malawi [122]. What remains today is a network of hospitals located in largely urban areas, despite 80% of Malawi's population living in rural areas, such that geographic access to healthcare is alarmingly limited [117].

On an economic front, many of the problems Malawi faces are rooted in the country's colonial legacy. The British had put in place discriminatory policies around resource extraction and fostered an over-dependence on agriculture that continue to impact Malawi's economy to this day, thereby leading the

country to have one of the lowest GDPs in the world [121]. Efforts by Malawi to implement structural adjustment reforms since 1981 to counter its declining economic growth, liberalise the economy, and diversify the production base have been restricted by external factors like climate change and international terms of trade [123]. This has in turn led to volatilities in exchange rates, inflation levels, interest rates and GDP growth rates, all of which serve to limit the viability of meaningful economic transformation and growth [123], thereby hindering any meaningful investment in healthcare and the country's ability to compete for top medical talent. The consequence is a place where sickness leads to death, and thus disease becomes synonymous with death. Life expectancy in Malawi is around 62 years with the leading cause of disability-adjusted life years (DALYs) being HIV/AIDS which impacts an estimated 10% of the population [112].

Understanding Malawi's history with HIV/AIDS is necessary to begin understanding the relationship Malawians have with disease and epidemics. The virus was first diagnosed in the country in 1985 where the initial response under the then totalitarian one-party state rule was to deny its very existence. Under Hastings Banda, Malawi's first president, HIV quickly became highly politicised as the government felt that acknowledging the disease presented a challenge to the myth that Malawi was a country 'flowing with milk and honey' [124]. Through the politicisation of HIV, it became dangerous to speak openly about the disease during Banda's regime, which enabled the spread of the virus and ensuing AIDS to the point of endemicity [124]. Malawi's present HIV/AIDS prevalence levels are amongst the highest in the world with notable gender disparities; 13% of women live with the virus compared to 10% of men [125].

Major underlying drivers of HIV in Malawi include interlinked factors such as migrant work, urbanisation, poverty, climate change, and unequal gender relations [126]. The phenomenon of migrant work in Malawi, for example, includes seasonal agriculture labourers relocating from the Southern Region to the Northern Region to work on tobacco farms for several months each year [127]. In addition to these workers coming from areas of higher HIV prevalence (19% prevalence in the Southern Region and 11% prevalence in the Northern Region), they also have the propensity for hiring sex workers which

increases the likelihood of catching and spreading HIV [126,127]. Other avenues of HIV spread include informal trading practices and modes of transportation (such as sacramentos - bicycle taxis) that mark urban settings throughout Malawi [128]. To give an example, fishing hotspots along the lakeshore such as Karonga, Nkhata-Bay and Salima, draw large masses of people together from both urban and rural settings [129]. These environments are associated with the spread of HIV/AIDS because of the ways in which gender and the informal economy interact whereby sex can often be used to barter down the prices of fish or receive free transportation via sacramento to and from the city. These same complex social and economic dynamics that compound in the spread of HIV/AIDS could likewise have ramifications for how COVID-19 is understood and addressed [129].

Religion is also strongly intertwined with disease in Malawi. Prior to official occupation by the British government, Malawi had received (and continues to receive to this day) missionaries from many different world religions [121]. In present day Malawi, 91.1% of Malawi's population identifies with a non-native religion (although native beliefs and practices have woven their way into their interpretations of these non-native religions) [130], where 77.3% of Malawi's population identifies as Christian, 13.8% identifies as Muslim, 5.6% identifies with other religious groups, including Hindus, Baha'is, Rastafarians, Jews, and Sikhs, and only 2.1% indicate no religious affiliation [131]. Religion arriving through colonisation has always been intertwined with politics, policy and public health. The healing of sickness was a prominent method of conversion used by missionaries to discredit and disqualify traditional knowledge-keepers and healers and force a dependency on "benevolent" external powers for aid [132]. To this day, religion in Sub-Saharan Africa continues to hold influence and have implications on health and politics. Several studies have been conducted where, despite the specific conclusions varying depending on the metrics of health studied, there is consensus that religion is a predictor in health outcomes (whether positive or negative) [133]. Drain et al. (2002), for example, look at religion and the spread of cervical cancer. The team found out that lower-income Christian nations had higher incidence rates, whereas nations that adhered to Hindu or Indigenous/Traditional beliefs displayed relatively higher mortality rates [134]. Considering the high levels of poverty and religious adherence in Malawi, combined with the

importance accorded to traditional healers, these discoveries further complexify the discussion around COVID-19 in the country.

Malawi is a multiparty democracy, where the country holds elections every five years with the president and vice president being chosen via a first-past-the-post system [135]; a political dispensation ushered in 1992 after over 30 years of one-party authoritarian rule. The most recent official election took place in 2019 where the incumbent president, Peter Mutharika, was re-elected. The election, however, was annulled by the Malawian Constitutional Court, citing acts of cheating, results tampering and other malpractices [136]. Due to the COVID-19 pandemic, Peter Mutharika remained in his presidential role for months after the annulled election to ensure political stability in the country during this public health crisis [137]. Under his leadership in the early months of the pandemic, there were strikes by nurses and other healthcare professionals due to lack of pay and unsafe working conditions. In addition, human rights groups were propelled to file a court injunction when he attempted to mandate a state of lockdown because Malawi's economy, and thus the livelihood of individual Malawians, would not be able to survive [138,139]. A new election was set for June 23rd, 2020 where a two-round system was used and Lazarus Chakwera became Malawi's new president [140]. Thus, Malawi is one of very few countries in the world to undergo an unplanned change in political leadership during the COVID-19 pandemic. Throughout this tumultuous political period, President Mutharika was unable to effectively respond to the COVID-19 pandemic because he lacked both the trust of the public and his suggested measures were deemed unfeasible by the courts. Although COVID-19 arrived in a different political climate than HIV/AIDS, as Malawi is now a multiparty democracy, parallels can be drawn between conditions under which HIV became endemic to the country, and the current circumstances surrounding COVID-19 including a top-down politically-led heavy-handed approach to disease, government corruption, and a politician trying to save his presidency [141].

The interconnectedness of the environment (physical and social) and public health render questions on disease increasingly complex as the full spectrum of a place is integrated into the evaluation of a disease and its spread. To conduct COVID-19 research in Malawi is to confront a convoluted web of

sociocultural, political, religious, and linguistic circumstances in an economically poor setting that shapes the environment in which people experience sickness and bad health (having COVID-19); and, the actions that are available to them as they seek to restore themselves to a state of good health (absence of COVID-19).

Chapter 3: Methodology

3.1 Introduction

Qualitative methodology was determined to be the most appropriate in embracing and prioritising the significance of place when examining COVID-19 as an emerging disease outbreak. Qualitative research methods serve as a crucial tool within the framework of Black geographies, enabling scholars to delve into the nuanced relationships between place, identity, and lived experiences. Qualitative methodology allows for a special relationship to the data gathering process, supporting thorough and deep exploration of complex links and interconnected concepts. It achieves this by creating scope for the incorporation of other forms of knowledge production such as lived experiences. Through techniques such as interviews, ethnographic fieldwork, and narrative analysis, qualitative research amplifies the voices and narratives of Black peoples and communities while providing a context-specific lens through which to explore the spatial dynamics of Blackness, contributing to a more comprehensive and intersectional understanding of the geographies of Black lives.

The data collection process was divided into two phases in response to the challenges imposed by COVID-19 measures, especially the constantly changing travel guidelines. While the first phase centred methods that allowed for the lead researcher to collect data at distance, the second phase took place in person on the ground with the goal of filling in any information gaps identified in the first phase while also creating space for gratitude and relationship-building.

3.2 Case Study Approach

The African continent contains a wealth of diversity where different places (countries, states, regions, districts) are made up of different populations who speak different languages, worship different gods, have different political structures and experience different impacts from the continental legacy of colonialism and imperialism [142]. It would be reductive to try and generalise the (Black) knowledges used to combat COVID-19 across the continent, recognising that each place dealt with their own

challenges in unique ways that do not necessarily transpose well onto a continental level. In order to achieve an in-depth contextual understanding of the links between place and COVID-19, this dissertation adopts a case-study design.

Case study design is well-suited for examining the contextual factors that contribute to the occurrence of a social phenomenon. By taking this approach, we were able to study the relationship between place and health during the COVID-19 pandemic in a singular African country, whilst still achieving results that could be extrapolated to broader lessons applicable beyond the country's borders. Case studies are particularly useful for exploratory research, where the goal is to gain a preliminary understanding of a topic, while offering practical insights that are directly applicable to real-world situations, making them valuable for informing policy development. Furthermore, since case studies allow researchers to consider the whole picture where they can investigate the interplay of multiple variables and factors within a real-world context, it also means that case studies are also known to have great potential for generating unexpected findings. This approach was considered the most appropriate for meeting the research objectives because it allowed us to identify, explore, learn from and uplift (Black) voices, experiences and knowledges that are not often heard from in public health discussions, including during the COVID-19 pandemic, which is ultimately the aim of this dissertation.

Malawi was selected as the focus of this research because despite being one of the least economically developed nations on the continent, and exhibiting some of the lowest vaccination rates at the time of the study, the country recorded relatively lower COVID-19 prevalence and mortality rates when compared to other African nations [143]. It also stands out as one of the only countries to undergo a change in political leadership during the first year of the pandemic. Malawi offered an interesting set of circumstances to delve deeper into.

3.3 Hermeneutic Design

This dissertation uses a hermeneutic phenomenological approach to qualitative methodology and research. A hermeneutic phenomenological approach within a case study focuses on understanding the experiences of individuals or groups within a larger case. This integration allows for a deeper exploration

of the meaning and interpretation of specific aspects of the case, in this instance, how the COVID-19 pandemic played out in Malawi.

Hermeneutic phenomenology, also known as interpretive phenomenology, focuses on the relationship(s) between an individual and their *lifeworld*, where *lifeworld* speaks to "the idea that 'individuals' realities are invariably influenced by the world in which they live" [144]. It is a form of qualitative questioning that builds upon the belief that human beings cannot experience a phenomenon, in this case COVID-19, without it being informed by the environment in which the phenomenon is experienced. Hermeneutic phenomenology expresses that the contributions of individuals cannot be distanced, or extracted from, their *lifeworlds*, and thus it can be assumed that their contributions come from and are primed by their *lifeworlds [144].* This approach was chosen over descriptive or transcendental approaches that seek to highlight "the universal essence" of a phenomenon because the goal is not to achieve a universal truth regarding COVID-19 that *transcends* the lived experiences of peoples, but to build a nuanced understanding of COVID-19 born from local (Black) knowledge influenced by the social, institutional and biophysical environments on the experience of disease [145]. Although descriptive and transcendental approaches are more popular in qualitative health research [146], this dissertation seeks to valorise local (Black) place-based ways of knowing and doing within the context of health research and policy development, which means that place must be centred in the methodology, and hermeneutic phenomenology offers a vehicle through which this may be realised [144]. Precedent in using hermeneutic phenomenology in health research has been established by authors such as Bynum et al (2019) who use the approach to provide insight into the complex phenomenon of shame in medical students, and the impacts of this shame on the way they do their health-based care work [147].

3.4 Ethics Statement

This project received approval from the Research Ethics Board at the University of Ottawa in Canada (application number: S-03-21-6554) and the National Committee on Research in the Social Sciences and Humanities at the National Commission for Science and Technology in Malawi (reference number: NCST/RTT/2/6).

3.5 Phase 1: Semi-Structured Interviews

Phase 1 of this project took place between September and December 2021. COVID-19-related travel restrictions at the time meant that the lead researcher had to participate in data collection at distance. Through conversations with Soils, Food and Healthy Communities (SFHC), our community partner, we excluded the possibility of conducting interviews via video conferencing software like Zoom or WhatsApp due to the logistics involved with transporting key informants to the SFHC offices to access high-speed internet and with providing simultaneous interpretation for people who were not comfortable being interviewed in English. Furthermore, the ethics office at the University of Ottawa was concerned about data security and encryption with US-based software companies like Zoom and WhatsApp. Collaboratively, we determined it was best to hire and train research assistants in Malawi who had tertiary education in medicine or healthcare and have them lead the interviews. In addition to the logistical benefits, this also facilitated the application of ethical spaces during the interviews (see Section 3.11). Four research assistants were identified through our partnership with SFHC. The four research assistants (three men and one woman) were provided with an interview guide for the semi-structured interviews. They were instructed to follow the flow of the interviews/conversations organically, navigating a dynamic exchange of leadership where both the interviewer and interviewee played active roles in steering the discussion. Following the principle of saturation, which states that once nothing new is being learnt, the ideal number of interviews has been achieved [148], we completed a total of forty-one semi-structured interviews.

3.6 Phase 2: Gratitude, Unstructured Interviews and Observations

The second phase took place in June 2022 over a period of two weeks and sought to fill any gaps identified during analysis of Phase 1 data. Black geographies prescribes the importance of building positive reciprocal relationships with the communities being studied, with an emphasis on giving back wherever possible [149]. During this phase, the lead researcher (myself) travelled to Malawi to meet the research assistants, the team at SFHC and some of the people interviewed in person to offer them

non-monetary gifts as a token of gratitude for all their hard work and for sharing so much information and knowledge during Phase 1. The sincere thank yous in person coupled with gift giving allowed for open and unstructured conversations with community which led to three informal unstructured interviews taking place: one with a civil servant who works for the Malawian government, one with a park ranger, and one with the head of a hospital. This immersive engagement extended beyond the boundaries of Phase 1, providing a platform to delve into aspects that might have been overlooked, remained obscured, or were previously unexplored. During these interviews, while there were no predetermined questions, I spoke about my findings and asked for their thoughts and opinions which naturally generated conversation and revealed elements that I had not noticed, been blind to, or wanted to know but could not glean from the Phase 1 interviews. Even with my personal familiarity with East African cultures and realities, the immersive phase remained essential in being able to further situate the analysis emerging from Phase 1 within the Malawi context. As an example, through the interviews, I learnt that there were difficulties in asking people to remain home since their homes were not equipped for isolation. Being in Malawi allowed me to see homes first hand to observe just *how* difficult self-isolation truly was, thereby further enhancing data analysis and interpretation. Although limited to three interviews due to time and budgetary constraints, the depth of insights gained through this immersive experience enriched the overall research process.

In addition to demonstrating gratitude and conducting interviews, I was also able to travel around Malawi with a guide. Through these trips, I was able to make personal observations, ask questions about norms that I did not understand, and see/speak to many people. This enriched my understanding of the data collected in Phase 1 and allowed for more robust data interpretation and analysis.

By actively participating in the community and engaging in unstructured conversations, we not only acknowledged the importance of reciprocity but also uncovered perspectives that contributed significantly to the holistic understanding of the researched geographies. This immersive approach reflects our commitment to moving beyond conventional research methodologies, fostering genuine connections, and extracting nuanced insights that might elude structured inquiries.

3.7 Partnership: Soils, Food and Healthy Communities

Soils, Food and Healthy Communities (SFHC) is a grassroots community organisation based out of Ekwendeni, a town in the Northern region of Malawi, that provides farmers and rural communities access to research and knowledge. The organisation began in the year 2000 as a participatory agroecology project with just thirty farmers. SFHC now works with over 6,000 farmers in more than 200 villages in Northern and Central Malawi. The farmers work together and exchange knowledge to improve soil fertility, food security and nutrition. SFHC is now a certified nonprofit, registered with charitable status in Malawi.

SFHC was chosen as a community partner in part because of an existing relationship between the organisation and Dr. Paul Mkandawire and their previous experience working together. SFHC often works with foreign funding agencies and academic institutions both within and external to Malawi to support research efforts and ensure that research outcomes benefit the individuals and communities that participate. From its origins in legume intensification, SFHC has demonstrated a dedication to ensuring equitable participation and distribution of resources, facilitating farmer leadership, and working to support sustainable, healthy, resilient communities.

Through the partnership with SFHC, I was able to recruit four research assistants to support Phase 1 of the project. I prepared a list of ideal skills and competencies and sent it to the team at SFHC, who were then able to identify community members from across the country to lead interviews. Of the four research assistants, one was a full-time community researcher, one was a medical student, one was a laboratory technician, and one was a nurse. After SFHC selected the four research assistants, I (as the lead researcher) then held two semi-structured interviews through Zoom Conferencing software, where the key informants were brought into the SFHC offices to use their computer and internet, and the research assistants observed. These two initial interviews were conducted for two reasons: (1) to field test and edit the question guide for cultural relevance and appropriateness; and, (2) to train the research assistants on the distinction between a semi-structured interview and a structured interview, and thus the purpose of the interview guide. The translation team at SFHC then translated the question guide to Chichewa and the

research assistants were then able to begin interviews. Given that Chichewa serves as the predominant local language in Malawi, further translation of the guide was deemed unnecessary by the SFHC team.

In addition to recruiting the four research assistants, SFHC took the lead in identifying and reaching out to key informants. It was important that this was done through SFHC as cultural protocol dictates that researchers build relationships and trust with community leaders to gain entry into the community [150]. Nyirenda et al. (2018) recommend early and continuous engagement of various community representatives throughout any health research endeavour to ensure ethical research conduct; however, they acknowledge that low scientific literacy may pose a challenge, and thus encourage international researchers to work with local researchers, government technical working groups, or community advisory boards [150]. SFHC allowed this work to be conducted in an ethical way as the organisation interacts with the community on a regular and consistent basis to hear the voices of those they serve.

Moreover, recognising the importance of celebrating local knowledge not just via the data collected, but also through the data collection process, it was important for the recruitment to be conducted by a local team. Prior to recruitment, I had a conversation with the SFHC team and research assistants about the importance of ensuring diversity among key informants, paying special attention to education levels, work experience, lived experience, cultural background and gender. Beyond this, I left it to their community ties and best judgement to recruit interviewees. SFHC were able to identify a diverse set of community members who met the criteria and initiate conversations to obtain consent. Recruitment was restricted to the communities and people with whom SFHC had existing relationships and access which created a geographic bias in the distribution of key informants.

I hosted a virtual training session with the SFHC leadership to ensure that consent was obtained according to the guidelines identified through the ethical approval process. The approved consent agreement was available in English, Chichewa and Chitumbuka, and it was read out loud for anyone who was unable to read the form themselves. Then it was signed, scanned and uploaded to a secure server that only the research team had access to. Key informants were each given a signed copy to keep, which

included the contact information of the lead researcher (myself), Dr. Eric Crighton, as well as the ethics board at the University of Ottawa.

Finally, while I was not able to return to the key informants and share results directly with them due to time and budgetary constraints, I shared initial findings and interpretations with SFHC to obtain their feedback. During Phase 2, I prepared and delivered a presentation to the team at SFHC outlining initial results, and then both responded to and asked questions, and captured feedback prior to making any necessary corrections.

3.8 In-depth Interviews

The primary mode of data collection for this study is the semi-structured interview. This method was chosen to allow for a series of prompts, encouraging each interviewee to touch upon certain subjects and points, whilst still acknowledging them as experts in their respective knowledges and practices, enabling them to elaborate in line with their understanding and judgement. To supplement the information gathered during the semi-structured interviews (Phase 1), unstructured interviews were conducted with strategically determined key informants best suited to filling in the gaps identified through data analysis (Phase 2).

Prior to participation, prospective informants were read a consent form describing the objectives of the study and asked to confirm their willingness to take part. Verbal consent was accepted from participants who were illiterate, otherwise participants were asked to sign a consent form after confirming that they understood what they were signing. Prospective participants were informed of their right to withdraw from the interview at any point or decline to answer certain questions without risk of reprisal. The interviews were conducted in English or one of the local languages (Chitumbuka or Chichewa), audio-recorded with participant's permission and transcribed to be later translated to English (when applicable). Translation was completed by the translation team at SFHC.

During the interviews, COVID-19 best practices were implemented, including requiring key informants and the research team to wear masks, and maintaining a two-metre distance between participants and the interviewer. The key informants were asked to walk and talk with the interviewer as

Evans and Jones (2011) found that "the data generated through walking interviews are profoundly informed by the landscapes in which they take place, emphasising the importance of environmental features in shaping discussions" [151]. This enabled place to be better integrated into the responses given, with opportunities for observational data to be collected as a supplement to the verbal data shared by the key informant.

3.9 Key Informants

Data was collected through a combination of semi-structured and unstructured individual interviews with well-placed key informants in Malawi who were able to offer a range of perspectives, worldviews. Key informants are typically not research participants in the traditional sense (i.e. the subject of the research), but instead, they provide information on the subject at hand and thus form a reciprocal relationship with the researcher by expanding our scope of understanding and helping to reduce potential bias [152]. Key informants were chosen for this study to allow for the widest breadth of information to be gleaned from fewer people through targeting those in the community who can speak from a place of local, contextual knowledge and/or first-hand experience. The data gathered was detailed and nuanced, offering avenues of further study that may be better suited to quantitative data collection methods.

Key informants came from many walks of life and were largely grouped into three categories: (1) physical health providers and practitioners in the conventional and traditional healthcare systems, including doctors, nurses, traditional healers, herbalists and midwives; (2) those who work in the formal and informal mental, spiritual and emotional health spheres, including professors and students of sociology and religion, community heads and religious leaders; (3) informants with important lived experiences and personal perspectives whose experiences may not be captured through conversations with the aforementioned groups such as teachers, farmers, informal traders, and fishermen.

3.10 Interview Guide

An interview guide was prepared for the semi-structured interviews (Appendix A). The questions were designed by the lead researcher to meet the objectives of this study based on emergent questions

about COVID-19 stemming from a 2021 literature review, with prompts to encourage and push the conversations to really explore the bounds of knowledge in relation to COVID-19. The interview guide was reviewed by Dr. Eric Crighton and Dr. Paul Mkandawire, as well as the leadership team at SFHC. It was then field tested by the lead researcher through two semi-structured interviews in English via Zoom Conferencing software with two key informants. Some questions were removed, others added and some edited prior to finalising the question guide, which was then translated into Chichewa, and then used by the four research assistants to conduct interviews. As part of their training, the research assistants attended the semi-structured interviews that I conducted to observe first-hand what a semi-structured interview looks like.

3.11 Ethical Spaces

As a research project that uses a Black geographies framework to generate multiple forms of knowledge production within the context of disease spread, vulnerability and resilience, I was very conscient of the power imbalance that comes from being an international researcher. To circumvent these power imbalances, every effort was made to ensure that the interviews took place in an ethical space.

Popularised in research that focuses on Indigenous-Settler interactions in Canada, the concept of ethical space "entertains the notion of a meeting place, or initial thinking about a neutral zone between entities or cultures. The space offers a venue to step out of our allegiances, to detach from the cages of our mental worlds and assume a position where human-to-human dialogue can occur" [153]. In essence, an ethical space attempts to circumvent the power dynamics between the interviewer and interviewee by establishing them both as people who hold experiences, cultures and ways of being that are important to who they are, while acknowledging that their opinions are their own and not representative of a group (unless they are specifically asked to speak on behalf of their affiliated group). The question guide was intentionally designed to allow the key informant to centre their personal experiences and viewpoints to allow both interviewer and interviewee to speak freely, knowing that their words do not carry weight beyond sharing their own experiences and knowledge, while not being representative of a people, a nation or an institution. Willie Ermine from Sturgeon Lake First Nation (located in what is currently

Saskatchewan, Canada) explains that to build an ethical space, engagement has to be designed around allowing for multiple "gazes", the word gazes in this instance referring to worldviews because "[t]his gaze projects from the memory of a people and is, in essence, the continuum of a story and a history" [154].

Conducting Phase 1 at distance through locally sourced research assistants mitigated global power dynamics within the interviewer-interviewee relationship and allowed for a Malawian "gaze" to be infused into every element of the data collected. By using a semi-structured interview format, the interviewee had the ability to redirect the line of questioning and share information/knowledge they believed to be pertinent, allowing the data collection process to take place on more-or-less equal footing, thereby facilitating both the "gaze" of the interviewer and the interviewee to shine through. During Phase 2, I built a rapport with the key informants in advance of the interview to create the space for human dialogue. By taking an unstructured approach to the interview, these interactions felt very much like conversations with a lot of banter, jokes and laughter, thereby highlighting the human element, but also enabling the participant to be comfortable enough to allow their "gaze" to colour their words and come through in the knowledge shared.

3.12 Data Analysis

The framework method was chosen for data analysis. Originally conceived to manage large quantities of qualitative data in policy analysis, the framework method has become increasingly popular in multidisciplinary health research [155]. Consistent with this form of analysis, after Phase 1 the interview transcripts were carefully evaluated for content, seeking emergent recurring themes through the words of the interviewees [155]. An open code was then applied to each paragraph describing what I determined as important after each interview. Given the inductive nature of this project, this coding varied between being substantive, value-oriented and impressionistic [155]. Comparisons and contrasts were formed between the highlighted codes for the different interviewees, often requiring re-coding as new themes emerged. Although the results were not shared with individual key informants for their feedback, they were presented to our community partner, SFHC, for their input, and informally discussed with

community members and some key informants during Phase 2. After completing Phase 2, including transcribing and coding Phase 2 interviews, all codes were then re-evaluated, consolidated and finalised. From here, a framework was built that grouped similar codes to form a matrix.

The data are stored on a Google Drive cloud server that is accessible only to key members of the research team (myself, Dr. Eric Crighton and Dr. Paul Mkandawire) and ATLAS.ti software was used for data management and to support data analysis.

3.13 Methodological Rigour

Methodological rigour involves a dedicated commitment to transparency, precision, and systematic adherence to established protocols [156]. Table 1 provides a concise overview of the procedures employed to uphold the integrity of the research methods outlined in this chapter. The best practices identified in Table 1 were derived from a study by Baxter and Eyles (1997), charting the most prevalent methods used to ensure rigour in qualitative studies [156].

Practice	Completed (Y/N)	Additional Comments
Rationale for methodology	Y	See sections 3.1-3.11
Multiple Methods	Y	See sections 3.5, 3.6, 3.8 and 3.9
Description of Respondents	Y	See section 3.9
Interview Quotations	Y	See sections 4.6, 5.7 and 6.6
Interview Practices	Y	See section 3.8
Procedures for Analysis	Y	See section 3.12
Immersion/Lengthy Fieldwork	Y	See section 3.6
Revisits	N	Limited due to budget constraints
Verification by Respondents	N	Limited due to budget constraints; however, verification by community partner took place (see section 3.6 and 3.12)
Appeals to Interpretive Community	Y	See sections 7.2-7.5
Rationale for Verification	Y	See section 3.6

Table 1: Strategies for establishing qualitative rigour in geographic work, adapted from Baxter and Eyles (1997) [156].

Chapter 4: Exploring COVID-19 from the Perspectives of Healthcare Personnel in Malawi

4.1 Preface

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4.2.1 Author Contributions

The authors confirm contribution to the paper as follows: Study conception: Chúk Odenigbo. Study design: Chúk Odenigbo and Dr. Eric Crighton. Data collection: Chúk Odenigbo. Analysis and interpretation of results: Chúk Odenigbo. Draft manuscript preparation: Chúk Odenigbo. Review of drafts: Dr. Eric Crighton. All authors reviewed the results and approved the final version of the manuscript.

4.2.2 Conflict of Interest Statement

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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4.3 Abstract

4.3.1 Background

The Coronavirus 2019 disease (COVID-19) brought many healthcare systems around the world to the point of collapse all the while putting the lives of healthcare workers at risk. This study forgoes an institutional look at healthcare to centre individual healthcare personnel in Malawi to better understand (1) how the worldviews of healthcare workers impact their work in the context of COVID-19, (2) how COVID-19 impacted healthcare workers, and (3) the unique conditions faced by being a healthcare worker in a low-income nation.

4.3.2 Methods

This research uses a hermeneutic phenomenological approach to qualitative methodology involving in-depth interviews (*n*=15) with healthcare workers, traditional healers, and hospital leadership. The data collected was inductively coded and analysed using the framework method, producing rich descriptions on how COVID-19 impacted the lifeworlds of healthcare workers in Malawi.

4.3.3 Results

Findings reveal many of the struggles healthcare workers faced due to misaligned government policy and perceived proximity to COVID-19; outline their needs such as want for better resources, funds, wages and public health communication; and, exemplify the significant role that personal biases, worldviews and sense of fear played in how healthcare workers perceived and interacted with COVID-19.

4.3.4 Conclusion

Much of what was said echoes beyond borders, reflecting common global sentiments felt by healthcare personnel, and offers directions to explore in building policies, strategies and plans in preparation for any future disease outbreaks.

Keywords: COVID-19, pandemic, healthcare workers, fear, Malawi, discrimination, violence

4.4 Introduction

As the world seeks to comprehend the Coronavirus 2019 disease (COVID-19) pandemic and its impacts on human society, there is a need to understand the ways in which the disease has shaped (or reshaped or is reshaping) healthcare [1]. With limited information about the disease, doctors and nurses around the world have had to try and manage COVID-19 symptoms and treat the sick, all the while promoting public health measures to impede the spread of the disease and protect the larger populus [2,3]. As the front line of defence in the event of any health crisis, healthcare workers across the world have had to deal with a series of obstacles and challenges as they put their health (and oftentimes, the health of their families) at risk for the wellbeing of society [3–5]. While no story is objectively more important than another, the stories of healthcare workers come with a sense of urgency to act because they are the first human line of defence against a disease and so should they fall, the risk against the collective health of the society increases [6,7].

Koontalay et al. (2021) completed a meta-analysis of ten qualitative studies focusing on the psychological and emotional impacts of COVID-19 on healthcare providers [8]. They looked at studies published in China, the United States, the United Kingdom, South Korea, Brazil, Iran and Lebanon, where four emergent themes became apparent: healthcare providers across the world were dealing with (1) inadequate preparedness, (2) emotional challenges, (3) insufficient information and equipment, and (4) burnout [8]. Their discussion reveals that although the themes remain consistent across geographic scope, the root cause of each theme was different. In Lebanon, for example, psychological distress stemmed primarily from “conflicts that they encountered between their professional duties and their duties toward their families” whereas in the United States and South Korea, the same feeling of psychological distress came from “the unpredictability of COVID-19” [8]. This study demonstrates that even where there are similarities and synergies between findings, results cannot be generalised across borders. The healthcare workers in each country have their own stories to tell.

Ali et al. (2021) demonstrate the learning that can be achieved from an in-depth place-specific qualitative study by interviewing twenty physicians in Pakistan on the impacts they faced during the

COVID-19 pandemic [1]. Through their study, we learn not only of the mental health challenges doctors faced, but also of the important role that religion, biomedical science, rural versus urban landscapes and professional status played in how COVID-19 was perceived and acted upon. Ali et al. (2021) were able to confirm the significance of, and call for, further ethnographic studies on dealings of frontline care providers with COVID-19 and the way these conversations can inform policy [1]. Ali et al. (2021) emphasise the role of place in these conversations, centring Pakistan, specifically the Sindh province, in the story that they piece together, recognising that healthcare workers in other places may hold different perspectives and influences.

Malawi is a low-income nation whose healthcare system faced challenges similar to many other African and South American countries whereby they had to contend with COVID-19, while managing ongoing epidemics and eclosions of transmissible diseases such as malaria which accounted for 34% of outpatient visits prior to 2020 [9]; cholera, due to only 60% of the population having access to proper sanitation facilities [10]; and HIV/AIDS where an estimated 10% of the entire population live with the virus at any given time [11]. In addition to transmissible diseases, healthcare workers also have to navigate the growing burden of chronic illnesses including cancers, diabetes and hypertension [12]. Malawi, for example, demonstrates the highest incidence rates of cervical cancer in Sub-Saharan Africa [13].

The aim of this research is to expand on existing COVID-19 literature and knowledge by looking at the impacts that COVID-19 has had on frontline healthcare workers in Malawi. Using qualitative methods, we question what it meant to be a healthcare worker in a low-income nation during a global pandemic, looking for and listening to the stories, concerns, fears, wishes and hopes of the healthcare workers on the frontlines of the fight against COVID-19 in Malawi. Specifically, we want to understand (1) the impact that COVID-19 had on healthcare workers in Malawi, (2) the influence of individual healthcare workers' worldviews on their work in the context of COVID-19, and (3) the unique circumstances and conditions faced by being a healthcare worker in a low-income nation. The findings of this study seek to inform further targeted exploration of policies, measures and systems necessary to

ensure that healthcare workers feel supported and valued in their work, thereby strengthening healthcare in the advent of a new disease outbreak.

4.5 Materials and Methods

Data were collected through semi-structured in-depth interviews (*n*=14) with healthcare workers from across Malawi between September and December 2021. A follow-up unstructured interview (*n*=1) with hospital leadership was conducted in June 2022 to help contextualise and better interpret findings. This study is part of a larger qualitative research project (*n*=44) examining the COVID-19 pandemic in Malawi.

To meet the research objectives, we used a hermeneutic phenomenological approach to qualitative research where our data gathering process focused on the relationship between the healthcare workers and their *lifeworld*, based on Heidegger's understanding where "lifeworld referred to the idea that 'individuals' realities are invariably influenced by the world in which they live" [14]. Hermeneutic phenomenology is built on the assumption that people are experts in their own lives and lived experiences, therefore allowing us to explore the worldviews that influenced how COVID-19 was perceived, received and handled (objectives 1 and 2), as well as the realities that they operated and lived within (objective 3). Bynum et al (2019) successfully demonstrate the importance of hermeneutic phenomenology in the context of health research [15].

Following cultural norms, recruitment was conducted via a referral process led by community leaders. In this case, we partnered with Soils, Food and Healthy Communities (SFHC), a research-centred non-profit organisation based in Ekwendeni, Malawi, that acted as a community liaison. SFHC was tasked with identifying potential participants through their national networks, ensuring a diversity of perspectives based on occupation, location, gender and ethnicity wherever possible. A total of fourteen participants were recruited for the semi-structured interviews, eight men and six women, from a wide variety of professions in healthcare: clinical officers, nurses, traditional healers, students, dentists, outreach officers, and lab technicians. Eleven participants had either completed or were in the process of completing post-secondary education, while three did not complete secondary school. The majority of participants

identified as Tumbuka (*n*=10), with the remainder identifying as Ngoni (*n*=3) or ethnically mixed (*n*=1). There was a diversity of socioeconomic statuses, with most of the respondents living in urban areas (*n*=8). Eleven interviews were conducted in English and three in Chitumbuka. Given the scarcity of health professionals in Malawi, the locations where the participants came from will not be revealed to better protect their anonymity. While each participant brought forth unique points and perspectives, we stopped after the fourteenth interview because we noticed that many of the same ideas were being repeated and judged that we had reached theoretical saturation.

The interviews were conducted using an interview guide that was co-created by the authors and field tested for cultural compatibility by the lead researcher before being translated and implemented by a team of four experienced Malawian research assistants (three male, one female) who were recruited to carry out the semi-structured interviews. The interview guide featured questions and probes that addressed themes on COVID-19 in Malawi including personal perspectives on the disease, and government and societal responses to COVID-19. Participants were asked questions surrounding their understanding of COVID-19; any feelings that the disease invoked; its impacts on their work and on their patients; their thoughts on the way their government handles the pandemic; vulnerable populations; and what could have been done better from their perspective.

Prior to participation, prospective participants were read a consent form describing the objectives of the study and asked to confirm their willingness to take part, and whether they could be audio-recorded for their interview to later be transcribed, and when applicable, translated to English. For the purposes of privacy, pseudonyms were used in the recordings and written text. Analysis was conducted through the ATLAS.ti software using the framework method [16]. Interview transcripts were evaluated for content, seeking emergent recurring themes through the words of the interviewees. An open code was applied to each paragraph describing what the lead researcher determined as important after each interview. Given the inductive nature of this research, the coding was impressionistic. Comparisons and contrasts were formed between the highlighted codes for the different interviewees, with re-coding as new themes emerged. From here, codes were thematically grouped to form a framework for evaluation. Initial

interpretations were shared with SFHC for reflective feedback, and any gaps in knowledge, context and interpretation identified were addressed through an unstructured in-depth individual interview with the head of a hospital in Malawi (given that Malawi has few hospitals, the location will not be shared to ensure the anonymity of the interviewee). Final findings were sent to SFHC to inform their work and share with appropriate community and government partners.

To minimise the risk of the spread of COVID-19 throughout the data collection process, COVID-19 measures were implemented based on the most up-to-date guidelines offered by the World Health Organization, the Malawi Ministry of Health and Health Canada [17–19].

4.6 Results

Traditionally, knowledge in many African cultures is transmitted through stories, including in Malawi. Reflective of these practices, this results section has been organised in the format of a singular cohesive story built from the collective experiences and anecdotes shared by the participants in this study. The story has been thematically sectioned off with subheadings to facilitate reading [20].

4.6.1 Understanding of COVID-19

We opened the interviews by asking the participants to describe their understanding of COVID-19. The answers we received ranged from clinical approaches to discussing COVID-19 where interviewees talked about the disease, its symptoms and how it spreads; to relational explanations, where participants focused on the changes that they have had to navigate as a result of COVID-19 in both personal or professional settings. Dwe, for example, works as a Health Surveillance Assistant. He described COVID-19 to us in the same way he would speak to someone who was concerned about the disease, his tone was reassuring and confident.

> *COVID is... I can say COVID is a preventable disease. Especially if you follow the instructions like isolation, social distancing, and wearing a mask, it is preventable*. (Dwe)

Addy, a radiologist, shares a more personal response, imbued with sadness as he reflects upon the toll that COVID-19 has had on human life. He mentions how his understanding (and the understanding of many of his entourage) of COVID-19 has evolved with time. At first they believed that COVID-19 was a

disease for white people (*azungu* is the colloquial term used to refer to white people in Malawi), but they quickly learned that it was a disease that can and would impact all.

> *I think we still feel very bad because this time around it seems the COVID-19 is taking a lot of people. In the past, we thought it's just for the azungu guys. But this time around, it seems to be very strong [...], it is very bad. I don't like it*. (Addy)

In fact, the idea that COVID-19 targeted a specific racial group was not unique to Addy. Other healthcare professionals held similar opinions. Ira, a Nursing Birth Technician, when asked to comment if there are certain ethnic groups or tribes who have been harder hit by the pandemic, she said:

> *I think the azungu are affected.* (Ira)

When pressed to explain why she believes that they are more impacted by COVID-19, she said:

> *I'm not sure, maybe because of their skin colour, I don't know*. (Ira)

Rani, a Community Health Worker whose work centres family planning and data collection, takes a relational approach to describing her understanding of COVID-19. She explains that COVID-19 has had a large impact on the people that they work with, interrupting the necessary services that she offers through her work, and speculating as to why the disease is able to spread so easily amongst folk.

> *This COVID-19 has brought in a huge impact. Emotionally we are disturbed, because most of our days have been disturbed since COVID-19 has affected the delivery of our services [...]. Most of the people affected are affected because maybe they don't follow the hand sanitising, don't wash their hands, don't put on their mask. Yeah.* (Rani)

A key component of the frontline pandemic response in Malawi, many people will often opt to go to a traditional healer when they are feeling sick or unwell in place of a hospital. When asked to describe how they understood COVID-19, unlike the hospital workers who spoke of the disease as a novelty, some traditional healers like Qum related COVID-19 to other ailments. In doing so, they were able to provide traditional remedies to their patients.

[When steaming], I told other people that in that water they should be putting in lemons [because] this disease and coughing are the same so even in the past lemons were being used to cure a cough. (Qum)

4.6.2 Fear of COVID-19

There was unanimity in that everyone responded with fear; however, the reason for the fear differed from person to person. Some healthcare workers, like Ira, expressed fear of the disease itself.

On WhatsApp people were talking a lot about this COVID-19... I would say they were scaring us [...]. It was like they were bringing fear onto us. (Ira)

Ip, a traditional healer, expressed fear of the unknown. This nuanced take recognises that COVID-19 is new to the disease landscape and it is the lack of familiarity with the disease that inspires fear in frontline healthcare workers.

[COVID-19 is] a disease that has come between us to cause fear [...]. This disease has confused us. What exactly causes this disease? We don't know. We just hear what the government is telling us. (Ip)

Others, like Miko, who works as an HIV Diagnostic Officer, expressed a fear of the impacts of COVID-19, rather than of the disease itself. In Miko's case, he spoke to a fear of being on the receiving end of violence instigated by public response to the COVID-19 pandemic.

I was doing some business, but now I am no longer doing it because I'm afraid of travelling to other countries for fear of the violence. (Miko)

The fear, like any other emotion, did not remain esoteric and open to ponder, but came to impact their daily personal and professional lives. Missuz, a Nurse Midwife Technician, speaks to how COVID-19 made it difficult to socialise and interact with her peers, but even further, it brought an element of fear into the workplace because she never knows who is and isn't carrying the virus.

Yeah, really, you can't freely socialise and even in the work itself, you know? Whenever you see someone, you just feel like this one is a carrier. (Missuz)

Rus, a Clinical Officer, talks about how the fear of COVID-19 has impacted his performance at work. Like Mussuz, the danger of being in proximity to carriers of the COVID-19 virus has impacted his social and work relationships, which has in turn reduced just how much he is able to contribute in the workplace. Fear impacts how he shows up in the workplace and his capacity to do his best.

> *I think there's been a huge impact in my life because there are things which have been disturbed a lot because of COVID-19. I think the social interaction has been disturbed as well as our working space has changed in a way that maybe working has become a problem now because we always have a fear of COVID-19. Like, for me, as a clinical officer, I always have fear of maybe being in contact with a COVID-19 patient, so there's all that fear. So working has been difficult for me because there is that fear of being in contact with suspects[those suspected of having COVID-19] or the COVID-19 patients as well. So that has hurt my feelings as well. So my working contribution has been very... not my best as well. Because I've been with fear*. (Rus)

Part of this fear in the workplace would be alleviated if healthcare workers had access to appropriate protective equipment. Malawi ranks as one of the ten poorest countries in the world. Consequently, there is heavy reliance on international aid for necessities, especially in the midst of a global pandemic. Nafé, a Laboratory Technician, talks about a lack of adequate provisions from the government, which in turn puts the lives of both the staff and their patients in danger.

> *Some hospitals are lacking facemasks, and they have to ask for other donors to help them*. (Nafé)

4.6.3 Reacting to COVID-19 and Targeting Healthcare Workers

Malawi has a very communal culture where relationality plays a big role in the vulnerability or resilience of communities in the face of adversity. Healthcare is no exception to this communal structure and operates at multiple levels of relationality, both as individual healthcare workers, as well as collectively as an institution within the society at large. During an unstructured interview with Taji who runs a private hospital in a small town in Malawi, she explains how COVID-19 created a shift in the way the general public saw hospital spaces.

Before COVID started, you could have a lot of clients, a lot of patients coming in with different conditions, different complaints, seeking medical attention, but soon after the COVID-19 [pandemic] started, people were afraid they would get COVID from the hospital. The number of patients coming to the hospital reduced. (Taji)

When questioned further, Taji clarified that people weren't scared of arbitrarily getting COVID-19 from being in the hospital or from getting COVID-19 from a fellow patient. Their fear very much stemmed from the idea that healthcare workers themselves would be the ones to give them the virus.

Yes, they[people] feel like by interacting with the hospital personnel, they might get the COVID itself. (Taji)

Even traditional healers noticed this change in how people saw hospital spaces. Like many traditional healers, Flora would often instruct her patients to go to the hospital if they were in a really negative state as a result of illness. COVID-19 was no exception.

Some [people with COVID-19] were indeed coming to me, but when they came and I saw that this one[COVID-19 patient] is worse[is in really bad shape], I was sending them to the hospital. (Flora)

But very quickly, Flora began to notice that people would resist going to the hospital and would instead prefer to head home to hide away. To circumvent this, she would encourage them to take a walk with her, where she would then lead them to the nearest hospital.

They[COVID-19 patient] were not aware that I was going to the hospital with them. I was just telling them "let us go for a walk," then we were boarding cars off to the hospital. (Flora)

Unfortunately, these perceptions of healthcare workers did not remain tied to the workplace (hospitals, clinics and family planning offices). A couple of the participants shared stories that they themselves experienced, or that were experienced by a colleague, where the community mistreated them or acted with violence in fear of catching COVID-19 from a healthcare worker. Addy mentions hearing of healthcare workers being beaten when diagnosing people as having COVID-19.

In most of Malawi, I've been hearing [of] people[healthcare workers] being beaten just because they said "this is a COVID patient." If people[general public] are going to go to the hospital and the hospital people say "you are a COVID patient," we should accept this. If you[general public] don't, that's why people are coming in to say "you[healthcare worker] are lying," and then you[healthcare worker] are beaten till you[healthcare worker] are almost dead. (Addy)

Ric, a biochemistry student, spoke to us about how nurses were often denied boarding on public transit because people were scared that they would catch COVID-19 from them.

And there was this other time when COVID-19 was discovered and it was spreading at a higher rate, hospital personnel, especially nurses, were being denied from boarding taxis. When a nurse would like to go to the hospital, she tries to stop a vehicle, a taxi, and she would be denied, with people saying maybe "oh I know those ones can transmit COVID." (Ric)

This progressive alienation of healthcare workers was further exacerbated by government COVID-19 policy which required that hospital staff bury the dead as a means of circumventing funeral culture in Malawi. Funerals in Malawi are a collective moment of grief and celebration of life for the entire community. It is not just the immediate friends and family of the deceased that attend, but every member of the community, who come together in often confined spaces for long periods of time. When asked if she knew of any cultural practices that can help transmit or hinder the spread of COVID-19, Bez, a Nursing Midwife Technician, explains just how risky funerals are with people remaining together after the ceremony for up to a month in collective grief:

Maybe I can say funerals. After all the ceremony, some people, they will still remain there even for a month. (Bez)

With the onslaught of the COVID-19 pandemic, the government sought to stem funerals as super spreader events. This put healthcare workers directly in harm's way where they dealt with the brunt of the people's ire. Ric shares the story of an ambulance driver who was beaten for trying to pick up the body of someone who died of COVID-19 for the hospital staff to bury.

At first when the disease was just being discovered, people were failing to accept it. And we've had circumstances whereby people in the village end up beating up an ambulance driver who had come to pick up and leave the dead body with the hospital personnel. People, not believing them [about COVID-19], chased the hospital personnel, who ran away. (Ric)

Taji explains the circumstances that Ric's story alludes to in further detail. She describes how patients may reject a COVID-19 diagnosis and head home, where they then die and hospital staff who head to the home to retrieve and bury the body are then met with violence.

Yes, they[the general public] were really mean. For example, this time around, when you identify someone who has COVID-19, especially the ladies, they can deny that and go home. In this circumstance where the hospital personnel are the ones who bury someone who dies of COVID-19... once those people[hospital staff] go there to bury that patient, they will be beaten from there. (Taji)

4.6.4 Retaliation to the Community Backlash

To mitigate the discrimination and violence that their staff were having to navigate, hospital leaders met with village chiefs and community leaders to discuss solutions and strategise messaging and communication. According to Taji, some conversations were fruitful, with certain communities acknowledging their wrongdoing and ending the mistreatment of healthcare workers, whereas others did not act.

First, they[hospital leaders] invoked the chiefs from those areas [where acts of discrimination and violence were high], sitting them down and discussing that issue. But in some other areas, nothing changed. (Taji)

For the communities where nothing changed, hospital staff started refusing to accept or treat patients who demonstrated signs of COVID-19. Rue, a priest who was interviewed as part of the larger study, shares a pertinent story from when he was travelling around some villages in Malawi, offering last rights to the dead and consoling the living.

Ignorance, I think, has killed many people [...]. When you ask the people, "what happened?" They respond, "ah no, yesterday, he just started coughing. Well, maybe two days ago, he didn't really get sick, but today we find that he has died." I was asking some people, I said "but you say he [...] started coughing on Thursday. Was he taken to the hospital?" They said "yes". "What happened at the hospital?" They said, "they just looked at him". I said, "Why do you think they just looked at him?" They couldn't explain but one clever lady, [NAME], said that "it's because you beat up health workers at some point in this area. Once they tell you that your relative has COVID, you start fighting them. So they just look at you." So that might have been a case of COVID-19. So some people do realise that maybe a number of people have died just silently without being recorded by the hospital. Unknowingly ignorance has killed us a lot. (Rue)

Please note that in this context, "looked at him" is meant in the literal sense. Hospital staff refused to interact with, diagnose and treat the patient. Instead, they just looked at him while saying and doing nothing.

4.6.5 Raising Awareness and Sensitisation

In addition to the boundaries set where healthcare workers were only willing to interact with and help patients who came from communities that were not/no longer perceiving them as a threat, there were efforts to rebuild relationships and trust. According to Taji, one of the key messages to come out of their talk with the various chiefs and community leaders was the desire to be autonomous once again with their burials. It was important to people to send their loved ones off in a way that accorded them all the respect and love they had to give. For many people, they were not scared of dying of COVID-19, but of not being given a respectful send off if they died of COVID-19. Abu, a participant from the larger study who works in community organising, describes this fear.

[COVID-19] sounded so scary, so it brought in a lot of anxiety, a lot of fear, a lot of discrimination, just because of the way those who have died have been treated or buried, you know buried in so fast, and you don't touch the body. And all that brought a lot of discomfort and unnecessary discouragement. (Abu)

In response to these needs and concerns, Taji describes the compromise that they came to where instead of having hospital staff bury the bodies of folk who died of COVID-19, they would disinfect the body so that it is less likely to be able to transmit COVID-19, and then put it in a bag, then in a coffin, before sending the body back to the family to perform the remaining burial ceremonies and rites.

> *So what we've decided is, after someone dies, to disinfect the body so that someone cannot transmit it, to put it in a bag, then in a coffin. Then we give it to the family to bury them.* (Taji)

Community outreach continued to be a large priority where buses and vans were sent to rural areas to educate the general public about COVID-19. This was especially useful in getting traditional healers onboard with COVID-19 measures as a point was made to educate them on the available strategies that had been confirmed to be effective against the disease. Vaccines were a key feature in this education and as such, many traditional healers incorporated the vaccine into the medicines that they gave their patients.

> *If they[people] come to me, I tell them that my [COVID-19] medicine is just a starter pack, [and that] the vaccine is important.* (Qum)

According to Taji, relationships have largely been healed, and things are back to normal in and outside of hospitals. Nurses are able to board public transit, clinical officers are able to diagnose COVID-19 without fear of retaliation and people are generally respectful towards healthcare staff.

> *After discussing with the chiefs, the chiefs got the messages to the people there. And the hospital staff is just fine. There are no other issues*. (Taji)

4.6.6 Government (In)Action

Healthcare workers in Malawi faced numerous challenges in navigating the COVID-19 pandemic, both at a personal level and in a professional capacity. Beyond the aforementioned psychosocial problems (the fear, the violence and the discrimination), there were issues with access to resources, training and public health communication that rendered their work more difficult. We asked the

participants, after a year of dealing with COVID-19, what supports they wished they had had from the beginning which would have made navigating the pandemic a lot easier.

Miko would like to have seen more timely awareness campaigns and more in terms of communication so that people would understand the importance of better integrating COVID-19 measures into cultural practices. This sentiment is echoed amongst many of the respondents interviewed where they strongly believe that raising awareness would have really helped in reducing their workload and making their jobs easier.

> *I think, culturally, we believe in interactions, especially in Africa, like Malawi, we believe in being together in a group sharing stories together. So, it is very difficult for us to part away from each other [...]. I feel like [...] there might have been some shortfalls in terms of communication. Yeah, awareness campaigns. They came in late.* (Miko)

Nafé spoke to the corruption and embezzlement of money destined for COVID-19 relief. He would have liked to see better use of government money, especially given the lack of resources that hospitals had available.

> *Some of the leaders the government put in place have betrayed our trust. I think about the embezzlement of some 60 something billion on COVID-19. Yeah. Those are the people that have broken our trust.* (Nafé)

Dwe comments on how the corruption led to people not trusting the government which made it harder for any public health awareness campaigns to be successful, which in turn impacted the work of hospital staff as there are more cases to contend with and less resources available in which to do it.

> *People don't trust the government because of the thought that maybe there's too much corruption. They have maybe been told that they're getting money; just getting money instead of [dealing with] COVID-19.* (Dwe)

Rani comments on the limited resources, explaining that the government has done a “half job” since they have distributed masks, test kits, oxygen, etc, but it has not been enough.

Because sometimes there are some shortages of resources, like masks, test kits for COVID. Yeah, it's not always there. So yeah, they've done half of it. (Rani)

Taji, while recognising that her government has tried its best, had had to work in tandem with other hospitals to fill in the gaps. Her private hospital was able to access international funds and donations to be better prepared for COVID-19, as the government in Malawi only supplied the publicly funded hospitals. Given the burden that COVID-19 placed on every country, international aid was not as easily accessed, and so the private and public hospitals would work together to share medicine, oxygen, patients, masks and other protective equipment.

It came to a point that at this hospital of ours, we lacked PPEs[Personal Protective Equipment], and after talking to [a public hospital], they provided it free of charge. They didn't charge us anything, but they provided us with the equipment. And when they or [another public hospital] told us they lack something, and we have them, we would also send it to them. There was coordination, working together. Once we have a problem, we'll just make a phone call. They'll help us if help is there. (Taji)

This is built heavily on Malawi's communal culture where people and communities come together in times of hardship to provide help, support and care to one another. There was a strong sense of solidarity built amongst healthcare workers that enabled them to better serve the communities that needed them.

Finally, there was the issue of compensation. As COVID-19 hit, the risks that healthcare workers faced in their employment was much higher. The disease also burdened the healthcare system where hospitals were seeing more patients than usual and thus, hospital staff had to work longer hours. In the first months of the pandemic, healthcare workers across the country collectively went on strike to get their wages increased and get better support/protections in their workplace.

We need a risk allowance. We didn't work for some time and asked [the government] to at least increase our risk allowance because [COVID-19] is coming at you with a higher risk and

we're carrying that disease to our families. So the government responded yes. So because of that, we are able to say that we are being looked after. (Taji)

As Malawi enters a new normal, there are important lessons that have been learned from COVID-19 in terms of the needs and supports necessary for healthcare workers. The Malawi government has responded with increased campaigns to raise awareness and has largely been praised for its vaccine rollout. The government has involved media, religious leaders, traditional healers and village chiefs in spreading information about COVID-19 and the vaccine, and has provided missing resources such as oxygen tanks to all institutions, public and private, to ensure that people are taken care of, no matter where they go. Phit, a Dental Therapist, summarises it well:

Well, I would say Malawi has done a bit fair on the response to COVID-19. As I said earlier on, the rollout of the vaccine has been very great. We really appreciate that one. The communication has been there, though not much. But we'd also appreciate on that one, more PPEs, the personal protective equipment. They[the PPEs] have done a lot in terms of supporting health care workers and the like, just to contain the disease. (Phit)

Traditional healers stood out in our participant pool because while those who worked in institutionalised healthcare spoke quite a bit about their needs from the government; traditional healers, who do not receive any formal support from the government in their healthcare work, largely praised the actions of the government in their fight against COVID-19.

As a government, you can't just let your people suffer and die, they[Government of Malawi] have done a good job with the vaccine. [...] this disease caused havoc and the government has done a lot to end it. (Ip)

4.7 Discussion

The results of this study have allowed us to glimpse into what it was like to be a healthcare professional in Malawi during the first two years of the COVID-19 pandemic. Themes and subthemes that emerged from the data analysis process include: the fear that COVID-19 invoked, the impacts it had on

the relationship between healthcare workers and their communities, the importance of public health communication and the role of government in a pandemic response.

Through this study, we confirm the importance of worldview. As healthcare professionals, all of the participants interviewed for this study who worked in the hospital system held some form of tertiary education. We had thus assumed that they were likely to take a scientific approach to describing COVID-19 and its impacts; however, as was seen in a similar study conducted with doctors in the Sindh province of Pakistan [1], the healthcare workers in Malawi interpreted COVID-19 through both personal and sociocultural lenses. Rather than simply being seen as a virus or a disease, participants imbued COVID-19 with meaning. They spoke of the impact that the disease has had on their friends, families and communities; they shared their fears about catching the disease; and some even associated the disease with whiteness, believing the disease to move along racial lines. These results show that educated medical professionals are not exempt from being swayed by public discourse, general bias, and misinformation through the (social) media; thereby calling attention to the importance of prioritising immediate and direct discourse with healthcare professionals to circumvent these beliefs from influencing their work and the treatment of their patients.

Furthermore, our study incorporates informal healthcare systems (traditional medicine) where the education and mentorship that they receive to do their work is largely spiritual. In these instances, a cultural interpretation of disease becomes even more prevalent in the actions taken to treat the illness. Early government intervention is key in educating traditional healers on new disease outbreaks and giving them the tools that they need to ensure the wellbeing of the people who seek out their services. Traditional medicine is sometimes the main, and often the only, source of affordable medical care for many people in Malawi. National policies across the continent of Africa creating a formal relationship between governments and traditional healers are few and far between, but case studies in Ghana, Ethiopia and South Africa show the potential of what could be commonplace, and could provide avenues for knowledge sharing between different forms of knowledge production, and lead to better health outcomes in public health crises like a pandemic [21–24]. As demonstrated by our results, when given the

opportunity, traditional healers can be champions for public health policies like vaccination and support their patients in knowing when to transition to using "mainstream" forms of healthcare.

This study also affirms the negative impacts that the COVID-19 pandemic had on the mental health of healthcare practitioners in Malawi. A literature review by Manchia et al. (2022) revealed that in studies conducted across the world, healthcare workers as a whole faced a greater psychological burden from the COVID-19 pandemic than any other sector of society [25]. Similar to what was revealed in our study, Manchia et al. (2022) noticed a pattern where this burden stemmed from a variety of factors including fear of being infected by the virus and of infecting their family and others, working overtime hours in demanding work conditions, and witnessing the limitations of their country's healthcare system as it is pushed to the brink [25]. In Malawi, however, mental health is not a part of mainstream discourse and thus is not well understood. A study by Kauye et al. (2014) revealed a 0% diagnosis rate for anxiety and depression by primary healthcare workers in Malawi without specialised training [26]. Nevertheless, in our research, the resulting conversation around fear revealed the mental health impacts of the COVID-19 pandemic on healthcare workers, including decreased performance and discomfort in the workplace, as well as a loss of communal coping mechanisms. Even traditional healers spoke of rejecting patients out of fear of catching the disease. These stories exemplify the need to build in culturally appropriate mechanisms and systems of psychosocial support for healthcare workers, especially in the advent of a new disease, as there are very real consequences to patient care without these measures. This is especially important for healthcare worker retention and recruitment. When looking into why there is such a scarcity in healthcare professionals in Malawi, a 2014 study by Chimwaza et al. found that 69% of the 84 people they interviewed "had experienced a demotivating incident in the previous three months that had made them seriously consider leaving their job" [27].

In addition to the mental health consequences stemming from a fear of COVID-19, our findings reveal the ways in which a new disease can harm community relationships in Malawi and the impact this can have on both the healthcare system and individual healthcare service providers. Following the politicisation of COVID-19 was an uptick of violence against healthcare workers across the world. Cukier

and Basky (2021) write about escalating violence towards hospital staff in Canada during the pandemic [28], and Dyer (2021) describes a *surge of violence* in the United States [29]. In Malawi, our results show how a combination of government policy and misinformation put healthcare workers in danger, where they were either physically attacked for acting on COVID-19 measures or socially shunned because of their (perceived) proximity to the disease and death. Even more disappointing was the need for individual hospitals to initiate their own outreach with communities to assure the safety of their personnel, rather than a larger scale government/political endeavour. These attacks depict the need for reflection on the part of policy makers as to the ways their policies will be received, thereby recognising the impact on those who carry out the policy; as well as the importance of empowering communities in the event of a pandemic to counter the sense of powerlessness that is all too often at the origin of violent acts.

We wanted to know what healthcare workers in Malawi felt that they needed in order to feel supported throughout the COVID-19 pandemic. The respondents spoke to the need for better resources and resource allocation, citing corruption and embezzlement being at the heart of the supply shortages they had. They talked about struggling to access adequate personal protective equipment, oxygen cylinders and furnished isolation wards, which not only made their jobs more difficult, but more dangerous as well. There was the issue of risk pay which was resolved through a collective nation-wide strike at the height of the first wave of COVID-19, and the need for earlier public health communication to educate the general public. These requests are not uncommon in other parts of the world. Cox (2020) in her commentary piece, argues that in seeing healthcare workers as heroes, we deprive them of their humanity, and thus the very real things they need to navigate this pandemic, including personal protective equipment and a "general public, who must play a role in supporting the healthcare system, 'both during an epidemic and in times where there is no crisis'" [7]. The onus now falls on decision-makers to hear these requests and build out reciprocal procedures that protect and celebrate healthcare workers, thereby strengthening the overall health of the community.

4.8 Policy Impact and Recommendations

Part of the goal of this research is to provide recommendations and policies that would render Malawi more resilient in the advent of new disease outbreaks and allow healthcare workers to feel better supported by their government. Based off the results of this study, we recommend the following:

1. Immediate and open discourse/dialogue with healthcare professionals on information concerning the disease as it comes out in order to give them the tools they need to best respond to the treatment of their patients, and limit the influence of public discourse and misinformation on their understanding of the disease in question.
2. Building formal relationships with traditional healers through policy so that patients who seek out traditional forms of medicine are able to receive the necessary advice and care.
3. Creating culturally appropriate mechanisms and systems of psychosocial support for healthcare workers and traditional healers, and amplifying these mechanisms and systems in the advent of a new disease where increased pressure is placed in the healthcare systems.
4. Consulting with community leaders and health practitioners before putting in place new policies to better understand the social implications and potential repercussions of such policies. In essence, better community engagement in the development and implementation of public health policies is necessary.
5. Establishing an independent body, distinct from government, to develop and administer policies and practices surrounding necessary (public) health resource acquisition and allocation, as a means of reducing the impacts of government corruption and embezzlement on public health.
6. Automatically implementing risk pay, or some sort of financial risk bonus, for healthcare workers in the event of a new disease outbreak (epidemic or pandemic).

4.9 Study Limitations

There are limitations to this study. In working with a single partner organisation, we were limited in the range of healthcare workers that we had access to, and so it may be worthwhile to conduct more

interviews with a different network of healthcare personnel to compare or combine the findings. Although data collection was led by a Malawian team on the ground, the results were interpreted by a Canadian researcher (the lead author), and so there are cultural elements to the understanding of disease and health that may have been missed that should be explored. Efforts were made to mitigate this blindspot through having discussions and sharing initial findings with our community partners in Malawi to confirm the accuracy of our interpretations. This research took place between September 2021 and June 2022. Since then, COVID-19 conditions in Malawi may have changed, and perspectives and practices may have evolved.

4.10 Conclusion

In conducting interviews with healthcare workers from across Malawi, we have been able to compile a preliminary overview of some of the difficulties that they faced as they sought to uphold the health of their communities. The results of this study offer some constructive criticism and pathways of action for decision-makers at all levels of government in Malawi, both regional and national, to build a more resilient healthcare system through investing in and protecting their frontline personnel. In the words of Flora, a traditional healer:

You have already gathered courage, continue with that courage. (Flora)

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4.12 Data Availability Statement

Due to ethical reasons and the promise of anonymity to the participants, we cannot share the dataset; however, we can share tools used in the data collection such as the question guide. Please reach out to the lead author.

4.13 Ethics Statement

This project received approval from the Research Ethics Board at the University of Ottawa in Canada (application number: S-03-21-6554) and the National Committee on Research in the Social Sciences and Humanities at the National Commission for Science and Technology in Malawi (reference number: NCST/RTT/2/6).

4.14 Informed Consent

All participants were presented with a consent form in their preferred language. Interviewers read the form outloud to participants and provided them with the opportunity to ask questions. Participants were aware that their participation was voluntary and that they were free to withdraw at any given time, without giving a reason and without cost. They were each given a signed copy to keep for their records with the contact information of both authors as well as the ethics board at the University of Ottawa.

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Chapter 5: Using Black Knowledges to Recognise and Address Barriers to COVID-19 vaccination in Malawi

5.1 Preface

This Chapter is under review for publication in *BMC Public Health*.

5.2 Chapter Authors

Chúk Odenigbo, Dr. Sonia Wesche, Dr. Paul Mkandawire, Dr. Eric Crighton

5.2.1 Author Contributions

Chúk Odenigbo, Paul Mkandawire and Eric Crighton contributed to the study conception and design. Material preparation, data collection and analysis were performed by Chúk Odenigbo, and the first draft of the manuscript was written by Chúk Odenigbo. All authors commented on previous versions of the manuscript and all authors read and approved the final manuscript.

5.2.2 Conflict of Interest statement

The authors have no relevant financial or non-financial interests to disclose.

5.2.3 Acknowledgements

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5.3 Abstract

5.3.1 Background

A Black Geographies framework offers a perspective through which the rich and complex histories and knowledges of African nations, and the people themselves, can be explored to reveal barriers to vaccination, and solutions to achieving global vaccine access and equity. This research centres Malawi

as a case study and seeks to (1) identify barriers to vaccination, both social and logistical; (2) situate these barriers within geographic scales, ranging from the local to the global; and, (3) identify the role of the (Black) individual in creating, perpetuating, navigating and overcoming these barriers.

5.3.2 Methods

Using a Black geographies framework, this research takes a qualitative approach to examining the barriers to vaccination through a series of in-depth semi-structured interviews(n=41) with key informants in Malawi between September-December 2021.

5.3.3 Results

Results reveal barriers such as misinformation and the racialisation of COVID-19; the prioritisation of richer nations in receiving COVID-19 vaccines; and, the policy and implementation missteps in vaccine distribution. The findings also show critical ways in which local knowledges and experiences were used to address these barriers including enlisting the help of traditional healers and training village chiefs on public health measures.

5.3.4 Conclusion

This study confirms the analytical strength of *Blackness* and Black knowledges in exploring and identifying the barriers to vaccination and solutions in Black places. It also underscores the importance of integrating an acknowledgement of present-day global power dynamics into vaccine messaging, distribution and policy to better support populations from around the world in accessing and benefitting from the COVID-19 vaccine.

Key Words: COVID-19, Vaccine, Pandemic, Malawi, Black Geographies, Black knowledges, Medical Geography

5.4 Introduction

The Coronavirus 2019 disease (COVID-19) was first discovered in December 2019 in Wuhan, China, and quickly spread across the globe, killing millions of people and infecting millions more [1]. Vaccines against COVID-19 became available for public use in January 2021 [2]. Despite the discovery of this new technology against COVID-19, the pandemic remained in place as countries saw different

rates of vaccine uptake and effectiveness [2]. Nkengasong et al. (2020) expressed concerns about how, even though the World Health Organisation, the Coalition for Epidemic Preparedness Innovations (CEPI) and Gavi, the Vaccine Alliance, came together to create the COVID-19 Vaccine Global Access (COVAX) initiative (where over 167 countries registered), African nations still had reason to worry about COVID-19 and vaccine access [3]. They highlight the fact that high income nations, such as the United States and Canada, successfully formed private contracts with individual companies to get priority delivery and receipt of vaccines [3]. Further to this, vaccine development and production were often taking place in high-income nations like the United States (e.g., the Moderna COVID-19 vaccine and the Pfizer–BioNTech COVID-19 vaccine) and the United Kingdom (e.g., the Oxford–AstraZeneca COVID-19 vaccine). This reality created systems of vaccine inequity because the production speed was such that there would not be enough vaccines available for everyone in the world until at least 2022 [3]. This priority delivery and limited quantity replicated the circumstances seen with both HIV and the H5N1 influenza where "Africa has ended up at the end of the queue every time" [3]. It therefore should not come as a surprise that Africa hosts the least vaccinated countries in the world. In May 2022, only 21% of people in Africa had received at least one dose of the COVID-19 vaccine; this in comparison to Europe (69%), North America (79%) and Asia (78%) [4]. Even within the African continent, however, the small land-locked Republic of Malawi, located in Southeastern Africa, stood out as having one of the lowest vaccination rates, sitting at just under 5% of the total population [4].

A Black Geographies framework offers a perspective through which the rich and complex histories and knowledges of African nations, and the people themselves, can be navigated and explored to reveal some of the unique ways that barriers to COVID-19 vaccination have manifested on the continent, and solutions to ensuring global vaccine access and equity. This research centres Malawi as a case study and lays the foundation for demonstrating the potential benefits of having Black knowledges and voices inform vaccine rollout and distribution policies and procedures. Specifically, in the context of Malawi, this research seeks to (1) identify the complex and overlapping barriers to vaccination, both social and logistical; (2) situate the barriers to vaccination within interconnected geographic scales, ranging from

local to global; and, (3) identify the role of the (Black) individual in creating, perpetuating, navigating and overcoming these barriers.

5.5 Background

5.5.1 Study Location: Malawi

Malawi is an autonomous self-governing republic located to the south of Tanzania, east of Mozambique and west of Zambia. The country has a three-tier public healthcare system alongside a series of private hospitals and clinics, and many traditional and faith healers who are all active in maintaining the health of residents [6]. The public sector is set up to offer free healthcare to citizens, but because Malawi is one of the poorest countries in the world, ranked amongst the lowest twenty by the World Bank based on gross development product (GDP) [7]; the public healthcare system suffers abundantly from a lack of human resources (doctors, nurses, midwives, specialists, etc.), insufficient equipment and medicines, a shortage of beds, and limited funding [8]. These shortcomings often lead to hidden costs to the user that present significant barriers to access [8].

COVID-19 joins an existing active disease landscape in Malawi where Malaria, Cholera, Cervical Cancer and HIV/AIDS remain quite prevalent with epidemics taking place on a yearly basis [9]. Since the colonial era, trust in the healthcare system remains questionable and cultural visions of health continue to inform how disease is perceived and reacted to [10]. That is to say, in Malawi, disease and sickness are not seen as just reflections of the body alone, but of the spirit, the family and the community [10]. Pre-colonial health practices often centre a holistic appreciation of the person as a means of identifying the remedy for the sickness, where sickness could also be symptomatic of a dispute within the family or a disagreement with community [10]. While science is widely accepted, it has been adopted into, more so than having replaced, cultural beliefs [10]. This means that traditional and social medicine still play an important role in public health and well-being [10].

5.5.2 Study Context: Place, Knowledge Production and Barriers to Vaccination

Through concerted political and economic efforts, the first doses of vaccines against COVID-19 were ready for distribution and public use in January 2021; eleven months after the World Health

Organisation announced COVID-19 as a global pandemic, and thirteen months after the first case was identified [11]. The vaccines underwent extensive safety trials by bodies such as the World Health Organisation, Health Canada, and the United States Centre for Disease Control (CDC). With each approved vaccine were messages underlining the benefits of vaccination as a means of protecting oneself against COVID-19 [12–14]. Despite all of this, by the end of 2021, only about 50% of the world had been vaccinated [15]. The distribution of vaccinated people was uneven, with most continents oscillating between a 50-65% vaccination rate and Africa sitting at 8% [16].

Place is one of the key tenets of geographic study. In the broadest sense of the word, place refers to a location at any geographic scale [17]. Place refers to regions, countries and cities as much as it refers to a bedroom, a dreamscape or the inside of a beehive. Place, however, differs from location in that location is all about position whereas place is all about positionality [18]. When discussing a place, it is not enough to simply acknowledge the physical elements of the location (although this remains very important to do), but to go further in recognising the human characteristics as well, navigating the interactions between the people who live in a given location and the environment that surrounds them [17,18].

Place exposes the limitations of current COVID-19 vaccine literature. In looking at the studies presently published, it is evident that vaccine uptake has only really been deliberated in high-income nations, especially those in North America, Western Europe and Eastern Asia [19]. These geographic limits of available knowledge also limit the solutions that can be imagined to reducing and eventually eliminating barriers (real and perceived) towards both the COVID-19 vaccine and to future vaccines in the event of new disease outbreaks. A limited geographic scope leads to limited tools, policies and solutions, which then have disproportionate impacts on the places that do not fall within said geographic scope. By incorporating place into discussions surrounding vaccines, we are forced to interrogate the impacts that culture, race, ethnicity, religion, language and gender (amongst other human groupings and identities) have on barriers to vaccine uptake.

Vaccines are critical in the global fight against COVID-19. As a disease that mutates and re-infects, creating a strong immunity-base is a necessary element in transitioning away from a pandemic. It is thus important to identify barriers to vaccination to enable the crafting of solutions to support vaccine uptake. Current COVID-19 vaccination literature focuses heavily on vaccine hesitancy, defined as the spectrum of people who hold opinions that lie in between those who are resolute in their support for and belief in vaccines, and those who have strong anti-vaccination convictions [20]. Gust et al. (2005) divide the population into five categories based on attitudes towards vaccination: the ”immunisation advocates,” the “go alongs to get alongs,” the “health advocates,” the “fence-sitters” and the “worrieds” [21]; Keane et al. (2005) use four profiles: the “vaccine believer”, the “cautious”, the “relaxed” and the “unconvinced” [22]; and Benin et al. (2006) also suggest four categories: the “acceptors”, the “vaccine-hesitant”, the “late vaccinators” and the “rejecters” [23]. As can be seen by the various ways that each study segmented the population through a vaccine hesitancy lens, there is a general consensus that (not) being vaccinated is not an indicator of being at one of the extremes (pro/anti-vaccine); recognising that many people who are vaccine hesitant will get vaccinated despite their concerns and many willing to get vaccinated cannot due to factors outside of their control [20]. Despite the similarities in each study, the authors outline the difficulties in building a shared understanding of vaccine hesitancy because of all the complex interactions of the environmental, structural, social, cultural and political elements that factor into how people see their own individual health, view disease and conceptualise the larger notion of public (or community) health.

Vaccine hesitancy offers a lens through which COVID-19 vaccine uptake can be analysed, especially in high-income nations where multiple iterations of the vaccine were readily available and accessible to the public. A systematic review of 126 surveys completed in 31 countries on COVID-19 vaccination intentions found declining global vaccine acceptance, from greater than 70% in March 2020 to less than 50% in October 2020 [11]. In a meta-review of 49 studies conducted in North America, Europe and Asia, Troiano and Nardi (2021) found that factors such as ethnicity/race, religiosity and socioeconomic status were predictors of vaccine hesitancy where Black people/those of African descent,

self-identified religious people, and those of lower socioeconomic status were typically less open to being vaccinated [24]. They were unable to generalise the reasons for these trends, citing the unique place-based contextualisation necessary that each study factored in during individual analysis [24].

The continent of Africa provides an interesting backdrop from which to add to COVID-19 vaccine knowledge. Despite being the second largest and the second most populous continent in the world, countries in Africa are amongst those with the lowest vaccination rates [25]. In an early study on COVID-19 vaccine uptake in Africa, very specifically focusing on South Africa, Cooper et al. (2021) set out to look at vaccine hesitancy, as had already been done in European and American settings. In analysing the results of their research, however, they found that they were unable to ignore the implications of supply-chain issues, vaccine nationalism, vaccine diplomacy and the resulting "inequitable vaccine access both within and across countries" when describing the causes and impacts of vaccine hesitancy in South African society [26].

At the time of this study in late 2021, Malawi sat at a COVID-19 vaccination rate of 5% which was one of the lowest in the world [4]. Typically studies that centre vaccine uptake by a population focus on the issues of physical/geographic access to vaccines, trust in those providing the vaccines, gaps in knowledge about vaccines, or anti-science ideology [20,27]. While these concerns appear throughout the globe, studies like Cooper et al. (2021) show us that lower income nations in general, and especially those in Africa, had/have to contend with the challenge of vaccine hesitancy like their high-income counterparts, all while navigating issues of limited vaccine supply, vaccine nationalism and vaccine diplomacy that perpetuate inequitable vaccine access [26,28]. Numerous African scholars spoke to the problems of vaccine hoarding with the COVID-19 vaccine as high-income nations and private companies implemented agreements that ensured reserved access for their populaces, all the while creating a dearth of access for middle-to-low income nations [29,30]. Further to this is vaccine diplomacy where countries used vaccine donations as a means to exert political influence and soft-power over other nations [31]. This effectively means that for Malawi, as is similar for many other low-income nations, vaccination and

vaccine hesitancy are not just questions of access to vaccines and (mis)information, but embedded in larger questions and conversations on privilege and power.

5.5.3 Framework: Black Geographies

In seeking to add to COVID-19 vaccine knowledge through recognising and addressing the unique challenges that countries on the African continent face(d), we cannot negate the unique history that Africa holds in relation to the rest of the world, that have been crucial in placemaking. A Black geographies framework offers a lens of analysis through which we can more accurately recognise, capture and appreciate knowledge produced in Black places by Black peoples, centring their validity and necessity for solution-making and policy-building.

The Black geographies framework emerged as a response to the colonial Eurocentric forms of geography that shaped the discipline and dominated academic discourse. It provides an apt tool through which the current Eurocentric dominance of COVID-19 knowledge may be challenged and supplemented [19,32]. McKittrick (2011) highlights the importance of Black geographies by using the framework to describe Black sense of place, where place is understood and analysed through the complexity of what it means to be a Black person in the modern world [33]. McKittrick (2011) specifies that the Black sense of place is not synonymous with Black suffering or even racism, but emerges from the collective histories of "colonialism, transatlantic slavery, contemporary practices of racism, and resistances to white supremacy" [33]. By centring Black histories and Black communities, Black geographies reconceptualises space and place as Black, rather than pursuing Black through a lens of "other" or "different from". In this instance, Blackness is not a tool of comparison, but of analysis. This is supported by Lewis (2018) who describes Blackness as analytic, and therefore Black geographies as demanding interdisciplinary modes of study that stretch "western" modes of analysis beyond their current limitations; thereby elevating Black knowledge from beyond secondary and complementary, to being primary and independently relevant [34].

The Black geographies framework relies heavily on Black spatial knowledge which, according to Hawthorne (2019), negotiates resistance and domination, addressing issues of colonialism, slavery and

imperialism as part of the analysis of contemporary issues that impact Black and non-Black peoples [32]. The framework has been developed by Black scholars in "western" nations, with the prolific leaders in Black geographies being located in the United States, the United Kingdom, and Canada. More recently, however, Noxolo (2020) described the potential of Black geographies in an African context as a means of shifting from the historical narrative of pre-colonial Africa to recognising Black bodies as producing places that act as tangible intersections of where the inherited past meets present-day adaptations, thereby re-rooting ancient cultures, knowledges and worldviews in modern discourse [35]. As a framework designed to validate and elevate knowledge produced in Black places in "western" countries, Black geographies works as an apt tool to bring knowledge produced in an (Black) African context to Eurocentric-dominated global public health discourse.

Although the Black geographies framework is normally used in political and social sciences to evaluate societies, critique policies and craft solutions that are by Black people using Black knowledge(s) [36–40], Hirsch (2019) successfully expanded the use of the framework to a public health context [41]. Through her study analysing the 2014–2016 international Ebola response in Sierra Leone, Hirsch (2019) postulates that exploring anti-Black violence is critical within the context of health and healthcare as it is constitutive in the development of care in colonised and postcolonial societies [41]. Hirsch (2019) thus concludes that to study disease and healthcare in colonised and postcolonial societies, a Black geographies framework is actually essential as it renders the scholar conscious of "the epistemic, political, and spatial hold of past and present anti‐Black violence in particular places" [41]. In her words: "if care is to be divorced from violence, emergency medical interventions and the scholarly projects that attend to them must work to centre Black life and recognise the pervasive reality of antiblackness" [41].

Black geographies as a framework is new in its application to public health queries, and remains largely untested in positivist fields like medical geography. The framework, however, was determined to be the best fit in allowing us to achieve the objectives outlined for this research given its successful use in health-adjacent fields like food security [42], and environmental racism [43].

5.6 Methodology

A case study design was determined to be the most appropriate approach in achieving our research objectives. Case study design allows for an in-depth exploration of a phenomenon, in this case the COVID-19 pandemic and vaccine roll-out in Malawi, contributing to theory development and practical insights [5]. By closely examining the chosen case and understanding its intricacies, researchers can build hypotheses to offer specific guidance or suggestions for addressing similar situations or challenges, both present and future [5].

We chose a hermeneutic phenomenological approach to qualitative research to inform the case study design. Hermeneutic phenomenology centres the relationship between individuals and their lifeworlds, a term that Heidegger defines as "the idea that 'individuals' realities are invariably influenced by the world in which they live" [51]. The hermeneutic phenomenological approach allows us to centre the place (Malawi) in our case by recognising that the contributions from each of the key informants cannot be separated or rendered distinct from Malawi, such that the experiences shared and opinions expressed emerge from Malawian realities. In other words, we engage with the lived experience of a phenomenon, in this case the COVID-19 pandemic and vaccines, through the lifeworlds of the key informants; thereby situating the COVID-19 vaccine firmly within (Black) experiences and knowledges produced in a (Black) place. This allows us to identify barriers to vaccination faced by Malawians in Malawi and situate them at local to global scales (Objectives 1 and 2), and understand the ways in which individuals have navigated these largely systemic barriers (Objective 3). Precedent in using hermeneutic phenomenology in health research has been established by authors such as Bynum et al (2019) who demonstrate both the success and the necessity of such an approach in addressing culturally sensitive health issues [52].

A total of 41 hour-long key informant semi-structured interviews were conducted in English (n=20) or one of the local languages (Chitumbuka or Chichewa, n=21) between September and December 2021. The interview guide was developed in English by the lead researcher with input from co-authors Crighton and Mkandawire, one of whom is from Malawi and is familiar with the local social, cultural,

economic, health and healthcare contexts. The interview guide was then reviewed and translated by the Malawi-based research assistants and field tested for cultural compatibility and relevance by the lead researcher via two online interviews using Zoom conferencing software (due to COVID-19 travel restrictions). The remaining interviews were conducted in-person by four locally situated research assistants (three male, one female) within their communities.

To recruit key informants for this study, we partnered with Soils, Food and Healthy Communities (SFHC), a research-centred non-profit organisation based in Ekwendeni, Malawi. SFHC acted as a community liaison with communities across the country in order to identify potential participants; paying careful attention to ensure a diversity of perspectives based on occupation, location, gender and ethnicity. Of the forty-one key informants, twenty-six were men and fifteen were women; thirty-one lived in rural areas; twenty-one had completed secondary school; twenty interviews were conducted in English and twenty-one in Chitumbuka or Chichewa. The majority of the participants identified as Tumbuka (n=22), with the remainder identifying as Ngoni (n=6), Tonga (n=4), Chewa (n=1), Ndali (n=1), Nkonde (n=1), Sena (n=1) or ethnically mixed (n=2). Three key informants preferred not to disclose their ethnicity. Given that some of the professions mentioned are not very common in Malawi, the locations where the informants came from will not be revealed to better protect their anonymity. The principle of saturation was used to determine the optimal number of interviews by identifying the point at which virtually no new information was being obtained [44].

Prospective informants were read a consent form that described the objectives of the study. With their permission, interviews were audio-recorded to later be transcribed, and when applicable, translated to English. Pseudonyms were used for all key informants. Data analysis was conducted using the framework method [45] with the help of ATLAS.ti software where the interview transcripts were systematically analysed to identify recurring themes. The lead researcher employed an open coding approach, assigning descriptive labels to each paragraph to capture their perceived significance. Following an inductive methodology, the coding process was subjective and based on impressions. The highlighted codes were then compared and contrasted across the various interviewees, with subsequent

recoding as new themes surfaced. Finally, the codes were thematically organised to establish a framework for evaluation. We worked closely with SHFC to provide cultural verification of findings.

Throughout the data collection process, COVID-19 preventative measures were implemented based on the guidelines offered by the World Health Organisation, the Malawi Ministry of Health and Health Canada [46–48].

5.7 Results

In recognition that Black knowledge is often shared through stories passed from elder to child, this results section uses a storytelling format to present the study results. In our analysis of the interviews, multiple interconnected themes emerged where respondents spoke to a series of individual, societal and global factors that converged to create the existing vaccination rate seen in Malawi. This section divides the results into key themes and expands, through our interpretation, on the links observed between various scales of existence (individual, societal and global).

5.7.1 The Vaccine as a Symbol of Hope

In order to understand the motivation (or lack thereof) of Malawians to vaccinate themselves against COVID-19, we first sought to understand how people perceived the new disease. Across the forty-one interviews, there was unanimity in that people associated COVID-19 with feelings of fear and anxiety. Abu, for example, talks about fear arising out of changing burial procedures where the dead were gone so quickly that they were not able to receive the full cultural rites that were owed to them.

> *It[COVID-19] sounded so scary, you know, so it brought a lot of anxiety, a lot of fear, a lot of discrimination, just because of the way those who have died have been treated or buried, you know buried so fast, and you don't touch the body (Abu)*

In the midst of all this fear, the COVID-19 vaccine came to symbolise hope. Unlike in many other countries, the vaccine did not represent a hope that things would go “back to normal” [49–51], but more so a hope that people, in the words of Abu, would feel some sense of relief.

> *But one relief is that immediately a few months into the pandemic, a vaccine is discovered. (Abu)*

In addition to the promise of relief from the adverse impacts of COVID-19, Nafé, a laboratory technician, continues along the same lines, hoping that the vaccine would reduce the number of people who die from COVID-19 and stop the spread of the virus completely. Although his tone implies some potential scepticism, this doesn't negate the hope he expresses.

> *Personally, I think the vaccine is good for us. Maybe it can give us a chance to stop the spread of the virus and also maybe, MAYBE, decrease the mortality rate. (Nafé)*

5.7.2 Unequal Access to Vaccines

Despite the feelings of hope and connectedness, many key informants expressed concern as to whether their country would be able to access enough vaccines for everyone. Respondents were generally aware of the global supply chain problems and the privileged status of people in rich and powerful countries. Abu, who works in accounting, was quick to point out how the cost of the vaccines is unaffordable for many African nations, including his own.

> *[There were] monopolistic and propaganda issues in the marketing of these vaccines and that brought a lot of other inequalities in trying to distribute these vaccines at the same time as the funding for them. Like us and Africa, third world countries, we can't afford to buy [vaccines] in such big quantities [...] So yeah, I think it hasn't been easy for developing countries to really access the vaccine in good time. (Abu)*

Furthermore, thanks to international news, the interviewees were aware of just how abundant vaccines are in high-income nations. The unbalanced distribution had many of the key informants advocating for their communities, asking that high income countries share their vaccines with Malawi.

> *I think they[high-income nations] should give us more vaccines because we are receiving few vaccines, which is not enough. (Ira)*

> *We're just hearing that in these countries, they're trying their best to have the vaccination, and the vaccination resources are always available. Okay, so they have to share with us. (Rani)*

Eventually, Malawi did start receiving vaccine donations from many high-income countries, but there was frustration at the delay. For example, Mili, a university professor, expressed her frustration with

the international community for waiting so long before providing the much needed vaccines. According to her, their negligence played a role in the unnecessary deaths of so many.

> *So you find that the aid was coming at a time maybe when we didn't need it much. So the international community did help, but I think maybe the timing was not very good. It[the aid] came after many people have died. (Mili)*

5.7.3 The Spread of Misinformation

Beyond vaccine inequity, another barrier to becoming vaccinated was the (mis)information circulating on social media. Phit, a dental therapist, explains how one's openness to being vaccinated was dependent on the social media content one was exposed to.

> *Because, for instance, if I would say the vaccine that has come in, some people have got a negative attitude towards vaccines, because of social media, some people have got a positive attitude towards vaccines because of their social media. (Phit)*

In addition to social media is the influence that religion has on the way Malawians perceive health and healthcare. Peace, a biomedical engineering student, talks about how certain churches deterred members of their congregation from being vaccinated at all, giving them a negative view of the vaccine and potentially stigmatising those who have been vaccinated.

> *I can say for the issues concerning religion, there are some religions that don't allow this[vaccination]. [...] And you find out that in a certain church, there are only a few people who have been vaccinated, just because they have a negative attitude towards the vaccine. (Peace)*

Related to vaccine inequity, race remains a key component that cannot be ignored in people's understanding of both COVID-19 and the vaccine. Ira is a nurse who believes that skin colour is a factor in the spread of COVID-19, whereas Ric, a theology student, speaks to rumours circulating about white people using black people (Africans especially) as test subjects for the COVID-19 vaccine.

I think the azungu[1] are affected [by COVID-19]. I'm not sure [why], maybe because of the skin colour, I don't know. (Ira)

Others say, when you take that kind of vaccination, [that] maybe it's a trick of certain people to wipe out a certain group of people. (Ric)

All of this culminated in people feeling a strong sense of mistrust with vaccines coming in from former colonial powers. In speaking with Flora (traditional healer), she believes that people in her community were resistant to getting vaccinated against COVID-19 because they were concerned that they were being tricked.

In my opinion, I saw that the [vaccine] donations they were giving were helping people. So we ourselves were failing to understand. We were looking at it as if they [global powers] were duping us, [and so] while we were thinking like that, we failed to follow[get vaccinated]. (Flora)

5.7.4 *Recognising and Overcoming Issues with Local Vaccine Distribution*

Despite all of the barriers to vaccination (including the inequitable distribution of vaccines at an international level, the racialisation of COVID-19 and the vaccine, and the spread of misinformation through social media and certain religious groups), Malawi did ultimately receive COVID-19 vaccines from different organisations and countries, with many Malawians willing, ready and able to get the vaccine. Son, a reverend, comments positively on the government's efforts and success in securing vaccinations for their people.

[With regards to the] procurement of the vaccine and some other things... I would say they[the government] have tried. (Son)

It was commonly reported by healthcare workers, however, that there were logistical hurdles to contend with as the government made mistakes in coordinating the vaccine rollout across the country. Moy, who works in healthcare, describes the difficulties that people faced in becoming fully vaccinated (two-doses of most vaccine types) against COVID-19.

[1] Technically this word just means "foreigner," but it has come to specifically identify white or lighter-skinned foreigners.

Like, they[the government] will be like "the other vaccine, you need to receive in the eight weeks to come". And in eight weeks, the vaccine is not available at the hospital. They just were not following the dose. (Moy)

Rather than reroute any vaccine doses unused from missed appointments, vaccines were often allowed to expire. Ric mentions the government burning these expired vaccines, thereby wasting an already limited resource.

That's why at a certain time, during the first dose, you heard of ministries burning the vaccines, dumping them, because most of them[people with appointments] did not turn up. (Ric)

It appears that the Government of Malawi did eventually learn from their early mistakes with all the key informants unanimously commenting on how the government tried their best in the fight against COVID-19. Miko and Rus, who both work in healthcare, commented on the more recent availability of the vaccine across the country, explaining how everyone now has access to being vaccinated.

Yeah, I feel like the government is trying, because in most facilities, we have the vaccine [...]. They also worked very hard in making sure that the vaccine is available for everyone. (Miko)

[Rollout] has been satisfactory. I think almost every region has had the COVID and I'm not sure [if] there are places where vaccines have not been distributed. (Rus)

Moana, a farmer, brings the urban-rural dimension into her commentary. She explains that the government made significant efforts to reach rural households and push for vaccine access for them as well. She shared how the vaccine was soon to arrive in her home community, and that it would be free for all to get.

The government has tried, even in the villages, the vaccine is available. As I am speaking now, tomorrow in Chisangano we will have the vaccine and it is free, this shows the government has tried. (Moana)

Phit summarises a common sentiment that was echoed throughout the interviews regarding the government's efforts in rolling out the vaccine.

Yeah. This time around, I would say yes, they[the government] have done really a lot on the rollout of the vaccine. (Phit)

5.7.5 Uniquely Malawian Vaccine Messaging

Careful, consistent and uniform public health messaging was used to counter misinformation, allowing for increasing numbers of people to get vaccinated against COVID-19 in Malawi. Addy, a radiographer, mentions how people have started seeking out the vaccine after having stayed away during the first efforts at a roll out.

This is why you find that when the vaccination came in the first place, people were staying away, but this time around each and everybody wants to be vaccinated. (Addy)

Ama, a village chief, offers more detail, explaining that due to misinformation, people had initially believed that the vaccine would kill them. In response to the government's messaging and push for a more vaccinated population, there was a general shift in attitude that saw more people getting vaccinated. Ama's comment also shows an increasing societal pressure to be vaccinated as people were trying to catch up and be like their peers.

[...] in the first phase many people refused to take the vaccine because they thought that they would die but as time went by, they saw that the government was still insisting and when the first phase of vaccination was almost over and they decided to go on with the second phase, many got vaccinated saying they were behind others. (Ama)

As with every country, there are many people who do not trust their government or any of the messaging that comes from them. To counter this, Ip, a traditional healer, shared a response he commonly gives to people who think the vaccine will kill them.

[...] when one is saying no to getting vaccinated, I tell them that the president says we should go get vaccinated. He can't tell us to get something that can kill us, because without us there will be no one to vote for him so he can't win again, so the vaccine is good. (Ip)

The government was even able to recruit traditional healers, community leaders and chiefs to maintain the consistency of the messaging asking everyone to get vaccinated. Not only was this

successful in offering people another source of information that they trusted, but it also allowed for the vaccine to be adopted into various forms of knowledge production and healing, which meant aligning the vaccine with the worldviews of their people.

> *When someone comes to me, I give them my medicine and tell them that this is just a starter pack, they should go to the hospital and get vaccinated. (Qum - traditional healer)*

> *And even here in the village we ask each other, 'did you go for vaccinations?' As a chief I encourage people: 'You should also go and be vaccinated, we have been vaccinated.' (Geo - chief)*

Missuz contrasts her government's actions with those of surrounding African countries, especially Tanzania where their previous president openly decried the efficacy and use of vaccines. She expresses appreciation regarding the way Malawi handled the pandemic and vaccine distribution.

> *The way Malawi has handled it, someway, somehow it has been standing on her ground like herself, because you find out that some African countries, they were denying to say we can't have the vaccine, but she[Malawi] was open and said that people should go and get the vaccine. (Missuz)*

5.7.6 Gratitude

Appreciation and gratitude towards countries and organisations that donated vaccines and provided aid/support in other ways were recurring emotions consistently expressed in most of the interviews.

> *[A]s Malawians, we have failed them[high-income nations] because we don't go in good numbers to be vaccinated because of the fears. (Rue)*

> *They[high-income nations] have given us vaccines, meaning that they mean well for us, they want us to be alive. (Ole)*

5.8 Discussion

Hermeneutic phenomenology highlights the importance of *lifeworlds* in understanding a phenomenon, in this case the COVID-19 vaccine. Black geographies as a framework allows us to then

transition from recognising lived experiences as being embedded in *lifeworlds*, to *lifeworld*-informed lived experiences of (Black) peoples as knowledge production in a (Black) place. As a means of identifying the barriers to COVID-19 vaccination in Malawi (Objective 1), we sought to contextualise COVID-19 itself within the *lifeworlds* of the key informants, who then informed us that they associated COVID-19 with fear. While fear is an expected, and often universal, response to the addition of a new disease to the landscape [52], situating fear within the *lifeworlds* of the key informants and recognising this lived experience of fear as a form of (Black) knowledge allowed us to question what the fear signifies. Key informants spoke of COVID-19 impacting meaningful cultural practices like burials, where communities come together to mourn and celebrate, thereby creating a fear of a meaningless death if one cannot have full burial rites. This is especially critical to the fabric of Malawi because it is the extended family and reciprocal social relationships that characterise population health and wellbeing in Malawi [10]. Traditionally, Malawians have relied on these social ties for support in times of distress and in death, including serving as social safety nets during times of famine and natural disasters [10]. In other words, the value of individual health and wellbeing are tied to those of the wider community, and COVID-19 created fear by striking at the ability for communities to come together.

Despite all this fear, however, vaccine hesitancy remained prevalent in Malawi. In interrogating the misinformation spread about the COVID-19 vaccines, we notice a distinctly racial element that taps into the legacy of colonialism, with some believing that the vaccine was designed to wipe out certain (African/Black) peoples. Black geographies invites a look at the histories of a Black places to understand their present-day realities. In the past, vaccines were commonly tested in Africa without the fully-informed consent of the test subjects, or made their way to Africa without regulatory approval, causing significant harm [24]. The concerns stemming from this history were further reinforced when two (white) French doctors in April 2020 spoke callously about conducting COVID-19 vaccine trials in Africa [24]. Similarly, studies conducted in other countries have found race to be a factor in vaccine hesitancy, with Black people, or peoples of African ancestry, leaning more towards perceiving vaccines in a negative light [53]. The fear that Malawians thus hold about COVID-19 and related vaccines are impacted by this

history; as such, any policies and measures to counter the spread of misinformation in Malawi must acknowledge and build upon this history.

These reflections have the potential to inform strategies around public health messaging in relation to vaccines where a sense of togetherness could be key to allowing people to overcome mental hurdles to receiving vaccines in countries like Malawi where a communal culture is espoused. At an international scale, this narrative of togetherness also challenges global vaccine discourse where individual nation states engaged in vaccine hoarding and nationalism, to the detriment of the international community. Through this Black knowledge produced through Malawian worldviews, we are thereby able to offer alternative directives to address the inequitable access and global distribution of the COVID-19 vaccine. Instead of the current narrative that suggests that high-income countries have a moral obligation to support their low-income brethren [35], what would vaccine distribution look like in a narrative that identifies countries as being in community with one another, and viewing equitable distribution as something that happens naturally within such reciprocal networks?

Furthermore, Black spatial agency is a major component of the Black geographies framework as the limitations placed on Blackness and on Black peoples through colonial power structures must be identified and named. Black spatial agency stems primarily from a Black sense of place, but is strongly influenced by intersecting factors including anti-Black violence and both the emerging and existing Black cultures in said space (see Figure 1). Within the context of the COVID-19 vaccine, Black geographies allows us to come to terms with intersecting barriers to vaccination that converge to create obstacles unique to certain (Black) places (Objective 2). Similar to Cooper et al. (2021), beyond vaccine hesitancy, we found that we could not ignore the structural barriers to accessing vaccines in Malawi for those who were willing [26]. As a low-income country, Malawi was unable to compete with higher-income nations that engaged in vaccine nationalism, hoarding vaccines and restricting global supply chains. Nkengasong et al. (2020) warned of this, explaining that historically Africa has been one of the last continents to receive necessary medical interventions that the world was competing for [3]. This presented barriers of access where Malawi did not receive enough vaccines for its populace. When the vaccines finally did

arrive, Malawi struggled with figuring out the logistics necessary for effective distribution. This was not uncommon in Africa as the World Health Organisation reported a 1.3 billion USD shortfall in operational costs for African countries trying to distribute the COVID-19 vaccine [54]. This includes costs pertaining to cold-chain logistics, travel, salaries, syringes and other crucial commodities [54]. Historical and systemic factors have led to wealth disparities where Black populations are disproportionately more likely to experience poverty, limited financial resources, and reduced access to opportunities for upward mobility, ultimately perpetuating the connection between money and race. Black spatial agency therefore highlights the importance of vaccination strategies and policies that successfully recognise and navigate the relational roles between (Black) places, their governments, and the international community in ensuring the health of the (Black) individual and the (Black) collectivity in a given location. In other words, Black spatial agency asks that *Blackness* (referring in this instance, to the realities of being Black in the world today) is named, acknowledged and factored into decisions and strategy-making.

Black cultures and associated Black knowledges offer direction for international policies and agreements towards vaccine supply and management, as well as reframing international aid within the context of local distribution capacity and logistical systems. Using Malawi as an example: once distribution was figured out, the government of Malawi took an approach to public health communication and combatting vaccine hesitancy that was very much built around knowledges and experiences produced in Malawi. They sent out messages through: (1) traditional media, with a particular focus on the radio, recognising that 80% of Malawi's population live in rural areas where many of them do not have access to any other means of communication except a radio [55]; (2) social media, where WhatsApp was privileged since it is the preferred social media platform used across the country and more importantly in the urban areas [56]; and (3) community leaders, including village chiefs, religious leaders and traditional healers, who wield enormous social power by virtue of being custodians of certain forms of knowledge, were recruited to spread the word about the vaccine, receive some of the first doses, and de-stigmatise them. We thus see a uniquely Malawian and context specific approach to raising awareness about the COVID-19 vaccine and galvanising people into being vaccinated (Objective 3); one that recognises the

dual medical culture of "western" medicine and traditional social medicine and builds on the complementary strengths of both.

Ekwebelem (2021), in reflecting on the vaccine rollout across Africa, stresses the importance of understanding how each population's concerns and sociocultural traits would influence vaccine uptake [57]. He strongly recommends "evidence-informed sensitisation strategies" produced in consultation with social influencers and religious, traditional, and political leaders as a starting point to build the framework necessary to achieving high levels of vaccination in any country in Africa [57]. It is only by understanding the combined impact of all the limitations to vaccination (including vaccine hesitancy, national healthcare infrastructure, and global sociopolitical dynamics), that appropriate avenues of action can be conceived and undertaken to ensure increased vaccination rates, and hence protection from a disease, in a (Black) place.

5.9 Conclusion

Using a hermeneutic phenomenological approach for qualitative data analysis allowed us to centre the *lifeworlds* of the key informants, recognising that everything that they shared in the interviews was informed by the realities that they live in (i.e. their physical and social environments). The Black geographies framework provided the necessary structure to identify and name the systemic and structural inequities that impacted (and sometimes formed) the lived realities in a low-income (Black) African country, as well as the violence embedded into healthcare and medicine through European imperialism and colonialism. Using Malawi as a case study, this research identified some of the complex and overlapping social and logistical barriers to vaccination; named certain global power imbalances that influenced local access to and understanding of the COVID-19 vaccine; and explored some of the ways in which individuals on the ground in Malawi navigated, perpetuated or overcame these barriers. As stated by Noxolo (2022), "[b]y centring Black spatial thought, rather than just noting its erasure," a Black geographies framework provides the radical effect of giving agential capacity to Black communities, and restructuring conversations to respectfully include race in global vaccination efforts, thereby innovating approaches and changing global narratives [35]. With a focus on one of the least vaccinated countries in

the world for COVID-19, Malawi, our findings confirm the importance of learning from Black/African worldviews to understand and address barriers to vaccination and building nuanced solutions to increase vaccine uptake. Our findings also bring to light the importance of recognising present-day global power dynamics and building in countermeasures into vaccine messaging, distribution and policy.

5.10 Study Limitations

There were limitations to this study. Interviews were conducted between September and December 2021; as such, our analysis does not capture subsequent changes in Malawi's COVID-19 response. As a study that privileges qualitative data collection, we were able to provide an in-depth look at the thoughts, feelings and perceptions in regard to the COVID-19 vaccine; however, the nature of the work limits generalisation of results to the entire population. Further quantitative work is needed to explore the commonality of many of the sentiments brought up. During the study, the general feeling of appreciation and gratitude were noted, but not explored in depth, thus limiting the potential to determine whether these feelings were/could be a factor in swaying people towards vaccination. Further research is recommended to understand the role of gratitude in attitudes to vaccination.

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Statements and Declarations

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Ethical Approval

This study was performed in line with the "Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans" by Canada's Interagency Advisory Panel on Research Ethics, and the "Framework of Guidelines for Research in the Social Sciences and Humanities in Malawi" by the National Commission for Science and Technology in Malawi. Approval was granted by the Office of Research Ethics and Integrity at the University of Ottawa (S-03-21-6554) and the National Committee for Research Ethics in the Social Sciences and the Humanities in Malawi (NCST/RTT/2/6).

Consent to Participate

Informed consent was obtained from all individual participants included in the study.

Consent to Publish

This manuscript does not contain any individual person's data in any form (including any individual details, images, or videos).

Chapter 6: “We are adapting to it because it is within us”: The Co-Becoming of COVID-19 in Malawi

6.1 Preface

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6.2.1 Author Contributions

Chúk Odenigbo, Paul Mkandawire and Eric Crighton contributed to the study conception and design. Material preparation, data collection and analysis were performed by Chúk Odenigbo, and the first draft of the manuscript was written by Chúk Odenigbo. All authors commented on previous versions of the manuscript and all authors read and approved the final manuscript.

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The authors have no relevant financial or non-financial interests to disclose.

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6.3 Abstract

Using a case study design, this research explores the COVID-19 pandemic from the perspectives and worldviews of Malawians (Black/African knowledge) through the Bawaka Yolŋu ontology of co-becoming (Black/Indigenous knowledge). This study seeks to examine the ways in which COVID-19 has influenced perceptions of place and the places themselves, thereby contributing to the development of policies and strategies for effectively navigating and living with the ongoing COVID-19 pandemic.

The study involved 41 in-depth semi-structured interviews and 2 unstructured interviews, enabling a nuanced exploration of COVID-19's impact through the diverse perspectives of Malawian knowledge-holders. Interviews were conducted in English, Chitumbuka and Chichewa, encompassing a wide array of participants including religious leaders, healthcare workers, farmers, and community leaders.

The findings reveal a multifaceted transformation in the relationship of Malawians with nature, place, and one another. Nature, once a source of sustenance, had become a realm of danger due to its association with airborne transmission. Place, typically a communal space, had shifted towards individualised safety, necessitating changes in how homes are adapted and perceived. The communal fabric of Malawian society, deeply ingrained in communal practices, has been strained, altering traditional gatherings and societal interactions.

This research adds depth to our understanding of COVID-19's complex impacts, emphasising the importance of cultural and environmental contexts in shaping responses to the pandemic. The insights gained hold significance for tailored policy interventions and community-focused strategies to navigate and adapt to the evolving challenges presented by COVID-19.

Key Words: Co-becoming, Indigenous knowledge, Black knowledge, Malawi, COVID-19, Perceptions of place, Adaptation to disease

6.4 Introduction

Place provides an important lens for understanding health and disease [1]. Place allows us to form links between the tangible elements of a landscape and the intangible social realities that inform how people see the world, build knowledge, approach problems and resolve them [2]. As such, derivations of place feature heavily in the frameworks of health and the conceptualisation of disease in many cultures [3–5]. According to Hippocratic text, early modern medicine, too, acknowledged "the relationships between places, health, disease, and the physical and mental constitutional nature of people and nations" [6]. The new Coronavirus 2019 disease (COVID-19) has brought with it a renewed interest in the role of place in shaping people's experience of health, healthcare and disease [7]. This renewed interest has largely been data driven and unidirectional, seeking to understand and operationalise the ways in which place and its multiple derivatives (nature, the environment, landscapes, hospitals, policies, communities, societies) impact the spread of COVID-19 and ultimately, the incidence and mortality rates of the disease [8]. Nonetheless, per Matthews' (2020) observation, COVID-19 has profoundly altered our perception of place [9]. Consequently, while it is incredibly important and necessary to explore how place impacted the experience of COVID-19, it becomes equally paramount to delve into the ways in which COVID-19 has not only transformed our sense of place, but the places themselves [7,9]. This necessity becomes more pronounced considering that society has not achieved complete eradication of COVID-19 [10]. Hence, there is a critical need to actively seek strategies for coexisting with the virus in a post-pandemic world, while simultaneously emphasising the importance of re-building a new normal that ensures public health and safety [11,12]. Considering the profound emphasis of numerous Indigenous cultures on maintaining harmony with the environment, acknowledging the reciprocal relationship between place and human health, Indigenous knowledges thus appear to be the most apt to illuminate pathways to comprehending and potentially operationalising the shift in our sense of place and the change of place itself [13–16], thereby informing policies, procedures and directives to living with COVID-19 and "building back better" [17]. This study seeks to use Black/Indigenous knowledge to investigate how COVID-19 has altered both the understanding of place and places themselves in order to elucidate pathways forward. In this paper, we

do this by using a case study design to explore the COVID-19 pandemic through the worldviews of Malawians (Black/African knowledge) through the epistemology of co-becoming (Black/Indigenous knowledge).

6.4.1 Black/Indigenous Knowledge: Co-Becoming

Space and place can be considered the very essence of geographic study. Space speaks to the geometric structure of a place, whereas place is a volumetric concept, imbuing space with meaning and value [18]. Oftentimes, space and place are described using static language, creating a false semblance of permanency; however, within the Yolŋu ethnocultural mosaic, place is seen as dynamic, where their ancestral homeland, Bawaka Country, is seen in constant evolution with the self [19]. There is an ingrained understanding that Bawaka Country is the home of many human, non-human and more-than-human beings, Indigenous and non-Indigenous [19]. As the various beings co-exist with one another in this space, the land has become a key part of each of their stories and identities. These beings become who they are in part (if not entirely) because of Bakawa Country, and in turn, Bawaka Country becomes a place as these beings each individually and collectively give meaning to the space [19]. *Co-becoming* can thus be described as an active state of existing where "humans, more-than-humans and all that is tangible and non-tangible [...] *become* together in an active, sentient, mutually caring and multidirectional manner" [19]. Co-becoming recognises that relationships are in constant fluctuation, and thus, the very manifestation of beings and their way of being are in a similar state of fluctuation in relation to one another. Co-becoming is hence not a singular process that has a definite end, but is a permanent state of being where "state of being" is no longer stationary; it is filled with nonstop motion [19]. This implies a state of perpetual emergence and evolution where every being forms and becomes in relationship to other beings and the land [19].

Ideas and frameworks akin to co-becoming have been proposed in various academic disciplines. In political geography, for example, Jones (2009) reconceptualises the understanding of space, place and regionality by looking beyond the physical elements that define the limits of a space [20]. He argues that space no longer corresponds to rigid boundaries, but thanks to networks and relationships, space is able to

stretch and flow, combining with in situ spatial elements to form place; thereby creating spaces and places that exist beyond the limits of territory and geography [20]. In economic geography, Boggs and Rantisi (2003) talk about social interactions (*relationships*) between elements that influence the economy shape the geography of economic performance [21]. Their paper shows that establishing certain socio-economic relationships can generate similar landscapes of economic performance, arguing that "economic actions cannot be explained away or subsumed under the logic of capital" [21]. In environmental science, Brown (2017) describes emergent strategy as a means of designing solutions to environmental issues in recognising the continual state of flux and stream of "ever-mutating, emergent patterns" that have to be navigated for self, societal and planet well-being [22]. Other examples can be found in empirical sciences [23], gender studies [24], linguistics [25], and ecology [26].The particularity of co-becoming, as stemming from Bawaka Country, are threefold: (1) it is irreplicable, (2) it originates from an Indigenous knowledge and (3) it centres Blackness as analytical.

The first distinction is the importance of irreplicability. Relationality in scientific disciplines is often studied from the perspective of replication, where a set way of doing or being is extended to other places with the goal of recreating desired results or universal laws. Contrary to this, co-becoming centres the uniqueness of multiple intertwining and interacting relationships, where the lessons from one setting cannot necessarily be replicated elsewhere; they arise solely as a function of the land, the relationships with the land by the various beings that inhabit that land, and the relationships between the various beings on that land [19]. This produces results that are unique to a given place that can only exist in that very specific entwining of human, non-human, more-than-human, and land relationships.

The second distinction is that co-becoming is an Indigenous knowledge produced through the knowledge systems, practices, beliefs and innovations developed by the Yolŋu over generations. As a form of knowledge, it encompasses the wisdom, cultural expressions, and understanding of the natural environment that the people, culture, community, society and nation have accumulated and passed down from one generation to another. This is key as Indigenous knowledge systems are built upon the experiences of earlier generations, following which they are then consistently trialled and tested by each

following generation, thereby becoming deeply rooted in the specific local context, including the land, resources, and ecosystems that the community have inhabited since time immemorial [27]. Drawing on Indigenous knowledges and knowledge production enables the interrogation of Eurocentric thought and science as the only true way of knowing and allows for exploration beyond the limits set out by conventional science [19,28].

The third distinction is that co-becoming is a Black knowledge. Distinct from Indigenous knowledges, Black knowledges are shaped by the unique circumstances of what it means to be Black in any given society, including the legacies of slavery, colonisation, segregation, and ongoing systemic racism. Black knowledges thus centre resilience born from necessity, creativity despite adversity, and discourse to build relationships [29,30]. By employing a Black knowledge, we can reframe our understanding of a place as inherently Black, rather than perceiving Blackness as "other" or divergent. In this context, rather than comparing Black peoples to their non-Black counterparts, their Blackness becomes analytical; a tool through which the (Black) knowledge produced through this research via (Black) peoples in a (Black) place is able to be elevated to being independently relevant, instead of existing as secondary to Eurocentric modes of thought and practice [31].

While not all Indigenous knowledge is Black, and not all Black knowledge is Indigenous, co-becoming represents an intersection of these two knowledge systems. This intersection is particularly significant because the focus of this research is on a Black place, Malawi, and Black people, Malawians. Numerous Black scholars emphasise the importance of using Black frameworks and knowledge systems when studying Black communities [32–35]. This approach ensures that their priorities, perspectives, and challenges take precedence and that their voices are at the forefront of the narratives they wish to convey.

Moreover, the Bawaka peoples generously shared co-becoming through an iterative research process involving Yolŋu knowledge-keepers, Yolŋu knowledge-holders, Yolŋu research assistants, and Settler researchers. They did so with the intention of “significantly expand[ing] people’s sense of what Earth futures are desirable and achievable” [36]. This Indigenous knowledge has thus been openly offered to the academic community, with explicit permission for its use in efforts to improve the world. This

allows for ethical use of the knowledge appropriation and avoids the harm and disrespect of the originators and their communities. We are grateful that the Yolŋu have given consent to share this knowledge with the world and have it inform the work we do in interacting with spaces and places [19].

6.4.2 Co-Becoming and COVID-19

From a co-becoming perspective, the idea of "beings" goes beyond referring only to humanity; it includes both non-human and more-than-human entities. This means that a virus can become a part of a landscape and can influence our understanding of place by both modifying the space, and impacting relationships between beings, the land and itself (the virus).

COVID-19 is an enveloped positive-sense single-stranded ribonucleic acid (RNA) virus that belongs to the Coronaviridae family of the order Nidovirales, an order of viruses with both animal and human hosts [37]. The disease can be transmitted from human to animal, and in return from animal to human. The Danish authorities, for example, announced that a mutant 453F COVID-19 virus strain had appeared in mink farms and crossed the species barrier, infecting twelve people [37]. The cross-transmissibility of COVID-19 between human and animal hosts has changed the relationship between human and animal beings that manifest in questions around urbanisation practices and human encroachment on natural habitats [38–40]; thereby demonstrating a link between changing relationships leading to changing perceptions of space and place.

COVID-19 was first identified in China, a country with an estimated 92% Han Chinese population [41]. Outside of China, the Han are often racialised as "Chinese", "Asian" or "East Asian" depending on the country [42,43]. As the disease spread around the world, countries where the Han or those who had features that could be construed as Han constituted a visible minority, saw an increase in instances of discrimination, racism and societal exclusion which led to cases of verbal and physical acts of violence [42,43]. This change in relationships between human beings of various identities created, exacerbated or brought to light social tensions that had hitherto largely been rendered invisible in the name of social integration and cohesion [43]. These new relationships between the "Chinese", "Asian" or "East Asian"' racialised identities and others, led to a shift in the perception of place, where Chinatowns,

Chinese restaurants and other places that are largely associated with Han racialised identity were either seen as disease breeding grounds to be avoided, or spaces of retaliation to harm communities in light of the pandemic [44].

These are but two examples of how COVID-19 has changed relationships between beings, and how these new relationships have shifted the perceptions, understandings and, sometimes, the physicalities of a place. The virus has been around for over three years; various sociopolitical responses have impacted, reformed and reshaped the lives of both human and non-human beings. The short- and long-term implications are still being studied and brought to light with very real consequences on place and relationships to beings in a place. To summarise, places are co-becoming with COVID-19 in permanent and temporary ways.

6.4.3 Study Location

Malawi is a small land-locked country located in south-eastern Africa bordering Mozambique, Zambia and Tanzania. The country has a population of 20 million people, most of whom are divided between the 10 major ethnic groups, with the Chewa, the Lomwe and the Yao being the largest [45]. The landmass is around 118,000km^2 divided into three regions (northern, central and southern) and 28 administrative districts. A former British colony, Malawi ranks as having one of the lowest GDPs by the World Bank, and is listed as one of the ten poorest countries by the United Nations [46]. The economy is largely agricultural with an estimated 80-85% of the population living in rural areas [47]. The functional literacy rate sits at 62% with wide regional variations, and discrepancies between the sexes; the male literacy rate being approximately 70% and the female rate being 55% [48].

Malawi provides an interesting backdrop from which to explore COVID-19 through a lens of co-becoming. As Tengatenga et al. (2021) note, in Malawian society, “the social, cultural, and religious are intertwined such that it is difficult to draw the line between these three spheres” [49]. This reflects a society in which disease, healthcare and public health cannot be approached in a silo, but needs to be understood within the social, cultural and religious contexts that define and shape the realities faced by those living in Malawi. The onset of the COVID-19 pandemic thus presents and represents more than the

simple physicality of catching a disease; also impacting the natural, supernatural and spiritual realms whereby health belongs not just to the individual, but the community at large [49].

In centring Malawian lived experiences with the COVID-19 pandemic (Black/African knowledge), we explore the possibility of gaining different perspectives of COVID-19, and consequently, different, new or innovative directives and policies that can render societies more resilient in the face of new disease outbreak.

6.5 Methodology

Given that this project seeks to weave multiple forms of knowledge, qualitative methodology was determined to be the most appropriate direction to take as it allows for a complex, multicomponent intervention geared towards exploration and discovery [50]. A case study approach was chosen to narrow the scope and increase the feasibility of the research, providing tangible outcomes.

Data were collected between September 2021 and June 2022 through a series of in-depth semi-structured (n=41) and unstructured (n=2) interviews. Semi-structured interviews allow for a methodical inquiry into the thoughts, feelings and beliefs that interviewees hold while also giving them the flexibility and the power to change the direction of the conversation and allow for the evolution of other lines of questioning [51]. This method of inquiry lent itself well to this research because it allowed for COVID-19 to be explored through the worldview and perspectives of each key informant who were the knowledge-holders in this instance. The interview guide used was field tested for cultural compatibility, and locally situated Malawian research assistants (n=4) before being implemented. The interview guide included clear open-ended questions and probes on the broad topics of interest: COVID-19 in Malawi, COVID-19 and place, responses to COVID-19, and community networks. The interview format was chosen to support the creation of an ethical space by redistributing the power in the interviewer-interviewee relationship to allow for the person being interviewed to steer the discussion as they saw fit [52]. Unstructured interviews were conducted by the lead researcher in person and used for follow-up, to fill in any context gaps identified in reviewing initial results.

Kumar (1989) explains that key informant interviews are most appropriate when doing research in low-income countries for generating information "when understanding of the underlying motivations[, beliefs] and attitudes of a target population is required" [53]. Key informant interviews allow for in-depth exploration of topics, tailoring of questions to elicit varied knowledge forms, and probing for detailed insights. They capture personal experiences, contextual understanding, and practical applications, fostering rapport and trust for candid sharing. By engaging multiple interviewees, they offer a holistic view of the subject, aiding in qualitative data analysis to uncover valuable insights and patterns across the collected knowledge.

Potential participants were identified via a referral process through a community-based partner organisation, Soils, Food and Healthy Communities (SFHC), in Ekwendeni, Mzimba, Malawi. To obtain diverse experiences and perspectives, an effort was made to maximise participant variability in terms of ethnicity, age, gender, socioeconomic status, and employment and community role. Participants included religious leaders, teachers, students, healthcare workers, traditional healers, fishermen, market sellers, community leaders and farmers. The semi-structured interviews were conducted in English (n=22) and Chitumbuka/Chichewa (n=21). We stopped at forty-one semi-structured interviews in December 2021 because many of the same ideas were being repeated and we judged that theoretical saturation had been reached [54]. To fill in context-gaps that were identified when analysing data from the semi-structured interviews, the lead researcher conducted an additional two unstructured interviews in English in June 2022.

Prior to participation, prospective key informants were read a consent form describing the objectives of the study and asked to confirm their willingness to take part. With permission, interviews were digitally-recorded and later transcribed and translated to English, as needed. COVID-19 protocols were followed for all in-person interviews. Analysis was conducted through ATLAS.ti using the framework method [55]. Interview transcripts were evaluated for content, seeking emergent recurring themes through the words of the interviewees. An open code was applied to each sentence describing what the lead researcher determined as important in each interview. Comparisons and contrasts were

formed between the highlighted codes for the different interviewees, with re-coding as new themes emerged.

6.6 Results and Discussion

Given that co-becoming centres the relationships between the land, humans, more-than-human and non-human entities, the results have been largely divided into three thematic categories that follow this ontology; we look at how COVID-19 impacts the relationship with nature, with place and each other in Malawi. This section is structured like a series of stories, reflecting the format in which Black, African and Indigenous knowledges are often transmitted from generation to generation and built upon since time immemorial. For the purposes of privacy, pseudonyms were used in the recordings and written text.

6.6.1 Relationship with Nature

In exploring how COVID-19 has impacted the relationship that Malawians have with nature, we asked key informants to describe what the environment/nature meant to Malawians *before* the COVID-19 pandemic. According to Gwe, a key informant who worked for the ministry of agriculture, Malawians have a complex relationship with nature where there is care, but given the levels of poverty in the country, the relationship has mostly become transactional. Most people depend on the environment for their survival.

> *They[your average Malawian] know the pros and cons of the importance of caring for the environment. But now, what is challenging is... I can say the poverty level. Most of the people depend on the environment to survive, as I've said, with the charcoal burning, [...] the mushroom production [...] to sell on the market... These are natural foods. Yeah. So they care about the environment, but they're forced to destroy the environment to be able to eat. (Gwe)*

This relationship is further demonstrated through an interview with Fil, a park ranger. He explains how the government of Malawi received Nyika National Park from the British and made it into a forest reserve, but could not manage it, so made it into a national park for tourism purposes. When asked if they receive a lot of visitors from Malawi, he responded:

The locals do not visit, but they are proud it is here. However, there is a serious poaching problem in the park as people [locals] only come in to steal resources. (Fil)

As COVID-19 hit Malawi, there were significant economic consequences which exacerbated the transactional element of the relationship with nature.

A lot of trees are being wasted just to burn charcoal. So, that is a source of income. You cannot just go there and say stop burning it. People will say "Give me money, what am I going to eat?" And as you know, Malawi is a developing country, it is also developing very fast. So a lot of these environmental issues are happening. (Gwe)

There has been no foreign money coming in [during COVID-19] and villagers have been sneaking into the park more to hunt animals and sell their body parts. (Fil)

We thus see nature, in part, being used as a tool for survival, and during a pandemic with economic consequences, the reliance on nature to survive increased to the detriment of the environment. When we asked the other key informants, none of whom work in environmental protection or conservation, to describe COVID-19 from their perspective, many reported that COVID-19 is spread through the air:

I heard that COVID-19 is a disease that moves in the air and it can attack anyone (Gulu)

COVID-19 starts mainly from the air that we breathe through the parts that produce fluids like the mouth but also the nose (Meta)

This is because it[COVID-19] is due to the wind/air (Zinny)

The way I heard, I hear that it is air or wind [...] because it[COVID-19] is blown by the air or wind (Ace)

In associating COVID-19 with the very air that we breathe, nature immediately becomes perceived as a place of harm or holds connotations of harm. Flora, who works as a traditional healer speaks to her efforts to keep her family safe from COVID-19 in their home. In the following quote, Flora talks about the fear she has of leaving the doors and windows open during the night, despite the desire for fresh air.

The way I heard about COVID-19, I saw that to me, it is a disease which has come through the air... But also the door, windows in the bedrooms and the door here, I was opening [them] during the night, but I wanted that the air should do what? Should be passing[2] *(Flora)*

Flora builds what she perceives to be a safe place for her family by shutting out the air, *the carrier of COVID-19*.

The co-becoming of COVID-19 and nature in Malawi is more nuanced than transactional or a simple fear of the outdoors and the air. As much as nature can harm, nature can heal as well. Many of the ethnicities in Malawi have co-become with the environment for as far back as their collective histories have been told, and even after the introduction of British healthcare during the colonial era, many traditional health practices persist [56]. Fil spoke of how the early Bantu peoples who moved to what is currently Malawi would turn water bodies into shrines, places of worship, and ask for rain in the event of famine or healing in the event of disease. Some of these practices continue up to now.

People from Chisanga village come to the waterfall to pray for rains during the growing seasons and healing when someone is sick. They consider this place a shrine and say the spirits are strong here. (Fil)

Steaming was mentioned as a popular method used to not only purify the air and the lungs, but also as an act of illness prevention.

In the rural areas, people have been steaming way before even the COVID-19 itself because when they come across a certain flu, people were already resorting to steaming. They will take a blanket, they will take maybe some traditional medicine, they would rub themselves [with the medicine] there inside the blanket, [and turn] to the pot where [they are] boiling the leaves of [...] mamani, which is today known as steaming. (Ric)

Steaming requires that the user go out into nature and find the right plant, before beginning the process, thereby making nature a place of medicine, prevention, and healing, as much as a place of risk

[2] Interpretation: *The way I heard about COVID-19 is that it is a disease that moves through the air... But also the door, the windows in the bedrooms and the door here, I was opening them during the night because I wanted the air to circulate, but not anymore* (Flora)

and danger. In this context, the blue gum tree (*Eucalyptus globulus*) was commonly reported as being an important medicine against COVID-19, with many respondents mentioning boiling, steaming, and ingesting the leaves.

> *There are people taking blue gum leaves and lemons, yeah, saying those things are working (Son)*

The trust in the blue gum tree's ability to heal has been so strong that many of the trees have been completely stripped of their leaves and left barren, impacting not only the tree and surrounding ecosystems, but also harming social cohesion as others who seek leaves for steaming struggle to find them.

Interestingly enough, the blue gum tree is native to Tasmania and southeastern Australia, but has naturalised in Malawi and other areas of Southern and Eastern Africa [57]. The British brought the tree over to countries they had colonised where there was a significant loss of local tree cover [57]. The blue gum tree came to symbolise hope for a colonial future for the British settlers [57], but through the crafts of traditional healers, the blue gum tree was adopted into Malawian medicinal traditions, thereby co-becoming with Malawians as it nativised to the land.

We can thus draw parallels between COVID-19 and the blue gum tree as both entities enter the landscape in a similar fashion, coming in from foreign lands and multiplying in the locality. As the disease becomes endemic to the environment, it cements the transactional value of nature where people harm the environment to be able to feed themselves; and modifies existing relationships with nature to encompass a new sense of danger: the idea that disease is in the air. Cultural, traditional, and local knowledge is then used to recreate safety and healing through the environment, thus allowing the environment to co-become with COVID-19 and continue to co-become with Malawians.

6.6.2 Relationship with Place

Co-becoming fundamentally describes the dynamic ever-changing relationships that people have with places and all that live in those places. Ric, a university student, shares how COVID-19 created a shift in the understanding of place. Typically, people come together in bars to watch sports, but as a means

of slowing the spread of COVID-19, public health messaging asked people to stay home and avoid crowded areas:

> *Because how do you tell a person "don't visit crowded areas"; yet there is a very big game. Maybe since I'm a soccer fan, [...] and I don't have a TV to watch, I will be forced to move out of the house to go and watch (Ric)*

Ric then highlights how "home" is not adapted for the change of relationship to place that is necessary in supporting the transition from communal to individual as imposed to COVID-19 measures. In his example, many people do not have TVs in their home, and so they come together in bars when there is a soccer game; however, if people are being asked to stay home, then the home needs to change to support the cultural love of soccer in non-crowded spaces:

> *...but if the government made some things affordable, it means most of the people have an access to them. And they will remain in the houses because they have them. But the more things get expensive, the more people will move out of their houses, they'll go to crowded areas (Ric)*

At a larger scale, COVID-19 has imparted a question of safety on the way urban versus rural spaces are understood and perceived. For example, several respondents indicated that urban areas were more dangerous because they are more crowded, and disease can more easily spread. According to Dwe:

> *[Urban areas are more dangerous because] in the urban [area], there are more [people] than in the community[village], like in rural areas. [...] In the community[rural areas], they are scattered and in urban [areas], they are in compact areas (Dwe)*

The belief that rural areas are safer than urban spaces is not held by all, as is illustrated in a quote by Rus:

> *I think the rural [is more dangerous] cause the measures have not spread much into the rural areas, but then the urban people, I think they have an advantage because they're more [...] exposed to the news [and] the internet, [so] I think they know much about COVID. (Rus)*

As COVID-19 settles on the landscape, places in Malawi were further seen with a critical eye on safety based around proximity to other people (adaptation to social distancing), and the ability to support

habitual, institutional and structural changes (adaptation to other COVID-19 measures). Gwe offered a government perspective:

> *Because if we're meeting farmers in groups, it was restricted to a maximum of 50 farmers [at a time], but a maximum of 50 farmers [requires a space of] 100 metres by 100 metres so that we [can] observe social distancing. And then, you know, if we [have a lack of] resources, you are restricted not to convene a meeting where there are no buckets for water, there's no masks... you cannot convene a meeting when you don't have masks to provide to all those people. (Gwe)*

All the interviewees spoke to the importance of social distancing, but expressed the difficulty of doing so because of the communal lifestyle that has been ingrained across the country. Throughout this research, our observations noted a communal approach to everyday activities: women would wash clothes together by the river and share stories; men would convene around street food and eat together; people were often walking and working in pairs or groups. It was rare to see someone isolated, standing or eating alone. Even painters on the beach of Lake Malawi would approach tourists together to sell their art.

We also see place become a key component in the government strategy against COVID-19. Government messaging was enacted at multiple geographic scales to ensure that people understood the urgency of adaptation.

> *Each and every day there were reports [by the National COVID-19 Committee] at the local level, national level, and the district level. You could hear people saying "Oh in Mzuzu today, we had so many cases today." So people were saying "oh it is here, let us start to change." (Gwe)*

Another element of the changing relationship with place is captured through a statement that Fil offered:

> *Malawians don't travel. (Fil)*

Fil explained that Malawians rarely leave their home community, and that there is stigma in being nomadic. This demonstrates a very place-based culture where once someone has settled, it is inconceivable to move. The impacts have been two-fold, where the lack of movement most likely

contributed to a lower infection rate; however, the stigma of movement also increased. Since COVID-19 came to countries through travellers, incidents of violence against those who moved between places were recorded.

While some countries took a COVID-zero approach where the goal was to eradicate the virus completely from the population, and others centred individual freedoms with the desire of living with the virus, the focus in Malawi has been on sociocultural change through public education. Malawi doesn't have the resources that are available to many medium- and high-income nations where COVID-zero or an approach dependent on a fully-functioning healthcare system were feasible. Instead, the country sought to raise awareness on the dangers of COVID-19 and how to avoid catching it.

As can be surmised from the interview responses shared above, this approach has ultimately led to a change in how certain places are seen, understood and assessed in regards to danger, risk and likelihood of catching COVID-19, which has, in turn, led to lifestyle changes, some of which may be permanent. Malawi focused their efforts on reshaping and recreating the meaning of place to protect communities. We listened to key informants debate the safety of rural versus urban spaces, risky cultural practices that either need to change permanently or temporarily be stopped, and places that induce fear, versus those that inspire healing. Place in Malawi, thus, co-becomes with COVID-19 as people's relationships to places change through what they look for and need in a place as a result of COVID-19.

6.6.3 Relationship with Each Other

COVID-19, by virtue of the way the disease spreads, has influenced the relationships people have with one another because communal events, greeting habits and any interaction defined by a shared space or touch suddenly became dangerous. Unlike Malaria, which comes from mosquitos, or Cholera that comes from polluted water sources, COVID-19 is perceived as coming from other people. Preventative measures often feature maintaining distance from people, wearing protective face covering if you are interacting with anyone and keeping a small circle of friends and family that you see on a regular basis. This impedes social interactions to the point where Abu, a community leader and organiser states frankly:

Not even a relative will visit me (Abu)

During the interviews, several informants talked about how things have changed in the last two years. In probing further, it was evident that there was a feeling that these changes were permanent, that COVID-19 had changed the trajectory of Malawian life forever. Flora summarises this sentiment:

> *The way life was in the past compared to now, it has changed. The way we were when we were born compared to the present time where we are now, I see that where we are going with life now, it has changed. (Flora)*

When asked to speak to how culture has rendered people either more or less resilient to the disease, many participants spoke about how Malawi has a very communal culture where people come together quite a bit.

> *Because for us, we are Africans [...] we believe very much in communal life. (Ric)*

People come together to watch sports, for weddings, for funerals, for rites of passage and more. Malawi's nickname is the warm heart of Africa, and this is not due to the country's geographical placement (since it is much too south to be humanised into the heart position), nor is the country shaped like a heart. This nickname arose because the country is well-known for just how friendly and outgoing the people are [58]. The advent of COVID-19 changes how this friendliness takes form and how people come (or do not come) together:

(1) According to village chiefs and heads:

> *Since this disease came, I haven't seen people gathering as was the case before. We have stopped walking around. Everyone is just staying at his/her house. We are unable to meet each other in difficult times. (Zinny)*

> *People in my village, one way they protect themselves is when we have a funeral, I tell them the truth: "Colleagues, let us not follow our traditions/customs because there is a vicious pandemic during this period. When we come back from the graveyard, there will be no vigil here, we will do shaving and sweeping once and for all. Staying crowded in one place for a long time puts us in danger of contracting COVID-19." So that is what people in my area here obey, no vigils. (Meta)*

How has it affected things? I fail to call people of my village so that we should meet, because I am also afraid that if we meet and sit together, are they not going to pass to me some COVID? Or am I not going to pass on the COVID to them? That's where I am afraid so in that way development cannot progress. (Ama)

(2) And according to community members:

So, there has been an awareness to say, despite prayer being a communal thing, it's better for people to be in their homes. (Ric - University Student)

This disease has really affected us. When it comes to farming, we did not farm well because in the village we are used to helping each other at the field, and for you to call someone to help you. [Now] you fear how you will work [together] on the field (Moana - Farmer)

Despite the communal attitudes expressed pre-COVID-19, the limited capacity of the government of Malawi to create systemic change across the country, and the widespread recognition that their government can only do so much, has led to a general societal push for personal responsibility in managing the disease.

It spreads because we do not take care of ourselves. We ignore wearing masks, we do not want to wash our hands and we do not want to social distance (Moana)

The "personal responsibility" narrative has inspired feelings of shame amongst folk who have gotten COVID-19, as they see it as being their fault or due to some moral failing:

Yes, I've known a number of priests. I will not mention names, when one got sick, he said "don't tell anybody". And he was really in isolation and would remain quiet. (Rue)

While it is too early to tell which social changes will be permanent and which will be temporary, COVID-19 is having very real impacts in the way people in Malawi relate to one another. This can be seen in new, emerging customs and expectations:

Before you sit with the guest, you're supposed to have preventive measures so that we prevent this infection, we should protect ourselves (Ama)

Ama explains that it is important for a good host to be able to offer their guests a place to wash their hands and masks, thereby implying that those who do not do so are failing in their duty as a host. Thus, we are witnessing the co-becoming of a human society after the addition of a new non-human member: COVID-19.

Through a lens of co-becoming, we become witness to active shifts in how people relate to each other in a given society. In Malawi, we see communities change to become more resilient, casting away practices or habits that made them vulnerable to COVID-19. While it is unknown which changes are permanent and which are temporary, there is a general need to re-explore what was once known in order to re-know it. Village chiefs must find new ways of bringing their people together, community members have to adapt to new ways of interacting with one another, and society needs to redefine itself to hold a new collective identity. These are direct impacts of COVID-19 that are not captured in a "western" framework when evaluating public health; however, they are important to address as these relationships may make communities more vulnerable, or more resilient, to disease.

6.6.4 Everything is Connected

It is important to note that for simplicity's sake, the results were divided into three broad areas of relationship to nature, place and each other; however, as is espoused in a co-becoming framework, everything is connected. Moana, for example, mentioned how farmers feel scared of calling someone over to help them in their work (quote previously cited). This fear changes their relationship with their fellow farmer, which in turn impacts their relationship with work, which impacts their relationship to the land that they till, which in turn impacts both how they view place and nature.

6.7 Conclusion

As a form of knowledge production and framing, co-becoming enables a new look at the relationship between place and space, allowing the relationship to take on new meaning as more entities are introduced into the dynamic and are credited with their part in shaping our realities, just as we shape their realities. With the addition of COVID-19 to the landscape, co-becoming offers an avenue from which we can analyse the effects that the disease has had on the land and those who inhabit it. The results

of this study reveal some of the changing relationships with nature, place and community that Malawi experienced from the start of the COVID-19 pandemic.

Through a lens of co-becoming, we learn that the transactional relationship that many Malawians have with nature, where nature's inherent value is brushed aside for economic gain, was intensified as the economic fall-out from the pandemic and the pandemic response impacted people's ability to feed themselves and their families. Furthermore, COVID-19 inspired a fear of nature as people interpreted the disease as being found in the air. This fear changed the way people related with nature, where people would try to minimise the circulation of fresh air in their homes and avoid outdoor spaces for fear of catching COVID-19 from the air. Conversely, nature was also seen as a source of prevention and healing with traditional practices, such as steaming, being implemented to mitigate illness.

Co-becoming also enables us to see the influence that COVID-19 has had on peoples' perceptions of different places. For example, movement and nomadic lifestyles, already stigmatised in Malawi, became more so as COVID-19 came to be known as a disease that comes in with those who travel, and people became even less likely to leave their communities. Furthermore, COVID-19 became a part of how people evaluated places. Some people, for example, started seeing urban spaces as safer because people were more aware and educated on COVID-19, whereas others interpreted rural spaces to be safer because the number of people were fewer and far between. This allows us to recognise that people navigated spaces in Malawi with COVID-19 in mind in an effort to minimise risk of exposure.

COVID-19 has also had consequences for Malawi's communal culture. Through a co-becoming framework, we start to notice changing relationships where customs and cultural practices were being adapted so that people would be able to spend less time together. Community leaders expressed concern in interacting with their own communities for fear of catching or spreading COVID-19; and farmers spoke of increased difficulty at work because they no longer felt safe in relying on their neighbour for help. There was a call for individual responsibility which, although empowering, had the unintended consequences of creating a feeling of moral failing should one catch the disease, leading to them feeling like an outcast/rejected by their own communities.

Being able to analyse COVID-19 through a lens of co-becoming reveals place-based impacts and threads that have not necessarily been captured in mainstream COVID-19 discussions. The perspectives people hold on place, country, land, nature, more-than-human and non-human beings have been left out of the conversation, and thus out of planning and policy development. By using this Black/Indigenous knowledge, rather than seeing human beings as disconnected from more-than-human and non-human beings, and thus human futures as distinct from the futures of every other entity, we "significantly expand people's sense of what Earth futures are desirable and achievable" as is the hope of Bawaka Country in sharing this knowledge [19].

Through challenging the relationships between place and people, and the merging of people as place, we have begun a conversation on what long COVID-19 ("not recovering [for] several weeks or months following the start of symptoms that were suggestive of covid, whether you were tested or not" [59]) looks like outside the human body, questioning what some of the permanent impacts of COVID-19 are on society. Co-becoming allows us to recognise that when we look for disease symptoms, we should not just be looking at the way the symptoms manifest in human beings, but how they manifest in space, place, the land and in non-human entities. We cannot succeed in healing people from COVID-19 without healing the relationships harmed as a result of COVID-19, and we cannot envision living with COVID-19 without understanding what that truly means at a relational level.

In this study, we have leveraged Black/Indigenous knowledge to delve into the transformative impact of COVID-19 on the perception and nature of place. Employing a case study approach, we have embarked on an exploration of the COVID-19 pandemic within the context of Malawi, drawing from the rich worldviews of its inhabitants, which embody Black/African knowledge. Our investigative framework, grounded in co-becoming, has allowed us to unveil the profound alterations wrought by the pandemic, both on the conceptualisation of place and the very essence of places themselves. Missuz, who works in healthcare, explained it best:

But generally, we are adapting to it because it is within us. (Missuz)

6.8 Study Limitations

There are limitations to this study. Although data collection was led by a Malawian team on the ground, the results were interpreted by a Canadian researcher (the lead author), and so there are cultural elements to the understanding of disease and health that may have been missed that should be explored. Efforts were made to mitigate this blind spot through having discussions and sharing initial findings with our community partners in Malawi to confirm the accuracy of our interpretations. This research took place between September 2021 and June 2022. Since then, COVID-19 conditions in Malawi may have changed, and perspectives and practices may have evolved.

6.9 Ethics

This project received approval from the Research Ethics Board at the University of Ottawa (Canada) and the National Committee on Research in the Social Sciences and Humanities at the National Commission for Science and Technology (Malawi).

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Chapter 7: Summary and Conclusions

7.1 Introduction

This dissertation employed qualitative methodology and a modified Black geographies framework to investigate the roles of space and place in analysing and responding to a novel pandemic in a low-income African nation. I used a case study design focusing on the COVID-19 pandemic in Malawi in order to meet the following research objectives:

1. Examine the socio-spatial drivers of COVID-19;
2. Inquire into the social meanings accorded to and politicisation of COVID-19 and associated mitigation measures;
3. Determine how past and present epidemics and experiences with communicable diseases mediated the COVID-19 experience; and,
4. Analyse the roles of space and place in determining the individuals' ability to navigate and respond to the COVID-19 pandemic.

By engaging with Malawian worldviews and local knowledges, this research highlights the significance of incorporating diverse perspectives, particularly (Black) local knowledges, in gaining fresh insights into diseases and addressing the consequences of pandemics. The examination of how place shapes disease transmission dynamics in Malawi contributes to broader discussions on the importance of diversifying knowledge sources in informing global discourse and public health policies. By sharing insights into alternative ways of knowing and managing new diseases, this study aims to contribute to a more inclusive and comprehensive understanding of public health challenges.

This Chapter provides a summary of the key findings of this dissertation.

7.2 Summary of Findings, Objective 1: Examine the socio-spatial drivers of COVID-19

Socio-spatial drivers refer to the often interconnected social and spatial factors that contribute to or influence the dynamics of a particular phenomenon or situation [157]. Against the backdrop of

COVID-19, socio-spatial drivers help in identifying the underlying factors that contribute to the movements of the pandemic in a given place and allow for a more comprehensive analysis of how social and spatial variables interact and influence the occurrence, transmission, and response to the disease. In this section, I highlight some of the most prominent drivers, both direct and indirect, that emerged through this study.

7.2.1 Isolation

General COVID-19 guidelines outlined the need to keep distance from others and consolidate social circles. In Malawi, this regulation proved to be both difficult and detrimental because typically, spaces in the country have been intentionally designed around community and communal living. Key informants and researcher observation noted that many homes do not have: (1) refrigerators because people would go to their local canteen to eat meals; (2) entertainment systems because people would meet at the bar to watch the latest sports game; and, (3) laundry rooms because people would meet by the river or the lake and wash their clothes together. This means that although families have individual homes and dwellings, their villages, towns and even some of the neighbourhoods in the cities are built around spaces of convergence where people come together to communally share and use resources. Consequently, even though Malawi is a deeply rural country with over 80% of the population living in low-density rural communities, the areas of convergence created instances of high density where social distancing became extremely difficult to achieve. Even in urban areas where many houses were fully equipped with televisions, fridges and laundry rooms, people still needed to visit areas of high traffic like marketplaces and bus terminals. Key informants spoke to how these areas created pockets of vulnerability to COVID-19 and facilitated the spread of the disease. When considering the risk posed by COVID-19, any attempts to decrease foot traffic in these areas or temporarily suspend operations resulted in social, cultural, and/or economic consequences that were not considered justifiable.

Furthermore, apart from managing shared spaces, Malawians also faced the challenge of navigating significant community and cultural events such as funerals. Funerals in Malawi are community-wide occasions where everyone in the community gathers to pay tribute to the deceased,

irrespective of personal acquaintance; that is to say, one is expected to attend a community member's funeral regardless of personal relationship. Consequently, funerals are large-scale events with a high concentration of people, presenting an increased risk of contracting COVID-19 during the pandemic. According to key informants, despite the government's efforts to raise awareness about the risks involved, Malawians generally prioritised the cultural importance of attending these events over concerns about COVID-19 transmission.

7.2.2 Travel

At a global scale, COVID-19 is strongly associated with travel and migration as many of the first cases in most countries arrived from outside their borders. A vestige of colonialism is Malawi's status as a labour reserve for the rest of southern Africa [158]. When the British arrived in the area, they were not able to identify any mineral resources and went so far as to name certain parts of the country as "the dead north" [158]. Hitherto, the country's status as a labour reserve created migration flows and mass displacement towards the south, initially to work on plantations, and then to work in natural resource extraction [158]. As Malawians came home during the beginning of the COVID-19 pandemic lockdowns, they immediately faced the same ostracisation as visible foreigners, because people believed they were bringing COVID-19 with them. The results of this study provide further context to the significance of the discrimination migrants and returners faced as key informants explained that even pre-COVID-19, there were negative connotations surrounding those who travelled or relocated frequently. People who moved or travelled often were accused of trying to be American (not that it is bad to be American, but in this instance, the implication was one of othering - *you travel therefore you cannot be one of us*). This belies a stationary culture where value is placed on ties to home and to community, but it also creates the conditions under which the arrival of COVID-19 exacerbates a distrust of travellers, leading to a lot of suspicion, fear and eventually, violence when meeting people who came in from elsewhere. These beliefs are not surprising given Malawi's history with HIV/AIDS where the migratory patterns of people also became the vehicle through which HIV/AIDS was transmitted throughout the country [158]. Key informants expressed that these cultural attitudes towards travellers in combination with the pandemic led

to reduced mobility as people were observed to have limited their movements between villages, towns and cities during this time period. This decrease in mobility potentially contributed to a slowdown in COVID-19 transmission rates within the country.

7.2.3 (Mis)Information

Malawi has a robust network of information sharing. Through social media platforms such as WhatsApp, traditional media platforms like the radio, and community information sources like the church, Malawians were exposed to the full range of COVID-19 information, stemming from both valid sources and propaganda. These (sometimes conflicting) sources of information influenced people's behaviour and the safety measures they were (un)willing to take. Like many other countries, the spread of misinformation was swift and detrimental to social cohesion when responding to COVID-19, but unique to Malawi is how these messages were interpreted. As an example, there were many churches perpetuating the misconception that COVID-19 only infected sinners, thereby ascribing moral value to COVID-19, where those who got the disease were believed to be of poor character. COVID-19 was their punishment from God. As a function of this, whenever people fell sick, they would hide from friends and family until they recovered, after which they would pretend to have been out of town for business or to have contracted an innocent flu. This sense of shame may have served both to hinder the spread of COVID-19 as people would isolate and hide upon suspicion that they had the disease, and to increase the spread of COVID-19 as there were people who would pretend that nothing was wrong and continue about their daily lives.

7.2.4 Global Power Dynamics

Malawi is a relatively small country, both in size and in population. This, coupled with its fragile economy and the colonial history of the nation, places the country relatively low in terms of global power dynamics. The country is not often seen/heard from in mainstream global discourse, but will often have external organisations offer or impose their aid or will on the government or on/through the many institutions, businesses, non-profits and grassroots organisations across the country. This means that when the world effectively shut down and these external organisations were no longer able to provide aid, many

institutions and organisations in Malawi were no longer able to operate. Key informants spoke of personal experiences where their church had to lay people off since they were no longer able to pay them, or their private hospital did not have access to personal protective equipment (PPE) because their international donor was unable to send any over. Even when the COVID-19 vaccine became available, due to vaccine hoarding and vaccine nationalism (amongst other supply chain limitations), Malawi had to wait for donations which did not arrive in a timely manner or in an adequate amount. These global power dynamics influenced the pandemic experience of individual Malawians and the systems they depended upon, which impacted their vulnerability to the disease.

In addition, Malawi followed international COVID-19 guidelines at the start of the pandemic, shutting down borders and implementing rules requiring people to remain at home, and whenever possible, work from home. Given that most of the people in the country do not have a steady internet connection at home, and the heavily agriculture and resource-based economy, it was unrealistic to follow these rules that had been designed by and for high-income nations. This led to large demonstrations and a court ruling the COVID-19 measures unreasonable given the harm it was causing people. Malawians were forced to make the decision between catching COVID-19 and making enough money to feed themselves and their families. This eventually led to the nation ousting its already unpopular president, taking the risk to have a change in leadership during a public health crisis. The Global Power Dynamics driver really highlights the extent to which Malawi's circumstances were not taken into consideration when creating measures meant to render populations resilient in the face of COVID-19, thereby putting the entire country's population at an increased level of vulnerability when compared to their "western" counterparts.

7.3 Summary of Findings, Objective 2: Inquire into the social meanings accorded to and politicisation of COVID-19 and associated mitigation measures

Consistent with Bambra (2018)'s assertion that health is political [159], this research finds that COVID-19 in Malawi is no exception. To start, COVID-19 had significant political implications as the pandemic became intertwined with the country's presidential elections held in June 2020 [160]. The

government's response to the virus and its handling of the crisis became central issues of contention between the ruling party and the opposition [160]. Key informants expressed frustrations regarding the alleged embezzlement of COVID-19 funds provided by the international community to support the country in battling the disease, and voiced discontent surrounding ministers not following their government's own COVID-19 guidelines, catching the disease and dying. One of the key informants went so far as to explain that if the government officials who had full knowledge and access to all of the resources necessary to prevent COVID-19 were still catching the disease, what hope was there for regular citizens? The management of COVID-19 and the ensuing political debates underscored the delicate balance between public health and political considerations in Malawi, ultimately shaping the dynamics and discourse surrounding the elections [160]. At the time this research took place, the June 2020 elections had already concluded and the new president, Lazarus Chakwera, had been in power for just over a year. When asked how the government was handling the pandemic, there was almost unanimity amongst key informants in saying that the government "is trying their best".

COVID-19 was racialised in Malawi as being a disease for white people. When COVID-19 was declared a pandemic, high-income nations, especially those in Europe and North America, were experiencing the full brunt of the pandemic before it was even felt in Africa. This is the inverse of what has been perceived as the mainstream where lower-income countries are at the epicentre of new epidemics while the higher-income nations shield their populace from disease. As the pandemic progressed, many low-income countries, like Malawi, were able to maintain comparatively low incidence and death rates [32], which went counter to the aforementioned dominant narrative. As people sought to make sense of this, many locals (even healthcare professionals) in Malawi ascribed race as the reason for their perceived safety. In seeing COVID-19 as a disease for the *azungu*, for white people, Malawians started to ask why they had to follow COVID-19 public health measures or even get vaccinated when the disease seemingly *does not target them* or when they have a perceived natural immunity because of their skin colour.

COVID-19 held religious significance. Rather than simply being a virus, COVID-19 was seen as a punishment from God. Many pastors in the country encouraged people to pray more fervently, to repent and to ignore COVID-19 prevention measures, because if they were faithful, they had nothing to worry about. In the apex of COVID-19, many religious groups in Malawi actively went against public health orders and used words like "satanic" to describe the vaccines once they were available. Their congregations were not only discouraged from taking the vaccine, but ostracised by their fellow worshipers if they were discovered to have done so. The strong rhetoric claiming that the virus was a punishment on the sinful and the wicked used the fear that the virus drummed up to bolster congregation numbers and cement spiritual (and by extension, social) power over the community. The vaccine threatened these efforts at consolidating power and became an active point of contention in the country.

COVID-19 came to symbolise neoimperialism, a contemporary form of imperialism that is characterised by subtle and indirect methods of control. Through COVID-19 measures, especially vaccine diplomacy, wealthier countries have been exerting undue influence on lower-income nations in order to gain geopolitical leverage. Further evidence of COVID-19 as a tool of neoimperialism is the way COVID-19 vaccine protocols were released where practices had been developed in high-income nations, but the directives were issued without any observable nuance to allow space for nations with fewer resources and different needs. Through following international COVID-19 response guidelines, the government of Malawi was not immediately successful in its approach to handling the pandemic; however, as they learned from their mistakes and were able to adapt their COVID-19 approach to be more in line with the realities in Malawi, there was a notable shift in people's perspectives. In terms of public health communication, for example, the government sent out messages in a way that would be responsive to Malawians, through community leaders: village chiefs, religious leaders and traditional healers. They were recruited to spread the word about COVID-19 and the vaccine, get some of the first vaccine doses, and de-stigmatise both the disease and the vaccine in culturally sensitive ways. These efforts were crucial in Malawi taking control of its own narrative and better securing its independence, changing Malawi's

COVID-19 story from meeting the expectations of the international community to meeting the needs of the local population.

7.4 Summary of Findings, Objective 3: Determine how past and present epidemics and experiences with communicable diseases mediate the COVID-19 experience

Malawi is a country that has many recurring epidemics with both transmissible and chronic illnesses. Some of the more prevalent diseases in the country are HIV/AIDS, which has infected 10% of the population [161]; Malaria, which, pre-COVID-19, was the primary reason for outpatient visits in hospitals [162]; Cholera, which has seen multiple deaths every year [163]; and cervical cancer, where Malawi has the highest incidence rate in sub-Saharan Africa [164]. Many Malawians are well aware of disease and have had their lives, or the lives of people in their circles, changed drastically by disease [165]. COVID-19 adds to this rich disease landscape and this study was able to confirm some of the ways that the past and present experiences with other diseases influence how Malawians received, reacted and responded to this new disease.

One of the first major talking points was the fear that COVID-19 invoked in the general populace. Despite its low mortality rate, the addition of COVID-19 to the disease landscape brought to the surface concerns about and fear of death and loss that continued long after the initial pandemic "shock" wore off in many other countries. One of the key informants likened people's reaction to COVID-19 to that of Ebola, explaining that although the Ebola epidemic never reached Malawi, people witnessed the impacts that the disease had in Western Africa through traditional and social media and feared something similar with the arrival of COVID-19. Unlike what we saw in many high-income countries, the fear people held in Malawi was not nuanced by the realities of COVID-19, but instead built around an immediate association between sickness and death. This in part stems from the poor healthcare system in Malawi (ranked 185 out of 191 countries) [166].

This association between disease and death is further emphasised in discussions with key informants that work in healthcare. They spoke not only of being scared of the disease themselves, but

also of how they came to symbolise the disease (and thus death) in the eyes of their communities, which led to unsafe situations and instances of harassment, abuse and violence as they tried to carry out life-saving work. Healthcare workers were shunned, denied access to public transport and even denied access to housing with some landlords going as far as evicting healthcare workers from their rental properties. While the rest of the world were celebrating their healthcare workers as heroes, in Malawi, they were vilified [167]. The government further exacerbated these sentiments by tasking healthcare workers with disposing of the bodies of those who died of COVID-19, copying tactics used with preventing the spread of Ebola in Western Africa [168]. Given the importance of funerals in Malawian culture, this tactic further alienated healthcare workers in Malawi and compounded the abuse they received.

Stemming from experience with other epidemics, such as malaria and cholera, Malawi operated under the approach that once someone got COVID-19, it was too late, an approach built around the acknowledgement of a weak healthcare system. A lot of effort was put into raising awareness and prevention. For the first couple of months, hospitals had to share very limited resources in addressing COVID-19 symptoms (like ventilation machines) and were transformed into centres of outreach. Hospitals would send representatives to communities across the country to educate people about COVID-19 and try and counter any misinformation that had spread. Each ministry had to come up with a COVID-19 plan to protect the people they governed (e.g. the Ministry of Agriculture had to come up with a COVID-19 prevention plan for farmers, and the Ministry of Education for teachers and students), and community leaders were tasked with leading mitigation efforts in their areas of influence. It was an "all hands on deck" approach to ensure that as few people as possible got COVID-19. In this context, the vaccine came to symbolise hope; not a hope of returning to past normal, but hope for survival, and hope for a new normal where COVID-19 became just another disease.

Negative experiences with past diseases, however, also primed Malawi for the negative reaction people had to the COVID-19 vaccine once it became available. Despite many key informants expressing hope when talking about the vaccine, Malawi initially had a very low vaccine uptake because, like many

countries, it saw a strong resistance to vaccination with concerns about its efficacy. These concerns, however, did not solely come from misinformation, but from lived experiences as well where Black bodies have historically been used in vaccine experiments without informed consent [169]. Many people expressed concerns about the safety of the vaccine and even questioned whether it was a way for the *azungu* to eradicate them. These fears were compounded by news sharing that higher-income nations would send vaccines they did not want to lower-income countries. This raised concerns that the vaccines they were getting were either defective or expired. It was only after these fears were assuaged through consistent public health messaging and the stewardship of community leaders, that the COVID-19 vaccination rate started to climb.

7.5 Summary of Findings, Objective 4: Analyse the roles of space and place in determining the individuals' ability to navigate and respond to the COVID-19 pandemic

To analyse the role of space and place in determining the individual's ability to navigate and respond to the COVID-19 pandemic, we used the Bawaka Yolŋu ontology of co-becoming. Stemming from Bawaka Country, co-becoming offers an Indigenous/Black framework for evaluating and assessing Malawian/Black knowledge and its links to space and place.

By analysing disease through a lens of co-becoming, this research revealed that COVID-19 can cause environmental damage through impacting the relationship between humans and the environment; and that the economic fallout from COVID-19 goes beyond someone not being able to feed themselves, but also impacts social harmony and cohesion. Key informants spoke to the increased decimation of trees for charcoal and traditional medicine during the COVID-19 pandemic in the hopes that it would help keep their families safe, both physically (as steaming certain leaves was believed to prevent/cure COVID-19) and financially (as the exploitation of nature offers a way to make some quick income). In addition to the negative environmental consequences, these actions also impacted social cohesion because there was a lot of resource hoarding where, for example, people struggled to find leaves to steam because the trees had all been stripped.

"Western" COVID-19 talking points focused on educating people and individualising responsibility; but the social impacts of a strategy built around personal responsibility were not adequately taken into consideration in a place like Malawi where culture is communal. The perspectives people held on place, country, land, nature, more-than-human and non-human beings were left out of the conversation, and thus out of planning and policy development in the country. This rendered many people vulnerable who did not have to be vulnerable, and aided in the continued spread of COVID-19. Examples include the push to social distance at an individual level without providing the infrastructure and sociocultural changes necessary for social distancing to be a realistic measure that individuals could choose to exercise. People were not offered alternative adaptations of important cultural events (like funerals) that could safely be practised in a pandemic, nor were they given access to the necessary appliances and services that would feasibly allow them to stay home.

Our findings indicate that the people of Malawi, to their credit, have demonstrated incredible capacity to adapt COVID-19 into the existing disease landscape, and thus into their ways of life. During the interviews, there was a general acknowledgement that change must happen, and while many spoke to change at an individual level, others mentioned the supports they needed from the land (nature), a changing relationship with place, and new social dynamics to navigate. Studies that look at living with COVID-19 often focus on the idea of long COVID-19 where some people experience "a range of prolonged, fluctuating, and debilitating symptoms several months after [the] illness" [170]; however, by observing the evolving dynamics between individuals and their surroundings, a dialogue emerges regarding the *external* manifestations of long COVID-19. Rather than being a virus that came and went, COVID-19 has permanently settled in human society, ultimately reshaping and reforming places and how individuals perceive and navigate places [171–174]. This prompts an inquiry into the lasting effects of COVID-19 on Malawian society, externalising long COVID-19 from the body and framing the disease within the context of the land.

Co-becoming allows us to recognise that in the case of Malawi, resilience comes from a sentiment of COVID-19 becoming a permanent fixture of what it means to be Malawian, where people

recognise the virus as another entity on the land which cohabitates (and thus co-becomes) with the other beings on the land. This can be likened to the acknowledgement of recurring endemics like Malaria, Cholera and HIV/AIDS. They ousted an unpopular president who tried to implement lockdowns because of their lack of feasibility, and from the beginning, looked for options to adapt ways of living and being to acknowledge COVID-19 [175–177]. While co-becoming, as an Indigenous knowledge, is not designed to create replicable results, there is much that can be learned from Malawian understandings of, and approaches to, new diseases.

7.6 General Discussion: Role of Space and Place in Analysing and Responding to a Novel Pandemic in a Low-Income African Nation

Maynard and Simpson (2022) refer to the state of the world pre-COVID-19 as "death-giving" where the status quo actively contributed to the increased mortality rates of Black and Indigenous peoples across different places [23]. The COVID-19 pandemic brought with it uncertainty, instability, a loss of faith in systems and institutions, and death, thereby compelling what Maynard and Simpson (2022) call "world-ending conversations", between family members who disagreed on vaccination; between persons holding different political ideologies; between governments and their peoples; between countries, nations and nation-states; between community leaders and politicians; *and, between those who are marginalised and those who have access to full personhood.* World, in this context, holds similar connotations to the concept of place where Gesler (1991) calls a place a "space filled with people acting out their lives" [178]. Marginalised, refers to those who continue to experience systemic "discriminatory conditions" such as racism, transphobia, ableism, and sexism [179]. Personhood speaks of those who are able to exist in society as full complex individuals, who are largely (if not entirely) capable of self-determination, contrary to the "degenerating sense of nobodiness" that stems from the aforementioned "discriminatory conditions" [180].

It can thus be argued that the COVID-19 pandemic was a series of place/world-ending events [23]. In a global framework built on the colonisation and continued exploitation of Black peoples, African

and Indigenous lands, and the pervasive and intertwining ideologies of capitalism, heteropatriarchy and racism [23], the COVID-19 pandemic forced a reckoning where the status quo of many places had been shaken and (marginalised) people were not willing to go "back to normal" [181]. These world-ending conversations, these apocalypses, have been crucial as they determine new social contracts and engage in "world-building" [182–185]; however, Maynard and Simpson (2022) place Black and Indigenous peoples on the frontlines of "world-building" since historically, Black and Indigenous peoples have gone through many world-endings, experienced many apocalypses, and yet are still here: simultaneously building and rebuilding new resilient worlds as their worlds end.

Griffiths and Johnston (1991) define places as where "people become what they are" [186]. As some of the earlier pioneers in setting the foundations for the use of geography in studying health and disease phenomena, these authors outline a subtle yet firm description of place where people are understood as being a part of a location or a landscape, more than simply being present in a location or landscape. Through this case study where the COVID-19 pandemic was explored in Malawi, we were able to engage in some of these place/world-ending conversations and witness simultaneous place-making and world-building. Malawians engaged with their government to outline expectations on what are and are not acceptable public health practices; with each other on the use of space and new social contracts; with public, private and religious institutions on their roles in society; and with the international community on what comes next. When Black and Indigenous peoples engage in world-building, these are largely place-based practices where local circumstances and realities are combined with historical knowledges (African knowledges, Indigenous knowledges, Black knowledges, traditional knowledges), thereby recontextualising their relevance in modern-day discourse.

In pre-colonial Malawi, many of the Indigenous cultures and traditions interpreted disease and illness in a broader sense than "western" science [122]. Rather than disease being solely an ailment of the individual, it extended to the surrounding landscape. Illness was a sign of something wrong in one's life, whether it be an issue in the family, the community or the environment. This holistic view of wellbeing strengthened community ties and moulded the communal culture that we see today in Malawi since

healing was centred around community and coming together [122]. While colonisation thoroughly embedded “western” thought in Malawi, these pre-colonial understandings of illness still persist and colour how new diseases are received in this place. Indigenous medicines and practices were a mainstay throughout the early stages of the COVID-19 pandemic where people engaged with medicinal plants and spiritual healing rituals in an effort to protect themselves, their families and their communities from the new disease.

This case study feeds into larger discussions around traditional medicine and its place within modern society. Speaking at the first ever global Traditional Medicine Summit in 2023, the Director-General of the World Health Organisation, Tedros Adhanom Ghebreyesus, emphasised the substantial role of traditional medicine in promoting human health and its “intimate links” to the environment. Traditional medicine, encompassing practices like herbal remedies, acupuncture, yoga, and Indigenous therapies, is widely used in 88% of countries [187]. It plays a critical role in global health, especially in communities with limited access to “western” medicine. It is worth noting that traditional medicine is particularly necessary in situations where cost is the greatest barrier to healthcare access, as availability of money, particularly in Black places, is linked to the colonial history of the place. Furthermore, the socio-cultural traditions and biodiversity associated with traditional medicine are essential for the inclusive and sustainable development of the communities. Despite its substantial contributions, the full potential of traditional medicine within national health systems remains underexplored, as we lack comprehensive data on accredited practitioners, facilities, expenditures, and products [187]. The World Health Organisation Global Centre for Traditional Medicine (GCTM) aims to build capacity to address these knowledge gaps.

Even with efforts by the GCTM, scholars like Sofowora et al. (2013) note that African Traditional Medicine (ATM) stands apart from other large categorisations like Chinese Traditional Medicine (CTM) and Indian Traditional Medicine (ITM) because those traditional practices are largely documented in written form, and are formally recognised by their respective governments [188]. ATM remains largely oral and contested in mainstream African societies with many people believing that it is

devilish/witchcraft or that “western” medicine is superior and cannot coexist with ATM [122]. This was experienced first-hand during conversations with key informants as there was a certain reticence (and even mocking on occasion) when the topic came up. To counter this, Sofowora et al. (2013) do not just advocate for creating written resources for ATM, but for taking a common risk factor approach to public health in Africa [188].

The common risk factor approach strives to unite multiple health promoters focused on eradicating shared risk factors to prevent diseases [189]. As an example, Sheiham and Watt (2000) link obesity, diabetes, cancers, and dental caries with poor diet, and thus recommend that nutritionists, diabetologists, oncologists, and dental practitioners work together around this common theme to succeed at a societal level. Integrating ATM practitioners (like traditional healers and herbalists) into this framework in African communities allows for a coming-together of places, worlds, ways of being and knowledges to actively promote health and the healing of disease through a whole-of-society approach [188]. The challenge is that the common risk factor approach is built around multidisciplinarity, whereas any approach involving ATM (or most forms of traditional medicine) would need to centre place, rather than centring disciplines. In the case of COVID-19, co-crafting a pandemic response with epidemiologists, virologists and other biomedical scientists is not enough. Being able to adapt responses based on the changing dynamics of the pandemic in different regions is critical, and understanding the interplay among space, place, and the novel pandemic is vital for developing contextually appropriate strategies to mitigate the spread and impact of the virus.

These conversations serve to return personhood to Black peoples and give them agency over their own health and bodies, especially in the context of disease outbreak and disease spread. In seeking to return personhood to Black peoples, it is important to centre the Black individual within their community, rather than referencing the same colonial systems that stripped Black peoples of their humanity. Using Igbo philosophies, for example, Ikuenobe (2006) explains that individuals within a community have intricate normative and spiritual connections with both others and their forebears [190]. These relationships, intertwined with community values, delineate people's responsibilities, forming the basis

upon which their accomplishments are appraised and acknowledged within society. Acknowledgment of one's successes "indicate that one has acquired a normative sense of personhood" [190]. This reconfiguration of personhood through Black philosophies is necessary for two-fold, the first being it locates the Black individual within place, within their community, and centres personhood around being *seen* by their community in that place. The second being because, as Audre Lorde states, "the master's tools will never dismantle the master's house. They may allow us to temporarily beat him at his own game, but they will never enable us to bring about genuine change" [191]. We thus must look to other forms of knowledge production and other worldviews to dismantle the master's house, to bring an end to the death-giving worlds, and to rebuild the world to centre life in all of our images.

This discussion is largely captured in the modified Black geographies framework used in this dissertation (Figure 1). As depicted in the framework, the physical, symbolic and social landscapes of COVID-19 in a given place were addressed via Black knowledges/contributions, centring Black concerns, and questioning "standard" international practices when it comes to (Black) health and wellbeing. Space and place were re-imagined as Black, thereby allowing for Black spacemaking to supplement our understanding of COVID-19 and highlight important directions for continued exploration and thought. Hence, creating space for both world-ending conversations to put a stop to death-bringing worlds, and allowing Black peoples to take the lead in place-making as world-building, to create spaces that give life.

7.7 Contributions of the Study

By delving into the realities of the COVID-19 pandemic in Malawi from the perspectives and worldviews of Malawians, we have had to create and adapt theoretical frameworks, data collection methods and analytical tools in order to achieve the aforementioned research objectives. Beyond the increased understanding this dissertation provides of the impacts of the pandemic in a low-income African nation, we have also been successful in contributing to theories, methodologies and policies.

7.7.1 Theoretical Contributions

In this dissertation, strides are made in using Black geographies as a theoretical framework within the context of disease outbreak, spread, resilience, and vulnerability.

This dissertation places a central focus on Black peoples, their experiences, knowledges, and frameworks in the exploration of the COVID-19 pandemic. To accomplish this, a thorough theoretical reframing of space and place as inherently Black was undertaken within a field historically entrenched in Eurocentric perspectives. This involved the development and application of a modified Black geographies theoretical framework. The Black geographies framework, as articulated by McKittrick and Woods (2007), played an integral role in shaping the trajectory of this project. It provided the conceptual underpinning for the methodology, guided the interpretation of findings, and structured the ensuing discussions. However, considering the positivist nature of this research, a Therapeutic Landscapes framework, as defined by Vaguet, Lefebvre, and Petit (2012), was integrated. This allowed for the construction of a humanist framework within the positivist domain of medical geography, broadening the application of Black geographies beyond its roots in human geography. It also facilitated a sustained investigation into disease by challenging the white spatial gaze and white supremacist practices often embedded in research methodologies, particularly when stakeholders are not *white [149]*.

By establishing Black experiences as theoretical anchors, the study diverges from mainstream narratives in global health, providing not only a deeper understanding of how Black communities navigated and responded to the pandemic within their unique spatial and cultural contexts but also offering valuable lessons for a global audience. In drawing upon the lifeworlds expressed in a Black African context through this case-study, this research also delves into the theoretical discourse on resilience and agency within Black spaces, investigating how these spaces emerge as sites of resistance, adaptation, and empowerment in the face of a pandemic.

Finally, this dissertation loosely engages with Black futurities and imaginaries, envisioning alternative possibilities and solutions rooted in the aspirations and visions of Black communities. This theoretical approach contributes to a broader understanding of the pandemic's impact and supplements the theoretical underpinnings of Black geographies as a means of studying disease spread. This dissertation is not the first time Black geographies has been used in studying disease, health and wellness in an African context (e.g. [192]); however, the repeated use of a theoretical framework builds a cumulative body of

knowledge where each study contributes to the understanding of the theory's applicability, limitations, and nuances [193]. This allows for refinements and expansions of the theoretical framework over time.

7.7.2 Methodological Contributions

While international research in medical/health geography is not new, this study stands out in that every effort is made to decentre white normativity. Recruitment was led by a local team of Malawians on the ground; interviews were conducted by an entirely Black research team, most of whom were local to the communities they spoke with; and, the lenses used to analyse the data were largely constructed through Black worldviews and experiences; using Black frameworks like Black geographies and Black knowledges like Co-becoming. Interviews were conducted using a semi-structured or unstructured approach to ensure that the interviewee had the ability to redirect the line of questioning and shape the information gathered around their own experiences and knowledges. Given that Blackness is a plethora that often needs de-nebulising (as Harris (2019) specifies: *Blacknesses* [149]), a research project built around Black knowledges has to recognise the plurality of what it means to be Black and how Black people transform space into place. It is thus crucial to build terms of reference that bridge the gap between these various forms of knowledge. We used the concept of Ethical spaces, as stemming from an Indigenous knowledge, to correct for the imbalances of power between interviewer-interviewee and the multiple Black knowledges, worldviews and lived experiences that informed this research.

The framework method was used for analysis in this study. Originally designed to be used when analysing health policy, this research pushes the robustness of this method by using it in an iterative project with constantly changing codes which were both substantive and iterative. Moreover, this method was used successfully to analyse data from a form of knowledge production for which it was not created, thereby demonstrating a dynamism that should be explored in further studies to reform this method beyond its descriptivist limitations. This research is just a beginning towards further refinement which could lead to increased application.

7.7.3 Substantive Contributions

In understanding the spread of disease, it is not sufficient to privilege only the epidemiological risk factors and impacts without attending to relevant geographic, place and contextual aspects of disease. This research broadens the scope of understanding of the causal dynamics of COVID-19 and its effects by examining how place and place environments in Sub-Saharan Africa bear on the spread and impacts of the pandemic. By looking at disease through the lenses of place and Blackness, and engaging the local sociocultural, sociopolitical and socioeconomic aspects that set the context for COVID-19, this research identifies regional factors and undercurrents implicated in the spread and impacts of the pandemic that go beyond the current narrow limits imposed by a biomedical framework. Some of the more substantive results include a look at some of the public health communications and narratives that were successful in raising awareness in Malawi and combatting misinformation; grassroots organising and actions that built resilience in communities in absence of formal leadership; the importance of historical events in understanding placemaking and its implications on reactions to and perceptions of illness and disease; and, the implications of global power dynamics and politics in high-income nations on the everyday lives of people in a small sub-Saharan African country.

The findings of this research have the potential to reorient national policy and response to new disease outbreaks. Using COVID-19 in Malawi as a case study, the results offer the possibility of helping governments in low-income nations in Africa better target areas and sectors in need of attention through the development of long-term public health and environmental policies that are sensitive to the local cultural and economic contexts. These results can also contribute to managing new disease outbreaks in countries outside of Africa, including high-income nations, through providing an additional source from which to draw knowledge and diversify their understanding of and approach to dealing with diseases.

While this research and subsequent findings are geared towards new disease outbreaks, the results also highlight the importance of recalibrating social and spatial responses to diseases, thereby offering support and tools that are effective and sensible for existing endemic and epidemic diseases, especially transmissible diseases in sub-Saharan African countries.

7.8 Directions for Future Research

This research project has been successful in its goal to evaluate and celebrate Black knowledges in the context of a new disease outbreak. The results offer direction for better integrating multiple forms of knowledge in important global discourse and in scientific study within the context of public health, all the while also providing directives to build resilience in vulnerable/marginalised (African/Black) communities. Despite the advances that this dissertation extends, it also reveals further questions to be explored.

While the Black geographies framework has not often been used for positivist public health research, this dissertation has demonstrated the value of this framework in the context of new disease outbreaks. This opens multiple avenues from which public health can be explored, both within and outside the subdisciplines of medical/health geography. A Black geographies framework could provide interesting insight: into the shortcomings of existing and proposed public health policies in nations where Black peoples constitute a numerical minority; into the differential health outcomes of chronic illnesses in a global setting through evaluating Black placemaking within the context of disability; into the space-time paradigm, taking into consideration how Blackness changes through time; and many other public health subjects. Black geographies as a field is largely concentrated in the *Black Atlantic* [194], countries like the United States, the United Kingdom and Canada, and is much rarer in studies emerging from/centring Black populations in Africa, Asia and South America. Further studies could extend the Black geographies framework to questioning health in Sub-Saharan Africa, offering a means through which the narrative of Africa always needing to be saved can be changed. Maybe the new narrative could recognise Africa as having a wealth of information to share?

This study is limited in its premise in that it only looks at COVID-19 in Malawi as a case study. There is value in conducting similar studies in many other African nations to collect and harness the plethora of (Black) experiences, worldviews and knowledges that were used in combating the COVID-19 pandemic. There have been some initial ventures into looking at COVID-19 in Africa, especially in well-known nations like South Africa and Egypt, but it may be worthwhile to look at smaller nations that

have been able to emerge from two years of a global pandemic relatively unscathed when compared to their higher-income counterparts like Sao Tome and Principe (an estimated 6000 cases in a population of 220,000 in March 2023) and Sierra Leone (an estimated 8000 cases in a population of 8.4 million in March 2023) [195].

Finally, this research was limited in place, financing, people and timeframe. Although the principle of saturation was used to determine when we had achieved the optimal number of semi-structured interviews during Phase 1, casting a wider net by partnering with multiple community organisations may have yielded more diverse results. Having more funding to partner more broadly in ethical ways, and more time to explore some of the emergent topics such as gratitude and spiritual health in the midst of COVID-19 could have produced additional recommendations and learnings for policymakers both within and outside the nation. The lead researcher is a Black male from Canada, which presents certain barriers that may lead to issues in discerning cultural norms. While steps were taken to mitigate this issue, such as having Dr. Mkandawire in a supervisory role, having a Malawian research team, and building in reciprocity and space to discuss initial interpretations with partners in Malawi, this still remains a limitation. Therefore, a similar study with an all-Malawian team may prove valuable in the additional results/details it is able to garner.

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Annexe 1: Interview Guide

uOttawa

Examining the Role of Place in the COVID-19 Pandemic in Malawi
L'Exploration du rôle de lieu dans le cadre de la crise de la COVID-19 au Malawi

Hi! My name is [NAME] and I am working with a Canadian researcher from the University of Ottawa called Chúk Odenigbo. He is leading a project looking at COVID-19 in Malawi to understand how the disease is spreading and its impacts on society.

The views you express will remain strictly confidential. You may refuse to answer any question, to end the interview, or to withdraw from the study at any time. Our discussion today should take no longer than an hour. If you have any questions at any point, feel free to ask. In order to ensure accuracy, I would like your permission to record the interview.

Zina lane ndine ……. nkhungwira ntchito na Chuk Odenigbo uyo ngwaku Canada wakugwira ntchito ku University ya Ottawa ndiyo wakudangilira kafukufuku uyu uyo wakulawiska vya COVID-19 muno Malawi, kuti tipulikiske umo matenda agha yakutandazgikira na umoyakutikwaskira. Maghanoghano yinu na vyose ivyo tiyowoyenge pano viwenge vya chisisi. Mungakana kuzgola

Sujet Topic	Questions principales Principal Questions	Questions principales (traduites) Translated Principal Questions	Interrogations Probes	Interrogations (traduites) Translated Probes	Objectif Objective
I would like to start by asking some introductory questions to get to know you a little bit and the context from which you are coming from.					
Chakwamba niyambe kufumba mafumbo yakuti nimumanyani pachoko					
L'histoire de l'informateur(trice) Key Informant background	Tell me about yourself; who are you, and what activities do you do?	Munganiphalirako vakukhwaskana naimwe; ndimwe Anjani, ndipo mukuchita ntchito wuli?	Job and job description/Activity that makes money	Ntchito, izo mukuchita zakusangirako ndalama	S.O. N/A
			Years in position	vyaka vilinga pa udindo uwu	
			Main duties	ntchito zikulu izo mukugwira	
			Education/training	Masambiro ayo mukachitapo	
			Ethnic group/Tribe	Mtundu	
Réseau Reach	What is your typical clientele like? *Alternate: what are the people you work/study/interact with like?*	Banthu awo mukugwira nawo ntchito mbamtundu wuli? Kasi mukugwira ntchito nabanthu wamtundu wuli	Age	Vyaka	S.O. N/A
			Gender	Wanakazi/ wanalume	
			Education level	masambiro	
			Socioeconomic status	Kasangiro kawo	
			Tribes/Languages	Mtundu/ chiyowoyero	
			Location/Hometown	Malo	
I would now like to switch the focus to COVID-19 specifically and ask about the impacts that the pandemic and the virus have had in Malawi, and more specifically, in your communtiy.					
Sono nkhukhumba kusintha mafumbo kuti sono tilawiske vya COVID-19 , chommene mafumbo ya umo mwakhwaskikira na kachibungu aka tawa nako muno Malawi ndipo chomne chomene muno muchigaba chinu					
COVID-19 au Malawi COVID-19 in Malawi	Talk to me about your understanding of COVID-19	Muniphalireko umo COVID-19 mukuyipulikira kuti ni vichi?	Feelings/Emotions	kukhuzidwa	1, 2
			Causes of the spread	Chikupangiska kuti yiyandane	
			Inhibiting the spread	chikuchepeska kuyandana	
			Areas particularly affected (hotzones)	Vigawa ivyo vikakhwaska (kwakotcha)	
			Personal impacts from COVID	Umo mwakhwaskikira imwe	
	Which groups of people are at highest risk of COVID-19? Why? *Alternative if key informant acts on a national level: Which populations are most vulnerable to COVID-19 in Malawi?*	Kasi ni gulu wuli labanthu ilo liri pachopsyo chikulu chakutola COVID-19?Chifukwa wuli? *Para uyo wakuzgola nimunthu mulala maudindo: Ngulu wuli labanthu ilo lingatola kachibungu ka COVID-19 muno Malawi?*	Men? Women?	Wanalume? Wanakazi?	1, 4
			Rural/urban	Kumuzi/ kutawuni	
			Rich/Poor	wachuma/ wakavu	
			Certain ethnicities?	Mitundu inyake ?	
			Certain religious groups?	Mipingo inyake?	
	What economic activities would make someone vulnerable to COVID-19? *Alternative: which activities would increase the likelihood that someone would get COVID-19?*	Ni ntchito wuli zakusangirako ndalama izo zingamuwika munthu pachopso cha COVID-19? *Ni ntchito wuli izo zingalutiska panthazi kuti munthu wangatola COVID-19?*	Kabwandira (mobile bazaars)	Salawula	1
			Tobacco farming	Ulimi wa hona	
			Sex work	Uhule	
			Nurse or other health work	Nesi/wazachipatala	
			Bicycle business	Kabaza	
			Migrant work	Ntchito yakwenda kwenda	
Le lieu et la COVID-19 COVID-19 and Place	How does the COVID-19 pandemic situation in your area compare with other areas	Kasi mukuona kuti umo vilili muno muchigaba chinu ku nkhani ya COVID-19 mukuyaniska wuli na vigaba vinyake?	Why?	Chifukkwa?	1, 4
	Are there cultural practices (ways of life) prevalent in your area that impact COVID-19 transmission?	Kasi mukuona kuti pali midauko (kakhaliro kaumoyo) ka muchigawa chino ako kapangiska kuti COVID-19 yiyandane?	help transmit the spread	vikulkutiska kuti yilite panthazi	4
			hinder the spread	kuchepeska kwandana	
			Which ones?	Ni vinthu wuli/midauko	
			How?	Nthowa wuli?	
	What do people do when they get COVID-19?	Banthu wakuchita wuli para wakoleka na COVID-19?	Go to hospital	wakuluta kuchipatala	1, 4
			Go to traditional healer	wakuluta kunganga	
			Self-isolate	wakukhala kwawekha	
			Go to government isolation facility	Wakukhala kwawekha malo yabola	
			Hide	wakubisama	
			Pretend everything is normal/do nothing	kupanga vinthu ngeti chilichose chili makora	
	How does the COVID-19 pandemic compare to other diseases you/your community have faced?	Kasi COVID-19 wakupambana wuli namatenda yanyake ayo mukukhwaskika nayo muchigaba chinu?	COVID-19 vs HIV/AIDs	COVID-19 na HIV	3
			COVID-19 vs Malaria	COVID-19 na malaria	
			COVID-19 vs Cholera	COVID-19 na kolera	
			COVID-19 vs the flu	COVID-19 na chinfine	
			COVID-19 concern vs other viruses	COVID-19 na vibungu vinyake	
	How has social media impacted your understanding of COVID-19? *Alternative: "How has social media impacted people's understanding of COVID-19?*	Kasi nthowa zakutandazgira mauthenga ya COVID-19 *zamovwirani wuli kuti mupulikitse za COVID-19*	WhatsApp	WhatsApp	2
			Other forms of social media	Nthowa zinyake zakutandazgira mauthenga	
Réponses à la COVID-19 COVID-19 Responses	How do you protect yourself against COVID-19? *Follow up if there is time: how do your clients/people you know protect themselves against COVID-19*	Kasi mukujivikilira wuli ku COVID-19?	Witchcraft	Ufwiti	2, 4
			Medicines (certain plants/herbs?)	Mankhwala (mbeu zinyake/ mankhwala ya chiboyi	
			Diet/Eat healthy	Kalyero/thanzi	
			Follow WHO guidelines (e.g. social distance, wear a mask etc)	Kulondezga mndondomeka wa WHO (nthena kukhala mwakutalikirana, kuvwala mask na nthowa zinyake)	

			Follow government guidelines	Kulondezga ndondomeka zaboma	
			Pray/Go to place of worship more often	Kupemphera/kuluta kumalo yakupemphererako kawirikawiri	
			Avoid certain areas (where?)	kupewa malo yanyake (nkhu)	
			Avoid certain people (who?)	kupewa banthu wanyake (njani)	
	Tell me about your impressions on the way the government has handled the COVID-19 pandemic	Imwe mwakhutila na umo boma lachitila pakumazga matenda agha?	Do less/do more?	Lachita pachoko/chomene	2, 3
			Effective vs non-effective		
			Trust?	chigomezgo	
			Leadership	Ulongozgi	
			Comunication	kupereka mauthenga	
			Resources	vipangizo	
			Vaccination rollout	kupereka katemera	
			Comparison to other outbreaks	kuyaniska na milili yinyake	
			Comparison to other African nations	kuyaniska na vyalo vinyake mu Africa	
	Do you have any thoughts regarding the international response to COVID-19	Kasi mukuona kuti vyalo wakuwalo wangutolapo lwande kuyana na nkhani ya COVID-19	The U.N./WHO	The U.N./WHO	2, 3
			The United States, Europe and other "Global Powers"		
			Asia		
Conclusion	Do you have any interesting COVID-19 stories to share?	Kasi mungawa na nkhani zakukondweska za kukhwaskana na COVID-19 zakuti munganiphalirako	Personal, anecdotal etc	payekha, zosamveka	All
Suivi Follow-up	Thank you for taking the time to talk to me today! If we have any additional questions, may we contact you again for a follow-up interview?	Nawonga chomene chifukwa chakunipa nyengo yakuti niyowoye namwe? Para tingawa namafumbo yakusazgirapo kasi tingazakamukhwaskaniso			S.O. N/A