health
Department:
Health
REPUBLIC OF SOUTH AFRICA

NATIONAL DEVELOPMENT PLAN 2030

DRAFT AS @ 23 APRIL 2020

MEDICAL EVACUATION
STANDARD OPERATING PROCEDURES

1. Introduction

On 31 December 2019, China reported a new disease outbreak, later identified as Corona virus disease (COVID-19), to the World Health Organization. COVID-19 rapidly spread from China to over 210 countries and territories globally, and was declared as a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 and then as a Pandemic on 11 March 2020. As of 12 April 2020, there are almost morethan 1.7 million confirmed cases and about 105,000 deaths attributed to COVID-19 globally. The first case of COVID-19 was confirmed in South Africa on 5th March 2020, and the number has grown rapidly to about 2,028 confirmed cases and 20 deaths in all nine provinces by 12 April 2020. On 15 March 2020, the South Africa State President declared the COVID-19 pandemic a national disaster. The country went into a national lockdown from March 26 for 21 days, later extended by two weeks to 30 April 2020. There are currently many South Africans stranded abroad as many countries like South Africa have instituted national lockdowns, restricting movements including closing borders.

The South African Regulation Gazette No 43189, Volume 438 of 31 March 2020 permits the Minister of Transport to allow medical evacuation flights into South Africa. However, the regulation further stipulates that upon landing, flight crew will be subject to mandatory quarantine laws, as applicable. This requirement is a deterrent to South African-based air ambulance operators undertaking international medical evacuation flights back into South Africa due to the impact of quarantine on operations.

Therefore, in order to assist in making medical evacuations more effective, the South Africa Regulation Gazette No 11078, Volume 658 of 2 April 2020 (No 43199) permits the Minister of Home Affairs to allow a person to enter or exit the Republic for emergency medical attention for a life-threatening condition, or for a South African, or foreign national to be repatriated to their country of nationality or permanent residence.

These Standard Operating Procedures (SOPs) are intended to provide guidance for medical evacuation (MEDEVAC) of those with life threatening conditions in the context of the Coronavirus Disease 2019 (COVID-19) Pandemic, who may be suffering from COVID-19 or from any other life threatening medical condition.

2. Objective and Scope

The objective of this document is to support the appropriate medical evacuation of people with life threatening medical conditions, including COVID-19 asymptomatic or symptomatic, to or from South Africa, in the context of the COVID-19 pandemic.

The SOPs apply to South African citizens or foreign nationals entering or exiting the country requiring medical evacuation and those companies undertaking the evacuations. This includes medical evacuations by the United

Nations System since South Africa is the primary MEDEVAC location for nine Southern African countries (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe) and the secondary MEDEVAC location for thirty-two other countries in other regions of Africa [1].

3. Oversight of the South African MEDEVAC in the context of the COVID-19 Pandemic

A medical evacuation (MEDEVAC) team consisting of the following government departments will oversee all MEDEVACs:

Commented [TL1]: What about Military MEDEVAC

a. **Department of Health (NDOH)**
   NDOH will approve entry based on health requirements via Port Health Services supported by the NICD for MEDEVAC. NDOH may also coordinate the planning and implementation of any MEDEVACs, and provide leadership in areas such as infection, prevention and control (IPC) including isolation and quarantine, Emergency Medical Services (EMS), use of personal protective equipment (PPE), case management, handling of health care waste, handling of diseased COVID-19 cases and other health care related issues.
b. **Department of International Relations and Cooperation (DIRCO)**
   DIRCO will ensure that diplomatic issues are taken care of including obtaining approval for South Africans to be allowed to leave countries where they are currently residing in or visiting.
c. **Department of Home Affairs (DHA)**
   DHA will ensure issues related to relevant travel documentation and visas for South Africa citizens are addressed and process entry and exit of both the patient and crew in terms of the Immigration Act, 2002 (Act No. 13 of 2002), among other issues.
d. **World Health Organization (WHO) South Africa**
   WHO South Africa may be invited to participate in the South African MEDVAC Team on a case-by-case basis, especially when evacuees are members of the United Nations or their input is specifically required.

2. Personnel/MEDEVAC operators

a. **All personnel** posted at health screening points, visa and immigration desks, security checkpoints, etc. must be aware of how to protect themselves from infection, actions to be taken in the event of exposure including quarantine, testing and isolation if infected and other aspects of COVID-19 prevention, treatment and care (as per IPC guidelines)
b. **Ground Ambulance and Air Ambulance crews**
   Ground ambulance and air ambulance crews should be properly briefed and outfitted, be aware of the signs and symptoms to detect COVID-19 symptomatic passengers, how to reduce risk of themselves being infected, and action to take in the event that they are exposed. Ambulance organisations must ensure that job aids / tools are provided for crew providing basic information and a decision support tree. Air ambulance crews must follow NDOH guidelines/guidance required for transfer of non-COVID-

[1] Comoros, Madagascar, Burundi, Djibouti, Eritrea, Ethiopia, Rwanda, Somalia, South Sudan, Sudan, Uganda, United Republic of Tanzania, Benin, Burkina Faso, Cape Verde, Central African Republic, Chad, Congo, Democratic Republic of the Congo, Equatorial Guinea, Gambia, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Sao Tome and Principe, Sierra Leone, Togo, Ghana, Nigeria

19 and COVID-19 suspected/confirmed cases with use of PPE, isolation measures in aircraft for entry or exit from South Africa. The use of patient isolation units for confirmed or suspected COVID-19 cases is mandatory for transfer by ambulance aircraft to minimize the risk of infection and contamination of crew and craft, respectively, during the MEDEVAC.

c. Flight crew

The flight crew of the aircraft should be properly briefed and outfitted, as well as aware of the signs and symptoms to detect COVID-19 symptomatic passengers, how to reduce risk of themselves being infected, and action to take in the event that they are exposed. Aircraft operators must ensure that job aids / tools are provided for crew providing basic information and decision support tree. Screening of all flight crew must be undertaken following flights by air ambulance operators. Flight crew must wear masks, use gloves/hand sanitiser and maintain social distancing when entering and exiting the aircraft. While it is understood that when pilots are in the cockpit, facemasks are a hindrance to communication, pilots must have access to PPE should there be an unforeseen need to enter the aircraft cabin once the patient is loaded. Failure to comply with the adherence to PPE requirements will result in all crew being placed in quarantine for a minimum duration of 14 days.

d. Medical crew

The aircraft should be properly staffed with sufficient and appropriately trained medical personnel to accommodate the number of patients/nationals anticipated, and that they are outfitted with appropriate PPE and equipment/supplies to respond to illness en-route, including resuscitation and other emergency equipment. Additionally, air ambulance companies must be medically staffed in accordance with the South African Civil Aviation Authority Part 138 regulation. Air ambulance companies must apply screening of air ambulance medical staff following all flights. Medical crew should wear the required PPE and make use of patient isolation units (mandatory) for suspected or confirmed COVID-19 cases to ensure protection to aircraft and flight crew from cross infection/contamination and to avoid the necessity for quarantine on return/entry into South Africa of the flight crew and medical crew. Failure to comply with the adherence to PPE requirements will result in all crew being place in quarantine for a minimum duration of 14 days.

e. Support

Personnel responsible for administrative work and cleaning service should also be trained and properly briefed on signs and symptoms of the disease, how to prevent risk of being infected and actions to take in the event of them being exposed and provided with appropriate PPE, as needed. This should also include training in the IPC practices related to health care and other waste management.

f. MEDEVAC Operators

All MEDEVAC operators must ensure all personnel as outlined above, are trained in IPC measures to minimize risk of infection during transportation. Applications for transportation of a patient via MEDEVAC remains the responsibility of the operator and will ensure that all the required processes prior to, during and post transportation are adhered to as stipulated in the applicable legislative documents.

3. Port of exit/entry

a. Port Health officials must ensure that all screening procedures for preventing the importation of communicable diseases through South African ports of entry are complied with.

b. Immigration officials must ensure compliance with all immigration requirements.

Commented [TL2]: Why gloves?

Commented [WV3]: Do not understand why other crew that did comply with PPE also need to be quarantined??

Commented [TL4]: Suggest add short summary of minimum accepted standard.

c. A separate pathway (access and egress routes) should be delineated to rapidly transfer patients into ground ambulances to the designated hospital for further management to minimize contact and cross infection with the others in suspected or confirmed COVID-19 cases.

d. Appropriate ground transport arrangements for flight crew and medical crew must be in place following air ambulance missions to the designated accommodation for layover or to appropriate quarantine facilities or place of residence. Medical supervision and surveillance of crews by the air ambulance company must be applied following flights to avoid unnecessary quarantine in order to allow continuance of air ambulance and humanitarian evacuation and repatriation services.

e. Port Health Services should only apply quarantine requirements for returning air ambulance flight crews where suspected or confirmed COVID-19 patients are being transferred, and where patient isolation units and medical crew where PPE has not been applied appropriately by the ambulance provider.

f. Where quarantine is required for flight crews entering South Africa, arrangements for safe transportation of personnel to the designated quarantine facility must be in place.

g. Arrangements for testing of all personnel must be in place if indicated or required by National Department of Health.

4. Pre-flight measures – Air Charter and Commercial Airline flights used for MEDEVAC

a. Advanced bilateral communication, coordination, and planning by the responsible authorities (Department of Home Affairs, Department of International Relations and Cooperation) with their relevant counterparts in other countries is required before departure from South Africa and while in the relevant country until departure.

b. Exit screening from the country of departure is essential. Temperature measurement and a COVID-19 screening questionnaire, should be administered before departure and testing for COVID-19 should be performed, if required. Screening results and medical conditions must be shared with the receiving country/receiving hospital/medical practitioner well in advance to ensure adequate preparation before arrival of the evacuee(s).

c. Appropriate medical equipment and sundries should be on board all evacuation flights.

d. All necessary PPE should be available

e. All necessary documentation (patient records, passports, etc) should be completed

f. Preflight COVID-19 related training for the entire flight team is required including:

   i. Pre-flight briefing, including basic information on COVID-19 to ensure awareness on signs and symptoms of COVID-19, how to reduce risk of getting infected, and action to take in the event that they are exposed. This should include familiarization with job aids/ tools that will be provided to crew on basic information and decision support trees as relevant.

   ii. Simulated drills with the whole evacuation team in advance of departure. This would include different scenarios, including where one is exposed and what to do, situations where the patient deteriorates clinically and when a patient dies en-route.

Commented [TL5]: Sentence construction is unclear. Currently it indicates that isolation units (capsules) MUST be used. I am not sure if that is the intention as there are very limited numbers of these units in SA.

Commented [WV6]: It is assumed that discussion amongst the crew on these issues should suffice . For non-COVID cases there is usually a tine factor involved if an emergency case and running an actual drill on all the issues will impact on the flight and duty times which has a safety risk.

5. In-flight measures – Air Charter and Commercial Airline flights used for MEDEVAC

a. Passengers must be seated in such a way as to ensure a safe distance between them (more than 1 meter) and each passenger's seating location must be duly noted/mapped in order to track those in the immediate vicinity (eg: those within same row, and two rows in front and two rows behind).

b. The plane should have designated green, yellow and red zones. These are described as follows:

   i. Green zones: Include the cockpit and other areas designated for flight crew and health personnel not directly taking care of patients, area for food preparation at the front of the aircraft where flight crew, cabin crew and health personnel are served.

   ii. Yellow zones: Space to be used as a health partition area between teams and evacuees. It can be used for storage of PPE for crew and health team. There should be separate designated areas for putting on, removing and safely disposing of PPE. There should also be hand hygiene and hand washing station in the area and one dedicated toilet for crew and health personnel. There can also be a designated area for storage and preparation of food for evacuees and an area for solid and liquid waste storage.

   iii. Red zone: Designated evacuee area. All seats to have IPC package (5 face masks, alcohol-based hand sanitizers, small plastic bag to discard waste, air sick bag). To limit interaction with crew/health personnel, also place water bottles and snacks. No in-flight magazines should be place in the pockets as they will have to be discarded after the flight. If needed, evacuees may use their own electronic devices. They can use the inflight entertainment audio systems. Each evacuee should have their own blanket and pillow (no sharing) which can be bagged and sent for laundry. Evacuees should have their own toilets located in the red zone. The aft (back) galley should be used for storage of extra PPE, IPC material if needed. There could also be clean storage facilities for evacuees such as medical equipment, stretchers and related devices.

c. Key issues for all personnel in-flight

   i. Strict IPC measures must be adhered to prevent the spread of the infection between crew and health care workers and other patients.

   ii. Personnel should routinely perform hand hygiene and wear a medical mask and gloves when moving patients into or out of the plane.

   iii. If a suspected or confirmed COVID-19 patient requires direct care (for example, physical assistance to get into the plane), staff should add eye protection (for example, goggles) and long-sleeved gown to their PPE;

   iv. PPE should be changed between each patient and disposed of appropriately in containers with a lid in accordance with national regulation of infectious waste.

   v. The pilot or driver of the ambulance must stay separated from the suspected cases (more than 1-meter distance). No PPE is required if distance can be maintained. If the crew must physically help the patients, they should follow the PPE recommendations in the relevant section.

Commented [TL7]: I would suggest 2 m due to risks of aerosol generating emergency airway procedures that may occur during flight.

Commented [TL8]: And/or

Commented [TL9]: It is recommended that equipment and electronic monitoring capabilities are sealed in transparent plastic bags during use in flight. On landing the bag is wiped down with hypochlorite and torn open, Equipment can then be removed and wiped down again for safety. Bags are disposed as medical waste.

Commented [AC10]: This needs to be practical. Will there be a dedicated hostess per patient, as then PPE needs to be changed after certain time. If not, then how would the changing of PPE guideline practically implemented between each patient if there is not direct contact.

vi. Crew should frequently clean their hands with alcohol-based hand sanitizers or wash with soap and water for at least 20 seconds, and should clean their hands before putting on PPEs and after removing them.

d. Other issues for consideration are as follows:
   i. Should have specific areas and flow direction where donning and doffing of PPE takes place
   ii. Designated bathrooms should be allocated with IPC measures in place
   iii. Use appropriate personal protective equipment (PPE) when dealing with symptomatic patients (medical or surgical mask, hand hygiene, gloves);
   iv. Equipment must be minimized to essential items only.
   v. Body bags must always be carried in case of death in transit.
   vi. Where possible, a portable isolation unit is recommended to contain infected materials and minimize contamination of the ambulance or aircraft.
   vii. Need designation area for critically ill patients separate.
   viii. Designated area where mortal remains should be kept if fatality on board
   ix. Medical team must have clearly defined roles and responsibilities
   x. Designate dedicated medical and cabin crew member to look after the critically ill patient/s, preferably one who has previously interacted with the patient/s;
   xi. All personnel and patients on the aircraft should adhere to respiratory/cough etiquette either by wearing a medical or surgical mask (if available and tolerated) or the patient could contain his cough or sneeze by using disposable tissue. If the patient cannot tolerate a mask, healthy passengers, medical and flight crew adjacent to the patients must be offered masks;
   xii. Practice hand hygiene (hand washing or hand rub);
   xiii. Handle any blankets, trays or other personal products used by the patient with respiratory symptoms carefully and disinfect the surfaces as per IPC guidelines
   xiv. In case of presence of spills (vomits, blood spills, secretions or others), practice environmental cleaning and spills-management;
   xv. Handle all waste in accordance with regulatory requirements or guidelines;
   xvi. All documentation should be completed and necessary patient monitoring records be complete;
   xvii. An inflight patient monitoring system should be in place.

Commented [TL11]: Negative pressure unit (there are positive pressure units currently marketed that holds a serious risk if used with aerosol transmitted diseases such as COVID-19.)

6. Transport and admission to receiving hospital

a. Strict IPC measures must be adhered to prevent the spread of the infection among health care workers or other patients.

b. EMS personnel should routinely perform hand hygiene and wear a medical mask and gloves when loading patients into the ambulance.

c. If the suspected COVID-19 patient being transported requires direct care (for example, physical assistance to get into ambulance), then the transport staff should add eye protection (for example, goggles) and long-sleeved gown to their PPE;

d. PPE should be changed between each patient and disposed of appropriately in containers with a lid in accordance with national regulation of infectious waste.

e. The driver of the ambulance must stay separated from the suspected cases (more than 1-meter distance). No PPE is required if distance can be maintained. If the driver must also help load the patients into the ambulance, they should follow the PPE recommendations in the section above.

f. Transport staff should frequently clean their hands with alcohol-based hand rub or soap and water and should clean their hands before putting on PPE and after removing it.

g. Ambulance or transport vehicles should be cleaned and disinfected immediately after transportation with particular attention to the areas in contact with the suspected case. Cleaning should be done with regular household soap or detergent first and then, after rinsing, regular household disinfectant containing 0.5% sodium hypochlorite (i.e. equivalent to 5000 ppm or 1-part bleach to 99 parts of water) should be applied.

7. Quarantine

Quarantine to the entire MEDEVAC crew will be applied for a minimum of 14 days ONLY if strict IPC measures have not been applied; as assessed and monitored by Port Health Services.

8. Disinfection of aircraft, ambulance and equipment– Air Charter and Commercial Airline flights used for MEDEVAC

a. Disinfection of the aircraft must be undertaken in accordance with the aircraft make and model under supervision of the Port Health official. Usage of preferred cleaning chemicals and methods should be consulted to properly disinfect the aircraft according to the aircraft manufacturer approved agents for this purpose. A dedicated and restricted space at the port of entry staffed by trained personnel should be available to clean the aircraft after disembarking patients/passengers.

Commented [WV12]: If it is a multiple evacuee scenario, it will be difficult for crew to doff and redon PPE for every evacuee attended to – this will also create undue risk of contamination as doffing while under a time pressure creates risk. This requirement should only exist if the evacuees were not on the same flight. If procedures are done in flight then gloves should be changed between patients.

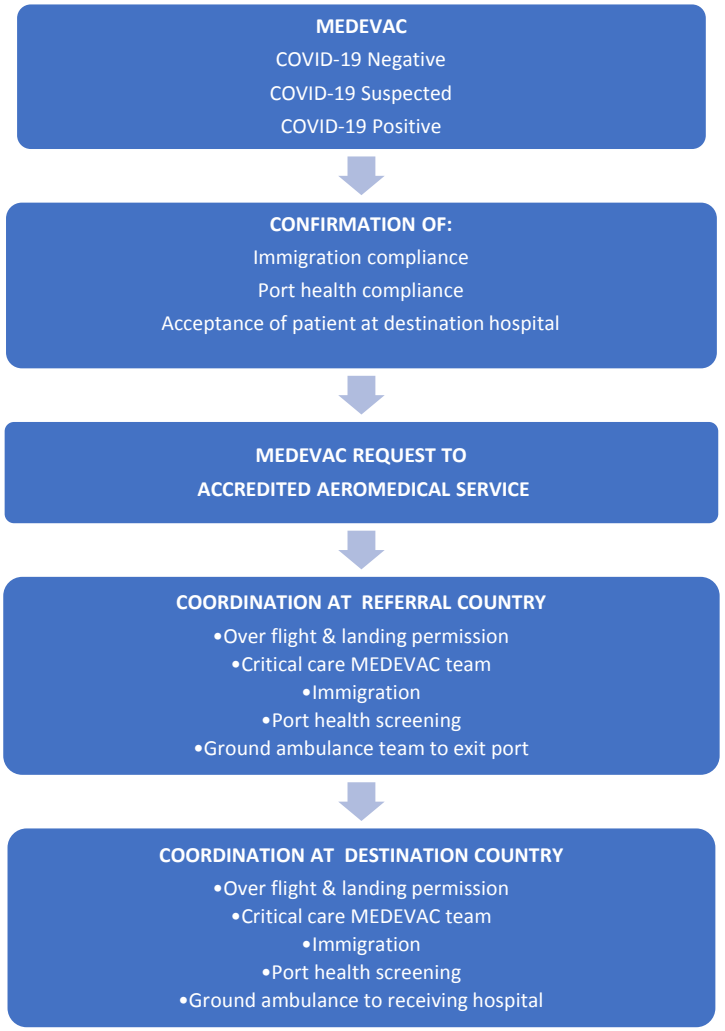
Commented [WV13]: In aircraft there may be a need to utilise 70% alcohol solutions or other aviation approved disinfectant acceptable for COVID as hypochlorite is an oxidiser that can casue corrosion of aircraft components

Commented [WV14]: 5000ppm is 0.5% which is a 1:6 dilution of 3.5% household bleach

Commented [WV15]: Glad to hear this will be the case as we have had crew now in quarantine for 14 days after a medevac from St Helena Island that does not have any COVID-19 cases.

9. Flowchart

The summarised flowchart below represent key steps and associated key activities thereof:



Commented [TL16]: Suggest adding terminal decontamination in block on coordination at destination.

References

1. Republic of South Africa. Constitution.
2. Republic of South Africa. Disaster Management Act, 2002: Amendment of regulations issued in terms of section 27(2). No. 43199. April 2020.
3. WHO. Key considerations for repatriation and quarantine of travellers in relation to the outbreak of novel coronavirus 2019 – NCOV. 2020.
4. WHO. Management of ill travellers at Points of Entry (international airports, seaports, and ground crossings) in the context of COVID-19. March 2020.
5. United Nations. Medevac health support planning. March 2020.
6. National Department of Health. Standard operating procedure for the recognition and management of suspected COVID-19 patients for Emergency Medical Services. February 2020.
7. Department of Health. Standard Operating Procedures for Port Health Services. April 2019.