AFE BABALOLA UNIVERSITY ADO EKITI(ABUAD)

A TERM PAPER ON

STRATEGIES FOR HANDLING COVID-19 FOR ENVIRONMENTAL HEALTH AND ECONOMIC SUSTAINABILITY

PREPARED BY:

EKEOGU IZUCHUKWU .M

17/ENG04/019

SUBMITTED TO:

ENGR. OYEBODE OLUWADARE JOSHUA

DEPARTMENT OF ELECTRICAL/ELECTRONICS ENGINEERING COLLEGE OF ENGINEERING

DATE: 4th April, 2020.

INTRODUCTION

COVID-19

***What is COVID-19?***

Corona viruses are a family of viruses that can cause illnesses such as the common cold, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). In 2019, a new corona virus was identified as the cause of a disease outbreak that originated in China.The virus is now known as the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2). The disease it causes is called corona virus disease 2019 (COVID-19). In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic.Public health groups, including the U.S. Centres for Disease Control and Prevention (CDC) and WHO, are monitoring the pandemic and posting updates on their websites. These groups have also issued recommendations for preventing and treating the illness.

***Signs & Symptoms:***

Signs and symptoms of COVID-19 may appear two to 14 days after exposure and can include:

* Fever
* Cough
* Shortness of breath or difficulty breathing

Other symptoms can include:

* Tiredness
* Aches
* Runny nose
* Sore throat

Those infected with the virus may be [asymptomatic](https://en.wikipedia.org/wiki/Asymptomatic_carrier" \o "Asymptomatic carrier) or develop [flu-like symptoms,](https://en.wikipedia.org/wiki/Influenza-like_illness" \o "Influenza-like illness) including fever, cough, fatigue, and shortness of breath. Emergency symptoms include difficulty breathing, persistent chest pain or pressure, confusion, difficulty waking, and bluish face or lips; immediate medical attention is advised if these symptoms are present. Less commonly, [upper respiratory](https://en.wikipedia.org/wiki/Upper_respiratory" \o "Upper respiratory) symptoms, such as [sneezing](https://en.wikipedia.org/wiki/Sneeze" \o "Sneeze), [runny nose](https://en.wikipedia.org/wiki/Rhinorrhoea" \o "Rhinorrhoea), or [sore throat](https://en.wikipedia.org/wiki/Sore_throat" \o "Sore throat) may be seen. Symptoms such as [nausea](https://en.wikipedia.org/wiki/Nausea" \o "Nausea), [vomiting](https://en.wikipedia.org/wiki/Vomiting" \o "Vomiting), and [diarrhea](https://en.wikipedia.org/wiki/Diarrhea" \o "Diarrhea) have been observed in varying percentages. Some cases in China initially presented only with [chest tightness](https://en.wikipedia.org/wiki/Chest_pain" \o "Chest pain) and [palpitations](https://en.wikipedia.org/wiki/Palpitations" \o "Palpitations). In March 2020 there were reports indicating that [loss of the sense of smell](https://en.wikipedia.org/wiki/Anosmia" \o "Anosmia) (anosmia) may be a common symptom among those who have mild disease, although not as common as initially reported. In some, the disease may progress to [pneumonia](https://en.wikipedia.org/wiki/Pneumonia" \o "Pneumonia), [multi-organ failure](https://en.wikipedia.org/wiki/Multiple_organ_dysfunction_syndrome" \o "Multiple organ dysfunction syndrome), and [death](https://en.wikipedia.org/wiki/Death" \o "Death). In those who develop severe symptoms, time from symptom onset to needing mechanical ventilation is typically eight days.

As is common with infections, there is a delay between the moment when a person is infected with the virus and the time when they develop symptoms. This is called the [incubation period](https://en.wikipedia.org/wiki/Incubation_period" \o "Incubation period). The incubation period for COVID-19 is typically five to six days but may range from two to 14 days. 97.5% of people who develop symptoms will do so within 11.5 days of infection.

Reports indicate that not all who are infected develop symptoms, but their role in transmission is unknown. Preliminary evidence suggests asymptomatic cases may contribute to the spread of the disease.

***How can it be prevented?***

Although there is no vaccine available to prevent infection with the new coronavirus, you can take steps to reduce your risk of infection. WHO and CDC recommend following these precautions for avoiding COVID-19:

* Avoid large events and mass gatherings.
* Avoid close contact (within about 6 feet, or 2 meters) with anyone who is sick or has symptoms.
* Keep distance between yourself and others if COVID-19 is spreading in your community, especially if you have a higher risk of serious illness.
* Wash your hands often with soap and water for at least 20 seconds, or use an alcohol-based hand sanitizer that contains at least 60% alcohol.
* Cover your mouth and nose with your elbow or a tissue when you cough or sneeze. Throw away the used tissue.
* Avoid touching your eyes, nose and mouth.
* Avoid sharing dishes, glasses, bedding and other household items if you're sick.
* Clean and disinfect high-touch surfaces daily.
* Stay home from work, school and public areas if you're sick, unless you're going to get medical care. Avoid taking public transportation if you're sick.

The NCDC recommends wearing cloth face coverings in public places, such as the grocery store, where it's difficult to avoid close contact with others. It's especially suggested in areas with ongoing community spread. This updated advice is based on data showing that people with COVID-19 can transmit the virus before realize they have it. Using masks in public may help reduce the spread from people who don't have symptoms. Non-medical cloth masks are recommended for the public. Surgical masks and N-95 respirators are in short supply and should be reserved for health care providers. If you have a chronic medical condition and may have a higher risk of serious illness, check with your doctor about other ways to protect yourself.

STRATEGIES EMPLOYED AGAINST COVID-19 PANDEMIC

***Stay at Home Policy:***

The UK, US, EU and many other countries are currently in some degree of “lockdown,” with restaurants and bars, shops, schools and gyms closed, and citizens required, or at least strongly encouraged, to stay home to avoid catching or spreading COVID-19, the respiratory illness caused by the novel corona virus.

Researchers are well on their way to discovering vaccines and treatments for the virus, but even in a best-case scenario, these are likely to be 12-18 months away. Until then, extreme social distancing is pretty much the only intervention available to help individuals stay healthy, and to break the chain of transmission - giving more vulnerable populations a fighting chance of surviving this pandemic. But how exactly does a lockdown work? And why is it important for even younger and healthier people, who face a lower risk of severe illness, to remain in their homes as much as possible?

The purpose of a lockdown, explains [a new study from the Imperial College London COVID-19 Response Team](https://www.imperial.ac.uk/media/imperial-college/medicine/sph/ide/gida-fellowships/Imperial-College-COVID19-NPI-modelling-16-03-2020.pdf" \t "https://www.weforum.org/agenda/2020/03/why-lockdowns-work-epidemics-coronavirus-covid19/_blank), is to reduce reproduction – in other words, to reduce the number of people each confirmed case infects. The goal is to keep reproduction, or “R,” below one (R<1) – with each case infecting fewer than one other person, on average.

The authors of the study say there are two routes to try to get there:

* **Mitigation**, “slowing but not necessarily stopping epidemic spread – reducing peak healthcare demand while protecting those most at risk of severe disease from infection.” This is done by isolating suspected cases and their households, and social distancing the elderly and people at highest risk of serious illness.
* **Suppression**, or basically, lockdown, which “aims to reverse epidemic growth, reducing case numbers to low levels” by social distancing the entire population “indefinitely” and closing schools and universities.

The study’s models show that, painful as lockdown may be for many of us, it works. Without any lockdown or social distancing measures, we can expect peak mortality in approximately three months. In this scenario, 81% of the UK and US populations would be infected, with 510,000 dying in the UK and 2.2 million dying in the US.

In contrast, isolating confirmed and suspected cases and social distancing the elderly and vulnerable would “reduce peak critical care demand by two-thirds and halve the number of deaths.” To get closer to the goal of R<1, they say, “a combination of case isolation, social distancing of the entire population and either household quarantine or school and university closure are required." The study finds this "intensive policy is predicted to result in a reduction in critical care requirements from a peak approximately three weeks after the interventions are introduced and a decline thereafter while the intervention policies remain in place."

***Social Distancing:***

One way to slow the spread of viruses, such as coronavirus, is social distancing (also called physical distancing). The more space between you and others, the harder it is for the virus to spread.

*In public:*

Social distancing in public means people:

* stay at home and only go out if it is absolutely essential
* keep 1.5 metres away from others
* avoid physical greetings such as handshaking, hugs and kisses
* use tap and go instead of cash
* travel at quiet times and avoid crowds
* avoid public gatherings and at risk groups like older people
* practise [good hygiene](https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/how-to-protect-yourself-and-others-from-coronavirus-covid-19/good-hygiene-for-coronavirus-covid-19)

## *Households:*

* Stay home unless it is absolutely necessary to go outside for the essentials, such as:
* shopping for food
* exercising — in a public space such as a park, limited to no more than 2 people
* going out for medical appointments or to the pharmacy
* providing care or support to another person in a place other than your home
* going to work if you cannot work from home.
* Work from home where they can.

Steps for social distancing in all homes include:

* keeping visitors to a minimum
* regularly disinfecting surfaces that are touched a lot, such as tables, kitchen benches, hand rails and doorknobs
* increasing ventilation in the home by opening windows or adjusting air conditioning

If someone in your household is sick, you should:

* care for the sick person in a single room, if possible
* keep the number of carers to a minimum
* keep the door to the sick person’s room closed. If possible, keep a window open
* wear a surgical mask when you are in the same room as the sick person. The sick person should also wear a mask when other people are in the same room
* protect at-risk family members by keeping them away from the sick person. At-risk people include those aged over 65 years or people with a chronic illness. If possible, find them somewhere else to live while the family member is sick

At Work:

If you can, work from home. If you cannot work from home and you are sick, you must not attend your workplace. You must stay at home and away from others.

Steps for social distancing in the workplace include:

* stop shaking hands to greet others
* consider cancelling non-essential meetings. If needed, hold meetings via video conferencing or phone call
* put off large meetings to a later date
* hold essential meetings outside in the open air if possible
* promote good hand, sneeze and cough hygiene
* provide alcohol-based hand rub for all staff
* eat lunch at your desk or outside rather than in the lunch room
* regularly clean and disinfect surfaces that many people touch
* open windows or adjust air conditioning for more ventilation
* limit food handling and sharing of food in the workplace
* avoid non-essential travel
* promote strict hygiene among food preparation (canteen) staff and their close contacts

## **In schools**

If your child is sick, they must not go to school or childcare. You must keep them at home and away from others.

To reduce the spread of viruses or germs in schools:

* wash hands with soap and water or use hand sanitiser when entering school, and at regular intervals
* stop activities that lead to mixing between classes and years
* avoid queuing
* cancel school assemblies
* have a regular handwashing schedule
* regularly clean and disinfect surfaces that many people touch
* conduct lessons outdoors where possible
* consider opening windows and adjusting conditioning for more ventilation
* promote strictest hygiene among food preparation (canteen) staff and their close contacts

**Keep in touch with others**

You can still keep in touch with loved ones while you practise social distancing:

* use video chats
* make phone calls to people you would normally catch up with in person
* use online groups to interact
* chat with neighbours while keeping 1.5 metres apart
* look after your mental health.

EFFECT OF CORONA VIRUS ON ECONOMIES

The [2019–20 coronavirus pandemic](https://en.wikipedia.org/wiki/2019%E2%80%9320_coronavirus_pandemic" \o "2019–20 coronavirus pandemic) has had far-reaching consequences beyond the spread of the disease and efforts to quarantine it. As the pandemic has spread around the globe, concerns have shifted from supply-side manufacturing issues to decreased business in the services sector.

Supply shortages are expected to affect a number of sectors due to [panic buying](https://en.wikipedia.org/wiki/Panic_buying" \o "Panic buying), increased usage of goods to fight the pandemic, and disruption to factories and logistics in [mainland China](https://en.wikipedia.org/wiki/Mainland_China" \o "Mainland China), in addition, it also led to [price gouging](https://en.wikipedia.org/wiki/Price_gouging" \o "Price gouging). There have been widespread reports of supply shortages of pharmaceuticals, with many areas seeing panic buying and consequent shortages of food and other essential grocery items. The technology industry, in particular, has been warning about delays to shipments of electronic goods.

On 25 February, it was expected that [Australia](https://en.wikipedia.org/wiki/Australia" \o "Australia), mainland China, and [Hong Kong](https://en.wikipedia.org/wiki/Hong_Kong" \o "Hong Kong) would have the most direct economic impacts from the disruption, with Hong Kong already in a recession at that time after [a long period of ongoing protests](https://en.wikipedia.org/wiki/2019%E2%80%9320_Hong_Kong_protests" \o "2019–20 Hong Kong protests) since 2019 and Australia widely expected to be in a recession with GDP contracting by 0.2% to 0.5% for 2020, but [Morgan Stanley](https://en.wikipedia.org/wiki/Morgan_Stanley" \o "Morgan Stanley) expects the economy of China to grow by between 5.6% (worst-case scenario) to 5.9% for 2020. As mainland China is a major economy and a manufacturing hub, the viral outbreak has been seen to pose a major destabilising threat to the [global economy](https://en.wikipedia.org/wiki/World_economy" \o "World economy).[*[needs update](https://en.wikipedia.org/wiki/Wikipedia:Manual_of_Style/Dates_and_numbers" \l "Chronological_items" \o "Wikipedia:Manual of Style/Dates and numbers)*] Agathe Demarais of the [Economist Intelligence Unit](https://en.wikipedia.org/wiki/Economist_Intelligence_Unit" \o "Economist Intelligence Unit) forecast in January that markets would remain volatile until a clearer image emerged on potential outcomes. Some analysts estimated as early as January that the economic fallout of the epidemic on global growth could surpass that of the [SARS outbreak](https://en.wikipedia.org/wiki/SARS_outbreak" \o "SARS outbreak). Dr. Panos Kouvelis, director of "The Boeing Center" at [Washington University in St. Louis](https://en.wikipedia.org/wiki/Washington_University_in_St._Louis" \o "Washington University in St. Louis), estimates a $300+ billion impact on world's supply chain that could last up to two years. The [Organization of the Petroleum Exporting Countries](https://en.wikipedia.org/wiki/OPEC" \o "OPEC) reportedly "scrambled" after a steep decline in [oil prices](https://en.wikipedia.org/wiki/Price_of_oil" \o "Price of oil) due to lower demand from China. Global stock markets fell on 24 February 2020 due to a significant rise in the number of COVID-19 cases outside mainland China. By 28 February 2020, stock markets worldwide saw their largest single-week declines since the [2008 financial crisis](https://en.wikipedia.org/wiki/Financial_crisis_of_2007%E2%80%9308" \o "Financial crisis of 2007–08). Global stock markets [crashed in March 2020](https://en.wikipedia.org/wiki/2020_stock_market_crash" \o "2020 stock market crash), with falls of several percent in the world's major [indices](https://en.wikipedia.org/wiki/Stock_market_index" \o "Stock market index). As the pandemic spreads, global conferences and events across technology, fashion, and sports are being cancelled or postponed. While the monetary impact on the travel and trade industry is yet to be estimated, it is likely to be in the billions and increasing. By 16 March, news reports emerged indicating that the effect on the [United States economy](https://en.wikipedia.org/wiki/United_States_economy" \o "United States economy) would be worse than previously thought.

Low income individuals are more likely to contract the coronavirus and to die from it. In both New York City and Barcelona, low income neighborhoods are disproportionately hit by coronavirus cases. Hypotheses for why this is the case include that poorer families are more likely to live in crowded housing and work in the low skill jobs, such as supermarkets and elder care, which are deemed essential during the crisis. In the United States, millions of low-income people may lack access to health care due to being [uninsured](https://en.wikipedia.org/wiki/Uninsured" \o "Uninsured) or [underinsured](https://en.wikipedia.org/wiki/Underinsured" \o "Underinsured). Many low income workers in service jobs have become unemployed.

[Coronavirus recession](https://en.wikipedia.org/wiki/Coronavirus_recession" \o "Coronavirus recession) refers to an [economic recession](https://en.wikipedia.org/wiki/Economic_recession" \o "Economic recession) which may happen across the [world economy](https://en.wikipedia.org/wiki/World_economy" \o "World economy) in 2020 due to the [2019–20 coronavirus pandemic](https://en.wikipedia.org/wiki/2019%E2%80%9320_coronavirus_pandemic" \o "2019–20 coronavirus pandemic).

Some economists suggest that [China's economy](https://en.wikipedia.org/wiki/Economy_of_China" \o "Economy of China) may contract for the first time since the 1970s. [Caixin](https://en.wikipedia.org/wiki/Caixin" \o "Caixin)'s purchasing managers index for the services sector of China's economy fell to 26.5 in February 2020, the lowest figure recorded since the survey's advent in 2005, and car sales dropped 86% in China in February. As the coronavirus spreads around the world, the [stock markets](https://en.wikipedia.org/wiki/Stock_markets" \o "Stock markets) have experienced their [worst crash](https://en.wikipedia.org/wiki/2020_stock_market_crash" \o "2020 stock market crash) since 1987. Many countries with large economies, such as Italy and Spain, have enacted [quarantine](https://en.wikipedia.org/wiki/Quarantine" \o "Quarantine) policies. This has led to the disruption of business activities in many economic sectors.

CONCLUSION

COVID-19 is a disease that causes respiratory illness wit symptosm such as cough, fever, and in more severe cases, difficulty with breathing. You can protect yourself by washing your hands frequently, avoid touching your face, and avoiding close contact. Its spread primarily by contact with an infected person when they cough or sneeze. It also spreads when a person touches a surface or object that has the virus on it, then touches their eye, nose or mouth.

Its causing havoc to the world as a whole. It may be almost impossible for economies to recover from the scar this pandemic has left on countries.