COVID-19 Guidance

VERSION 1
MAY 2020

Community Response Action Plan: Site Planning Guidance and Template – Annex 1. Rapid Appraisal on Covid-19: Impacts on Community Health and Safety

For more information or to give feedback on this document please contact socialperformance@angloamerican.com

INTRODUCTION

This document supports the Covid-19 Community Response Action Plans (CRP) for Anglo American and De Beers operations by providing guidance to inform a rapid appraisal of CV-19 impacts on community Health and Safety. It should be read in conjunction with the guidance provided in the COVID-19 Community Response Action Plan: Site Planning Guidance and Template.

The document is supported by the Anglo American Social Way 3.0 Section 4C. Community Health and Safety Management which provides further detail on key concepts relevant to this topic, including health determinants as a critical consideration when assessing the impact of Covid-19 on the health and safety of a community.

Health determinants are those factors that hold a direct influence on health outcomes for a given population and can be seen as the drivers of good or poor health. Some determinants are specific to the individual, while other determinants are more encompassing or collective in nature. For example, individual determinants of health can include income, social status, housing, genetics, age, gender, ethnicity, education, health behaviour and coping skills. Collective determinants, on the other hand, include the state of the physical environment, employment and working conditions, culture, customs and traditions, access to health services and war and conflict.

Health determinants can also be categorised as physical or social:

- **physical determinants of health** represent the natural and built environments and exposure to environmental and hazardous substances and/or physical hazards. The environmental condition of a site and site emissions are examples of physical determinants of health.

- **social determinants of health** are generally known as “the conditions in which people are born, grow, work and age”. Social determinants are thought to be most responsible for the health inequities present within and between populations. Poor levels of education, access to jobs and income, and access to water are examples of social determinants of health.

Table 1 – Rapid Appraisal of Covid-19 Impacts on Community Health and Safety outlines how health determinants can be used to assess the community health and safety impact of Covid-19. The table considers both negative and positive impacts as denoted with the **red** and **green** arrows and highlights the impacted and vulnerable groups.

The site should engage with local health authorities to understand community and/or regional-specific models of health as related to Covid-19 when assessing the health and safety impacts of Covid-19.

Table 1 – Rapid Appraisal of Covid-19 Impacts on Community Health and Safety

DETERMINANT	POTENTIAL IMPACTS	DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
SOCIAL DETERMINANTS OF HEALTH: ECONOMIC STABILITY				
Housing	Indirect	Housing Instability ↑	• Majority of workers in low- and middle-income settings are daily wage earners, while those who are employed live from pay-check to pay-check. Thus, a sudden loss of wages as a result of the lockdowns and job losses will interfere with rental and mortgage payments.	Workforce: ✓ Casual and/or part-time labourers. ✓ Contractors including contractor employees. Community: ✓ Elderly, disabled, children-headed households, refugees, immigrants.	https://www.indiatoday.in/india/video/covid-19-lockdown-daily-wage-workers-struggle-to-make-ends-meet-1668600-2020-04-19

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			• Increase in homelessness or evictions are likely to force families to seek alternative help from friends and relatives, further increasing the potential for crowding at household level and the spread of the virus.		
Food	Indirect	Food Insecurity ↑	• Financial barriers to access food and loss of purchasing power as a result of reduced income and job losses. • Disruption of food supply chains may lead to food losses and waste • Food inflation due to supply/ demand, panic buying and opportunistic price gouging. • Limited access to healthy food options. • Inability for workers to work and illness-related labour shortages may reduce agricultural productivity. • Loss of access to school feeding schemes by vulnerable children during school closures that are not necessarily replaced by other measures.	Workforce: ✓ Casual and/or part-time labourers. ✓ Contractors, including contractor employees. Community: ✓ Elderly, disabled, children-headed households. ✓ Social grant recipients. ✓ School feeding scheme recipients. ✓ Small-scale/local NGOs implementing nutrition initiatives. ✓ Persons with specific co-morbidities (malnutrition or metabolic disease (diabetes). ✓ Immunocompromised individuals / People living with HIV/AIDS (PLWHA).	https://insight.wfp.org/how-to-minimize-the-impact-of-coronavirus-on-food-security-be2fa7885d7e http://www.fao.org/3/ca8308en/ca8308en.pdf https://www.businesslive.co.za/fm/features/2020-03-19-coronavirus-lockdown-to-leave-sas-poor-high-and-dry/
Employment and Income	Indirect	Job losses ↑	• Loss of income may limit access to health care (loss of insurance cover, reduced out of pocket expenditure). • Financial barrier to accessing food consequently hunger and nutritional disorders. • Layoffs have been associated with increased annual mortality rates of up to 10%. These lay-offs have resulted in the deterioration of biomarkers, particularly HbA1C, as a result of worsening socio-economic status, increased stress, etc. • Physiological stress associated with financial strain (discussed elsewhere).	Workforce: ✓ Direct mine employees. ✓ Casual and/or part-time labourers. ✓ Contractors, including contractor employees. ✓ SMME service providers to the mine/site. Community: ✓ Casual workers. ✓ Small-scale informal economy workers (particularly women).	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5495022/ https://www.nber.org/papers/w19884 https://www.annualreviews.org/doi/full/10.1146/annurev-soc-071913-043237
SOCIAL DETERMINANTS OF HEALTH: HEALTH SYSTEM ISSUES					
General health indicators	Indirect	Unmet targets	• It is likely that the Covid-19 outbreak will have significant impacts on the ability to meet the targets set out in the Sustainable Development Goals (SDG) 2030, and specifically SDG3.	Community: ✓ Population level.	
Access to Health Services	Direct	Increased demand for health services from Covid-19 ↑	• Increasing demand on health facilities and health care workers is causing a strain on the health system. • Overstretched health systems are unable to cope or operate effectively. This can lead to total collapse of the public health system. • Experts warn that developing countries, with the least ability to contain the coronavirus, could become	Workforce: ✓ Direct mine employees with co-morbidities. Community: ✓ Children. ✓ Pregnant women. ✓ Persons with co-morbidities.	https://www.who.int/news-room/detail/30-03-2020-who-releases-guidelines-to-help-countries-maintain-essential-health-services-during-the-covid-19-pandemic

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			repositories for the disease and may drive new Covid-19 waves around the world.		https://news.un.org/en/story/2020/04/1062152
	Indirect	Reduced access to routine health services ↑	• Interruption of routine health services such as child and women health services as a result of strain on the health system (see later). • Reduced number of people accessing routine care because of: ○ Fear or stigma of health facilities. Fear and anxiety about a disease can lead to social stigma toward people, places, or things. ○ Reduced health promotion campaigns/ heath drives to mobilise for routine programs, etc. ○ Physical barriers to accessing health facilities (no transport, facility closures, restricted movements, etc).	Workforce: ✓ Potential loss of work and loss of medical aid/ insurance, or access to company sponsored medical services/ care. Community: ✓ Rural communities and spatial barriers. ✓ Those with reduced access to health services during containment because of a lack of transport. ✓ Disabled. ✓ Children. ✓ Pregnant women. ✓ Persons with co-morbidities.	https://www.who.int/news-room/detail/30-03-2020-who-releases-guidelines-to-help-countries-maintain-essential-health-services-during-the-covid-19-pandemic https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/reducing-stigma.html
Infrastructure	Direct	Demand for health infrastructure ↑	• Requirement for additional health facilities (e.g. designate hospitals, bed spaces, isolation units, intensive care units and quarantine facilities). ○ Lack of Covid-19 treatment and critical care infrastructure (ICUs, ventilators, etc) could be catastrophic for Africa. ○ Lack of physical infrastructure to support requirements to manage the disease. ○ Lack of effective medical waste management. • Limitations on the ability to support routine health care requirements unrelated to Covid-19 (for example admissions for routine care, blocking of ICU beds for Covid-19, stopping cold case surgery, etc).	Workforce: ✓ Direct mine employees with co-morbidities requiring intervention during outbreak Community: ✓ Persons with co-morbidities requiring intervention during outbreak. ✓ Other routine health care needs not attended to as services are prioritised to Covid-19)- those requiring routine surgery, chronic diseases etc.	http://www.euro.who.int/__data/assets/pdf_file/0006/437469/TG2-CreatingSurgeAcuteICUcapacity-eng.pdf http://www.rfi.fr/en/africa/20200403-lack-of-covid-19-treatment-and-critical-care-could-be-catastrophic-for-africa
Medical Supplies	Direct	Supply chain disruptions ↑	• The Covid-19 pandemic is impacting global health product supply chains, affecting key materials and ingredients, finished health products, logistics, shipping and more. • Shortage of critical medical supplies such as PPEs increases the infection risk for frontline health workers. • Cost diversion for equipment, consumables and medication associated with Covid-19 means that there is reduced funding for other health priorities.	Workforce: ✓ Direct employees and contractor employees with NCDs on chronic Rx. ✓ Site/mine health care workers (HCWs). Community: ✓ Direct employees and contractor employees with non-communicable disease (NCDs) on chronic Rx, chronic treatment for infectious disease (TB, PLWHA) etc. ✓ Private/ public sector health care or frontline workers. ✓ Children with disrupted vaccination programmes.	https://www.theglobalfund.org/media/9440/psm_covid-19impactonsupplychainlogistics_report_en.pdf?u=637196033260000000

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES

Human Resources for Health	Direct	Health staffing ↑	• Inadequate healthcare workers to support the increased health demands due to Covid-19. In the event of surge of cases, the demands on the limited healthcare workers will be further exacerbated.
			• Reduced number of health workers as a result of direct Covid-19 deaths, quarantine, or isolation of infected staff. Many frontline health workers have died or tested positive for the virus.
			• Some healthcare workers may not want to work due to:
			  ○ Fear of acquiring infection at work, especially in the absence of effective infection prevention and controls (including personal protective equipment).
			  ○ Fear of cross infecting their families, or extended isolation from their families.
			  ○ Stigma towards healthcare workers, especially if they become ill.
			• Violence directed towards healthcare workers due to limitations to provide care for all.
			• Healthcare workers are at increased risk for severe mental health challenges, with burn out a likelihood that may reduce front-line health care workers.
			• Inadequate training of health worker:
			  ○ To respond to the Covid-19 and the infection prevention and control requirements.
			  ○ Skills and resources to manage the 5% of critical cases that may require ICU care.
			• Chronic state of health staffing challenges in Africa
			  ○ Persistent absenteeism caused by long-term systemic issues, from inadequate training to poor working conditions.
				Workforce:
				✓ Site/mine HCWs.
				✓ Direct employees requiring medical intervention during outbreak.
				Community:
				✓ Private/ public sector HCWs.
				✓ Children.
				✓ Pregnant women.
				✓ Persons with co-morbidities.
					https://www.aljazeera.com/news/2020/04/covid-19-devastating-effect-health-workers-200402165933857.html
					https://healthsystemsglobal.org/blog/407/Health-workers-are-vital-to-defeat-COVID-19-But-only-if-they-are-at-work.html

	Direct	Health-tech adoption ↑	• Accelerated use of telemedicine for direct patient care • Utilisation of a digital first approach around access – for instance forward triage of suspected Covid-19 patients before they attend emergency departments. • The adaptation to health technologies and elements such as telemedicine may be limited by access to computer hardware and effective connectivity.	Workforce: ✓ Mine/site HCWs. Community: ✓ Private/ public sector HCWs	https://www.healthcareitnews.com/blog/europe/effect-covid-19-epidemic-health-and-care-portent-new-normal https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7101061/
Morbidity and Mortality	Direct	Increased mortalities ↑	• Direct deaths from Covid-19. About 6.4% people infected with the virus have died worldwide, and varies at country level (13% in Italy, 4.3% in the US) and higher in certain	Workforce: ✓ Direct employees with high-risk status (age, NCDs, respiratory disease, immunosuppression, etc.)	https://www.nytimes.com/2020/04/17/us/coronavirus-death-rate.html

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			vulnerable groups (14.8% among people above 80 years of age). • Increased mortality in people with co-morbidities (the combination of a severe acute respiratory infection with non- communicable diseases and underlying chronic disease).	Community: ✓ Individuals with high-risk co-morbidities (immunosuppressed, DM, hypertension, respiratory disease, cancer sufferers or undergoing chemotherapy, TB and PLWHA etc.). ✓ Elderly.	https://www.livescience.com/is-coronavirus-deadly.html
	Indirect	Pre-existing health conditions ↑	• Increase in all pre-existing diseases due to poor adherence to medications as a result of access issues and poor care seeking behaviour (facilities closed, no transport, fear of going to facilities) • Weakened screening procedures- do not happen and reduced demand (cancer screening has almost disappeared), • People are not collecting their chronic medication (diabetes, ART, hypertension) due to: o Keeping away from health facilities to avoid Covid-19 infection o Effects of lockdowns (no transport, inability to move, etc.). • Fear or the terror of getting infected.	Workforce: ✓ Direct employees with high-risk status (age, NCDs, respiratory disease, immunosuppression, etc.). Community: ✓ Individuals with high-risk co-morbidities (immunosuppressed, DM, hypertension, respiratory disease, cancer sufferers or undergoing chemotherapy, TB and PLWHA etc.) ✓ Elderly.	
	Indirect	Increase in mortalities from other conditions ↑	• Previous outbreaks have demonstrated that when health systems are overwhelmed, mortality from vaccine-preventable and other treatable conditions can also increase dramatically. • During the 2014-2015 Ebola outbreak, the increased number of deaths caused by measles, malaria, HIV/AIDS, and tuberculosis attributable to health system failures exceeded deaths from the disease (Ebola) itself.	Workforce: ✓ Individuals with high-risk co-morbidities in direct employees. Community: ✓ Children ✓ Pregnant women. ✓ Persons with co-morbidities. ✓ Routine emergencies. ✓ Patients with delayed screening.	https://www.who.int/news-room/detail/30-03-2020-who-releases-guidelines-to-help-countries-maintain-essential-health-services-during-the-covid-19-pandemic
Maternal and Child Health	Indirect	Women health services ↑ Increase in home deliveries ↑ Increase in maternal and neonatal deaths ↑	• Covid-19 and measures put in place to curb its spread may worsen the already poor access to quality maternal health services in parts of the continent. o Evidence from Ebola outbreak shown significant reduction in facility-based deliveries during the outbreak. o Interruption of routine women health services such as reproductive health services, antenatal and delivery care (as discussed earlier). o Reduced number of women accessing routine care because of fear or stigma of health facilities and	Workforce: ✓ Women in the workforce. Community: ✓ Children. ✓ Pregnant women.	https://theconversation.com/africa-cant-let-maternity-care-slide-during-the-coronavirus-pandemic-136424 https://academic.oup.com/heapol/article/35/1/78/5614323 https://www.wvi.org/publications/covid-19-aftershocks-secondary-impacts-threaten-more-childrens-lives-disease-itself

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			reduced awareness campaigns/ heath drives, etc. Evidence from the Ebola outbreak supports this. ○ Increased maternal deaths because of access issues, and by association an increase in neonatal deaths.		
		Child health services ↑ Increase in vaccine preventable illnesses and deaths ↑	• Interruption of routine child health services such as vaccinations (as discussed earlier) ○ Strain in the health system. ○ Access barriers. ○ Fear or stigma of health facilities. ○ Reduced health promotion campaigns/ heath drives, etc. • Millions of children are in danger from secondary health impacts such as deadly diseases like malaria, a lack of immunisation, or increased malnutrition, as health systems are overwhelmed by Covid-19 patients.	Workforce: ✓ N/A Community: ✓ Children	https://www.wvi.org/publications/covid-19-aftershocks-secondary-impacts-threaten-more-childrens-lives-disease-itself
SOCIAL DETERMINATS OF HEALTH: SOCIAL STATUS AND RELATED DETERMINANTS					
Social Status	Indirect	Social Inequality ↑	• Early evidence shows that the health and economic impacts of Covid-19, is being borne disproportionately by members of those social **groups in the most vulnerable situations,** including people living in poverty, older persons, persons with disabilities, youth, and the homeless. For example: ○ Poor people in informal settlements may not be able to adequately practice social distancing. ○ Homeless people may be unable to safely shelter in place, therefore risk higher exposure to the virus. • People without access to running water, refugees, migrants, or displaced persons also stand to suffer disproportionately both from the pandemic and its aftermath – whether due to limited movement, fewer employment opportunities, increased xenophobia etc. • In South Africa, for example, development economist at the University of Witwatersrand Imraan Valodia has forecast that the lockdown will lead to a **45% loss of income for the poorest 10% of households**, with especially harmful effects on informal workers without a safety net. • There is a potential risk for social unrest due to economic and inequalities that may result in destruction of property (including essential social and community infrastructure- e.g. schools) with the potential risk of injuries and death.	Workforce: ✓ Casual labourers. ✓ Contractors, including contractor employees. Community: ✓ Households in informal settlements. ✓ Elderly, disabled, children-headed households. ✓ Homeless individuals. ✓ Refugees (if and where applicable).	https://www.un.org/development/desa/dspd/everyone-included-covid-19.html https://www.bbc.com/future/article/20200420-coronavirus-why-some-racial-groups-are-more-vulnerable https://www.iol.co.za/the-star/news/four-gauteng-schools-burnt-22-vandalised-during-lockdown-46426137 https://www.iol.co.za/capeargus/news/covid-19-extending-lockdown-could-exhaust-social-tolerance-fuel-civil-unrest-crime-46370299

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES

Ethnicity/Race	Indirect	Ethnicity/Racial inequality ↑	• Ethnic minorities are dying of Covid-19 at higher rate, analysis shows
			  ○ Evidence from England shows that of 12,593 patients who died in hospital up to 19 April 2020, 19% were Black, Asian and minority ethnic even though these groups make up only 15% of the general population in the country. Poverty, access to healthcare, overcrowding appeared to be determining factors.
			  ○ Evidence from the US shows Covid-19's devastating toll on black and Latin Americans. This is partly due to decade long social and health care inequalities.
				Direct:
				✓ N/A
				Indirect:
				✓ Vulnerable groups linked to poverty and reduced access.
				✓ Refugees (if and where applicable).
				✓ Poor transport networks due to containment, affordability, access.
				✓ Potential xenophobia towards foreigners.
					https://www.theguardian.com/world/2020/apr/22/racial-inequality-in-britain-found-a-risk-factor-for-covid-19
					https://www.vox.com/2020/4/17/21225610/us-coronavirus-death-rates-blacks-latinos-whites

Health Seeking Behaviour	Indirect	Altered health seeking behaviour ↑	• Reduced number of people accessing routine care because of fear or stigma of health facilities. ○ For instance, reports indicate that Zimbabwe is facing a malaria outbreak as it locks down to contain coronavirus. • Reduced health promotion campaigns to support appropriate care seeking behaviour. • Increased use of alternative medicine such as traditional herbal medicines and the attendant risks. • Inadequate transport or access to transport.	Workforce: ✓ Indirect health impacts from community related impacts. Community: ✓ Rural communities and spatial barriers. ✓ Poor transport networks due to containment, affordability, access. ✓ Children. ✓ Elderly, disabled, children-headed households. ✓ Inability to afford out of pocket expenditure. ✓ Refugees (if and where applicable).	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7098036/

Education	Indirect	Education inequalities ↑	• Over a billion students worldwide are unable to go to school or university, due to measures to stop the spread of Covid-19.
			• Interruption of learning at schools (because of closures) completely disrupts the lives of many children, their parents, and teachers.
			• The immediate impacts on children and the youth are likely:
			  ○ Losses in learning.
			  ○ Increased dropout rates.
			  ○ Children missing their most important meal of the day where they received meals from school feeding schemes.
			• According to the World Bank's "Learning Poverty" indicator – the % of children who cannot read and understand at age 10 – stood at 53% of children in low- and middle-income countries before the outbreak, and is likely to worsen:
				Workforce:
				✓ N/A
				Community:
				✓ Children/students- especially girl child.
				✓ Children/student with poor access to digital platforms to support learning
				✓ Youth and future youth unemployment.
				✓ Teachers and parents
					https://www.weforum.org/agenda/2020/03/infographic-covid19-coronavirus-impact-global-education-health-schools/
					https://blogs.worldbank.org/education/educational-challenges-and-opportunities-covid-19-pandemic
					https://en.unesco.org/covid19/educationresponse

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			○ Richer countries or individuals are better placed to move to online learning strategies, although with a lot of effort and challenges for teachers and parents. ○ In middle-income and poorer countries, the situation is very mixed and if not handled appropriately, the vast inequalities that exist will be amplified. Many children do not have a desk, books, internet connectivity, a laptop at home, or supportive parents to help continue learning in such circumstances.		
Gender		Gender-based violence ↑	• Violence against women tends to increase during every type of emergency, including epidemics. • The pandemic will compound existing gender inequalities, and increase risks of gender-based violence in the following ways: ○ Stress, the disruption of social and protective networks, and decreased access to services. ○ As distancing measures are put in place and people are encouraged to stay at home, the risk of intimate partner violence is likely to increase: ▪ as family members spend more time in close contact and families cope with additional stress and potential economic or job losses. ▪ Women bear the brunt of increased care work during this pandemic. School closures further exacerbate this burden and place more stress on them. ▪ Women may have less contact with family and friends who may provide support and protection from violence. ▪ Perpetrators of abuse may use restrictions due to Covid-19 to exercise power and control over their partners. ○ Access to vital sexual and reproductive health services, including for women subjected to violence, will likely become more limited. • Evidence from the Ebola outbreak in West Africa, found that the economic impacts of the disease placed women and children at greater risk of exploitation and sexual violence.	Workforce: ✓ N/A Communities: ✓ Women ✓ Children in abusive households.	https://www.unfpa.org/resources/gender-equality-and-addressing-gender-based-violence-gbv-and-coronavirus-disease-covid-19 https://www.aljazeera.com/indepth/features/violence-women-surges-latam-coronavirus-quarantines-200420020748668.html https://www.cgdev.org/sites/default/files/pandemics-and-vawg-april2.pdf https://apps.who.int/iris/bitstream/handle/10665/331699/WHO-SRH-20.04-eng.pdf

DETERMINANT	POTENTIAL IMPACTS	DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
ENVIRONMENTAL HEALTH AREA[1] #1: COMMUNICABLE DISEASES LINKED TO HOUSING AND OVERCROWDING				
Mobility	Direct Transmission of covid-19 ↑	• Household returnees from abroad or work may carry the virus home and risk transmission to other family members. Early data shows that most Covid-19 infections were passing among family members before spreading to community or health workers. • Further, residents of crowded, low-income housing and makeshift shelters are less able to practice social distancing, potentially hastening the spread of the virus.	Workforce: ✓ Migrant workers (including workers that commute (FIFO). Indirect: ✓ Migrant worker households. ✓ Multi-generational households.	https://www.bloomberg.com/news/articles/2020-03-03/coronavirus-study-finds-most-risk-among-family-less-for-others
Housing	Indirect/ Direct Overcrowding and indoor air quality ↑	• With most people staying home for a prolonged period of time, this is likely to cause pressure on the limited household spaces/rooms and may lead to a deterioration of indoor air quality with resultant increase in the transmission of Covid-19 and other communicable diseases such as tuberculosis and other infectious diseases.	Workforce: ✓ N/A Community: ✓ Households in informal settlements. ✓ Disabled, child-headed households. ✓ Homeless individuals ✓ Refugees (if and where applicable). ✓ Elderly in multi-generational households.	https://unhabitat.org/sites/default/files/2020/03/covid19_key_messages_eng_1.pdf
Other Communicable Diseases	Indirect Reduction in other communicable diseases ↑	• Reduced human contact as a result of social distancing and lockdown measures may result in a lower occurrence of other communicable and infectious diseases- e.g. influenza.	Workforce: ✓ Reduced morbidity and sickness absence. Community: ✓ Elderly, disabled, children-headed households. ✓ Persons with co-morbidities.	
	Indirect Diagnosis and management of other communicable diseases ↑	• Reduced screening for TB and other communicable diseases as focus shifts to Covid-19. • Increased chances of missing a second diagnosis for patients with double pathogens e.g. Covid-19 and new TB infection. • Patients are generally now more averse to visiting healthcare facilities unless there is compelling need. ○ prescriptions are either not collected or not delivered. ○ Poor adherence to chronic medications such as TB treatment, that may lead to multi-drug resistant TB.	Workforce: ✓ All workforce Community: ✓ Elderly, disabled, children-headed households ✓ Persons with co-morbidities	https://www.theunion.org/news-centre/news/impact-of-the-global-covid-19-outbreak-on-the-management-of-other-communicable-diseases
ENVIRONMENTAL HEALTH AREA #2: VECTOR RELATED DISEASE (MALARIA) AND DETERMINANTS				

[1] Environmental Health Areas (EHAs) are a standard set of health effects categories that were developed to capture a variety of determinants of health and provide a linkage to assess site-related activities and potential positive or negative community-level health impacts. The EHA approach includes all the biomedical and social concerns originally developed by key international health and development agencies, i.e., the World Health Organization (WHO) and the World Bank Group. EHAs have been adopted in the IFC Notes for Performance Standard no. 4 "Community Health" the 2016 IPIECA (International Petroleum Industry Environmental Conservation Association) HIA guidelines and the 2009 IFC HIA toolkit.

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
Malaria Control and Treatment	Indirect	Interrupted malaria control and treatment ↑	• Disruptions in the global supply of essential malaria commodities such as long-lasting insecticidal nets, rapid diagnostic tests, and anti-malarial medicines – resulting from lockdowns and from a suspension of the importation and exportation of goods. • Experience from previous disease outbreaks has shown the disruptive effect on health service delivery and the consequences for diseases such as malaria. The 2014-2016 Ebola outbreak in Guinea, Liberia, and Sierra Leone, for example, undermined malaria control efforts and led to a massive increase in malaria-related illness and death in the 3 countries ○ For instance, media reports indicate that Zimbabwe is facing a malaria outbreak as it locks down to contain coronavirus. • Reduced care-seeking for malaria as a result of movement restrictions, fear or stigma of health facilities.	Workforce: ✓ N/A Community: ✓ Communities in resource-poor malaria endemic areas. ✓ Rural communities and spatial barriers. ✓ Poor transport networks due to containment, affordability, access.	https://www.who.int/news-room/q-a-detail/malaria-and-the-covid-19-pandemic https://www.theguardian.com/global-development/2020/apr/21/zimbabwe-faces-malaria-outbreak-as-it-locks-down-to-counter-coronavirus
ENIVRONMENTAL HEALTH AREA #3: WATER, HYGIENE AND SANITATION					
Hygiene	Indirect	Improved personal hygiene ↑↑	• Frequent and proper hand hygiene is one of the most important measures that is being advocated to prevent Covid-19 infection. • Increased access to hand washing facilities (as evidenced by establishment of new hand washing stations in public spaces). • The potential for the opposite is also true where local/ district/ provincial governments with limited resources and capacity may find themselves overburdened by trying to provide basic services and implement COVID-19 measures simultaneously.	Workforce: ✓ All workforce and dependants. Community: ✓ Communities in resource capable areas (unlikely in others).	https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19
Access to Safe Drinking Water	Indirect	Improved access to safe drinking water ↑	• Increased installation of public water points. Water access is critical to the prevention of Covid-19. • Reduced water cuts as governments advocate for suspension of bills or water tariffs to allow people access water.	Workforce: ✓ All workforce and dependants. Community: ✓ Communities in resource capable areas (unlikely in others).	https://news.un.org/en/story/2020/03/1060042
WASH-related Diseases	Indirect	A reduction in WASH-related diseases ↑	• Many co-benefits will be realized by safely managing water and sanitation services and applying good hygiene practices. • Handwashing alone can prevent about 30% of diarrhoea-related sicknesses and about 20% of respiratory infections (according to CDC research).	Workforce: ✓ All workforce and dependants. Community: ✓ Communities in resource capable areas (unlikely in others).	https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19 https://www.cdc.gov/handwashing/why-handwashing.html

DETERMINANT	POTENTIAL IMPACTS	DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
ENIVRONMENTAL HEALTH AREA #4: HIV/AIDS & SEXUALLY TRANSMITTED INFECTIONS				
HIV/AIDS	Indirect Reduced access to HIV-related services ↑	• Obstacles to accessing HIV services: ○ For instance, in Egypt, the government has designated the country's fever hospitals (the only centres where people living with HIV can get their medication) as testing centres for Covid-19. As a result, HIV patients are "too fearful" to go there to get their medication for fear of contracting coronavirus. ○ Closure of community based voluntary HIV testing centres. ○ Covid-19 containment measures (lockdowns and movement restrictions). • Reduced visits to health facilities because of fear of contracting the virus (missed reviews and failure to collect medication for continuation of treatment).	Workforce: ✓ Direct- and contractor employees LWHA Community: ✓ PLWHA ✓ Pregnant women ✓ Children ✓ Rural communities and spatial barriers. ✓ Poor transport networks due to containment, affordability, access.	https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30086-9/fulltext https://www.hrw.org/news/2020/04/22/egypt-covid-19-threatens-treatment-hiv-patients https://www.theverge.com/2020/4/21/21229776/sti-hiv-increase-coronavirus-response-contact-tracing
	Indirect Increased deaths of HIV/AIDS patients ↑	• So far, little is known about the pathogenesis or risk of infection and clinical outcomes of COVID-19 in people living with HIV. • However, the disease can indirectly lead to increased HIV deaths as a result of containment measures (e.g. lock downs), and changes in access to health care or health seeking behaviour as discussed above.	Workforce: ✓ Direct- and contractor employees LWHA Community: ✓ PLWHA ✓ Commercial Sex Workers (CSW) and other high risk groups.	https://www.iasociety.org/covid-19-hiv https://www.unaids.org/en/covid19 https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(20)30086-9/fulltext
STIs	Indirect Increased STI infections ↑	• Concerns about spikes in STIs while attention is on Covid-19 ○ Reduced testing and screening (closed community testing centres, stay-at-home orders. ○ In some cases, health workers who usually work on STIs and HIV have been redeployed to work on the Covid-19 response.	Workforce: ✓ Direct- and contractor employees LWHA Community: ✓ PLWHA ✓ CSW	https://www.theverge.com/2020/4/21/21229776/sti-hiv-increase-coronavirus-response-contact-tracing
ENIVRONMENTAL HEALTH AREA #5: FOOD AND NUTRITION				
Food	Indirect Food insecurity ↑	• The pandemic is already affecting food security. ○ Restrictions on movement within and across countries are disrupting entire food supply chains and creating food shortages and food price hikes (food inflation). ○ Countries that rely heavily on imported food to meet demand including Sub-Saharan Africa face disproportionate risk. ○ Impacts on the movement of agricultural labour and on the supply of inputs will pose critical challenges to food production, thus jeopardizing food security.	Workforce: ✓ Casual labourers. ✓ Contractors, including contractor employees. Community: ✓ Elderly, disabled, child-headed households. ✓ Social grant recipients. ✓ School feeding scheme recipients. ✓ Small-scale/local NGOs implementing nutrition initiatives.	http://www.fao.org/news/story/en/item/1272058/icode/ https://insight.wfp.org/covid-19-and-the-5-major-threats-it-poses-to-global-food-security-1c4da2ff6657

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			○ Financial barriers to accessing food as a result of economic downturn (discussed above). • Loss of lives including the loss of a bread winner.	✓ Persons with specific co-morbidities (malnutrition) ✓ Immunocompromised individuals PLWHA.	
Nutrition	Indirect	Malnutrition ↑	• Global acute hunger could double by end of 2020 due to Covid-19 pandemic, according to the World Food Programme. ○ Additional 130 million people in low and middle-income countries will be acutely hungry this year, adding to 135 million already in the category (if no action is taken now). • Experts are warning of disastrous increases in malnutrition in both the immediate and long terms as key programs to deliver food and micronutrients to vulnerable populations are interrupted: ○ Disruption of facility-based and community-based nutrition programs. ○ Interruption of regular school feeding programs. • Limited access to nutritious food options (reduced availability, price hikes, financial constraints). • Lack of robust social safety nets in most resource poor countries leaves the extremely poor at highest risk.	Workforce: ✓ Casual labourers. ✓ Contractors, including contractor employees. Community: ✓ Elderly, disabled, children-headed households. ✓ Social grant recipients. ✓ School feeding scheme recipients. ✓ Small-scale/local NGOs implementing nutrition initiatives. ✓ Persons with specific co-morbidities (malnutrition). ✓ PLWHA.	https://insight.wfp.org/covid-19-will-almost-double-people-in-acute-hunger-by-end-of-2020-59df0c4a8072 https://www.devex.com/news/as-aid-groups-scramble-to-contain-covid-19-malnutrition-set-to-increase-96912 https://reliefweb.int/report/world/mitigating-effects-covid-19-pandemic-food-and-nutrition-schoolchildren https://www.nature.com/articles/s41430-020-0634-3
	Direct	Poor outcome of Covid-19 infection ↑	• Malnutrition can weaken the immune system and may increase vulnerability to acquiring Covid-19.	Workforce: ✓ Casual labourers. ✓ Contractors, including contractor employees. Community: ✓ Elderly. ✓ Persons with pre-existing co-morbidities. ✓ PLWHA.	
ENIVRONMENTAL HEALTH AREA #6: NON-COMMUNICABLE DISEASES (NCDs)					
Non-Communicable Diseases in General	Direct	Poor outcome of Covid-19 infection ↑	• Higher risks of infection and poorer outcomes of Covid-19, including increased mortality, among those with co-morbidities such as cardiovascular diseases, hypertension and diabetes. Also, chronic respiratory disease such COPDs and cancer. • Available evidence shows that up to 72% of Covid-19 patients with co-morbidities required ICU care as opposed to26% with no other underlying illness.	Workforce: ✓ Direct employees and contractor employees with pre-existing NCDs. Community: ✓ Community members with pre-existing NCDs.	https://www.who.int/who-documents-detail/covid-19-and-ncds https://pmj.bmj.com/content/early/2020/03/30/postgradmedj-2020-137742
	Indirect	Increase in pre-existing chronic conditions ↑	• There has been an increase of all pre-existing diseases due to poor adherence to medications due to access issues, poor care seeking behaviour (facilities closed, no transport, fear of visiting facilities). This may give rise to	Workforce: ✓ Direct employees and contractor employees with NCDs on chronic Rx. Community:	https://pmj.bmj.com/content/early/2020/03/30/postgradmedj-2020-137742

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			increased levels of uncontrolled disease that may increase co-morbid risk due to Covid-19 and lead to increased complications and need for higher levels of healthcare (that as described are in short supply in low and middle income countries). • Weakened screening procedures- do not happen and reduced demand (cancer screening has almost disappeared). • Potential second wave of COVID19 + resurgence of all the other issues that have not been either diagnosed or treated or pathologies result of the breakdown of health system or of the lockdown (cancers and other NCD +mental issue).	✓ Community members with NCDs on chronic Rx.	
ENIVRONMENTAL HEALTH AREA #7: ACCIDENTS AND INJURIES					
Road traffic accidents	Indirect	Decreased road traffic accidents ↓	• With diminished mobility (lockdowns, curfews, etc) and reduced traffic density, there has been a significant reduction in the number of fatalities and injuries from traffic related accidents. ○ Data from California shows a reduction in road accidents of 50%. ○ Data from Istanbul shows a reduction of accidents by up to 35%.	Workforce: ✓ All Community: ✓ All	https://qz.com/1840736/coronavirus-reduces-california-traffic-accidents-by-half/
ENIVRONMENTAL HEALTH AREA #9: ENVIRONMENTAL HEALTH DETERMINANTS					
Air pollution	Direct	Transmission of Covid-19 ↑	• People living with poor air quality may be more susceptible to Covid-19, and airborne particulate matter may help to spread the virus. 90% of people worldwide are exposed to high levels of air pollution. ○ A paper published by the Italian Society of Environmental Medicine suggests that "the rapid increase of contagion rates that has affected some areas of Northern Italy could be tied to atmospheric particulate pollution acting as a carrier and booster there".	Workforce: ✓ N/A Community: ✓ Households in informal settlements. ✓ Households that use biomass fuels. ✓ Peri-urban / urban communities-- people living in highly polluted cities.	https://www.weforum.org/agenda/2020/04/the-deadly-link-between-covid-19-and-air-pollution/
	Indirect	Transmission of Covid-19 ↑	• People living in high-pollution cities are more likely to have compromised respiratory, cardiac and other systems – and are therefore more vulnerable to COVID-19 impacts. ○ A Harvard study has just found the first correlation between air pollution and COVID-19 deaths in the US. ○ Another research shows that almost 80% of deaths across four countries were in most polluted regions.	Workforce: ✓ N/A Community: ✓ Households in informal settlements. ✓ Households that use biomass fuels. ✓ Peri-urban / urban communities- people living in highly polluted cities	https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html https://www.theguardian.com/environment/2020/apr/20/air-pollution-may-be-key-contributor-to-covid-19-deaths-study

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			Note: The studies have shown a strong correlation between air pollution and Covid-19 deaths but not yet a direct causal link		
	Indirect	Reduced air pollution ↑	• The COVID-19 containment has led to cleaner air in the short term, but will do little to address the issue of air pollution in the long run.	Workforce: ✓ All (short-term) Community: ✓ All (short-term)	https://www.weforum.org/agenda/2020/04/the-deadly-link-between-covid-19-and-air-pollution/
Hazardous wastes	Direct	Increased volumes of hazardous medical wastes ↑	• Many types of additional medical and hazardous wastes are being generated including infected masks, gloves and other protective equipment, together with a higher volume of non-infected items of the same nature (population and health care use). ○ Unsound management of these wastes could cause unforeseen "knock-on" effects on human health and the environment. ○ In Wuhan, where the novel coronavirus first emerged, officials had to construct a new medical waste plant and deploy 46 mobile waste treatment facilities to manage the high volume of hazardous medical waste generated from Covid-19.	Workforce: ✓ N/A Community: ✓ Communities in proximity to waste management facilities. ✓ Refuse dump scavengers (waste-pickers).	https://www.unenvironment.org/news-and-stories/press-release/waste-management-essential-public-service-fight-beat-covid-19 https://www.theverge.com/2020/3/26/21194647/the-covid-19-pandemic-is-generating-tons-of-medical-waste
ENIVRONMENTAL HEALTH AREA #10: MENTAL HEALTH					
Mental health issues	Indirect	Increase in mental illness ↑	• The pandemic and resulting economic downturn have negatively affected many people's mental health and created new barriers for people already suffering from mental illness. ○ In a recent poll, nearly half (45%) of adults in the US reported that their mental health has been negatively impacted due to worry and stress over the virus. ○ Physiological stress associated with financial strain. • Mental health burden will increase as measures taken to slow the spread of the virus, such as social distancing, business and school closures, and stay-at-home orders, lead to greater isolation and potential financial distress. ○ A broad body of research links social isolation and loneliness to poor mental health. • Mental health post-traumatic stress disorder (PTSD) of all the first responders (health workers, security personnel etc.). • Research shows that job loss is associated with increased depression, anxiety, distress, and low self-	Workforce: ✓ Direct employees and contractor employees with pre-existing mental health conditions. Community: ✓ People with pre-existing mental health conditions. ✓ Frontline health workers and first responders.	https://www.kff.org/health-reform/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/ https://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(20)30171-1/fulltext

DETERMINANT	POTENTIAL IMPACTS		DESCRIPTION OF POTENTIAL IMPACTS	VULNERABLE/IMPACTED GROUPS	REFERENCES & RESOURCES
			esteem and may lead to higher rates of substance abuse and suicide.		
	Indirect	Mental health care ↑	• Delayed care seeking and use of alternative medicine due to limited access to health care or altered health seeking behaviour (discussed elsewhere).	Workforce: ✓ Direct employees and contractor employees with pre-existing mental health conditions. Community: ✓ People with pre-existing mental health conditions.	https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf