

# National Guidelines for Management of COVID-19



**APRIL**, 2020

#### ACKNOWLEDGMENT

Uganda has a robust health sector development plan that seeks to, among other goals "accelerate movement towards Universal Health Coverage with essential health and related services needed for promotion of a healthy and productive life". The health of the population is central to the socioeconomic development of the country. Unfortunately, the COVID-19 pandemic significantly threatens to undermine and derail the gains the country has achieved in improving the health and social-economic development of Uganda.

To ensure that the country responds adequately and mitigates the impact of the COVID-19 pandemic, the Ministry of Health (MOH) embarked on the development of these guidelines through a consultative, participatory and transparent process with the involvement of all stakeholders. This document will be used in response to the COVID-19 and is the first pragmatic step by the MoH in providing technical leadership in aligning and standardizing national and district management of COVID-19 suspected, probable and confirmed cases. These guidelines should be used by all health care providers in Uganda, including those working in the public and private sector.

The Ministry of Health would like to express its sincere appreciation to leadership of the Case Management pillar, WHO, UNICEF, UNHCR, CDC, USAID, IDI, Last Mile Health and all key stakeholders and partners, who supported the development of these guidelines.

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Acronyms ARDS	Acute Respiratory Distress Syndrome
BP	Blood Pressure
COVID-19	Coronavirus disease
CRP	C-reactive protein
CV	Central Venous
FiO <sub>2</sub>	Fraction of Inspired Oxygen
HFNO	High Flow Nasal Oxygen
ICU	Intensive Care Unit
IPC	Infection Prevention and Control
IV	Intravenous
LFT	Liver Function Test
MERS	Middle East Respiratory Syndrome
PCR	Polymerase Chain Reaction
PEEP	Positive End Expiratory Pressure
PHEIC	Public Emergency of International Concern
PPE	Personal Protective Equipment
RR	Respiratory rate
SARS	Severe Acute Respiratory Syndrome
SOP	Standard Operating Procedure
SpO <sub>2</sub>	Oxygen saturation

# 1 Background 1.1 Context

The Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) is a new virus that had not been previously identified in humans and therefore no population-level immunity exists. This virus belongs to the coronaviridae family grouped together in 1968 due to existence of crown-like appearances on their cell membrane. The virus is highly transmissible by way of droplet infections attacking the respiratory, intestinal and brain tissues. Infection from SARS-CoV-2 results in coronavirus disease (COVID-19) which manifests along a spectrum ranging from mild to severe symptoms; in severe cases, death can occur due to complication from the disease.

The seafood and animal market in Wuhan, China was implicated as the origin for the current outbreak of COVID-19. The World Health Organization (WHO) was notified of this outbreak on 31 December 2019 and the causative agent was subsequently identified as SARS-CoV-2 on 7 January 2020 by the Chinese government. The reservoir host for the virus, however, remains unknown. In view of the rapid spread, the WHO upgraded the status of the outbreak to a Public Health Event of International Concern (PHEIC) on 30 January 2020 and announced it as a pandemic on 11 March 2020.

The early symptoms of COVID-19, including fever, myalgia, and fatigue might be confused with malaria and other febrile infections. This non-specific presentation can lead to challenges in early clinical diagnosis and management. These features of COVID-19 and the previous experiences of Ebola Virus Disease (EVD) outbreaks, for example, point to the need for malaria-endemic countries to consider preventive measures against not only the COVID-19 threat but also its likely impact on existing malaria control efforts.

While most people with COVID-19 develop mild or uncomplicated illness, approximately 14% develop severe disease requiring hospitalization and oxygen support and 5% require admission to an intensive care unit.

These guidelines are developed in the absence of definitive cure and vaccine, reflect supportive care as the mainstay to case management and are informed by review of available evidence and recommendations from other public health entities, including the WHO interim guidance document. Care will be to improve patient outcomes through provision of supportive care to delay progression and management of severe disease and co-morbidities. This care will be contextualized in Uganda's health systems.

The Case Management Pillar incorporates approaches to provide optimized care for all patients, especially the seriously ill, and minimize the impact of the epidemic on health systems, social services, and economic activity by slowing and stopping transmission, particularly within the health system.

#### 1.2 Objectives of the Guidelines

- 1. To provide guidance on clinical management of the COVID-19 cases in context of existing infectious diseases including Nutritional and Psycho-social Support .
- 2. To provide a standardized package and pathway that will support timely decision making for management of COVID-19 cases in context of existing Infectious diseases.
- 3. To detail the measures necessary to protect hospital staff, patients and visitors/caregivers.
- 4. To provide guidance on the management of other disease conditions and patient groups such as pregnant and breastfeeding women.

**Note:** This set of guidelines is not intended to override the clinical decisions that will be made by clinicians providing individualized patient care.

#### 1.3 Target Audience

The document is meant for all Health workers in public and private facilities at all levels of service delivery.

#### 1.4 Clinical Signs and symptoms of COVID-19.

The following symptoms are compatible with COVID-19 disease fever, cough, myalgia or fatigue, shortness of breath, sore throat and headache

Other symptoms may include: flu-like symptoms, diarrhea and nausea, muscle ache, pneumonia and Acute Respiratory Distress Syndrome (ARDS), renal failure, pericarditis and Disseminated Intravascular Coagulation (DIC).

It is important to note that COVID-19 patients may be asymptomatic and therefore it is important that all health workers observe strict Infection Prevention and Control (IPC) measures for all patients

#### 1.5 Case definition

In order to enhance surveillance, early case detection, and management for COVID-19, the following case definitions have been developed. As of March 2020, Uganda is in a situation of having sporadic cases (one or more cases, imported or locally detected). In the event that Uganda moves to a scenario of community transmission (situation in which large numbers of cases are not linkable to transmission chains, multiple unrelated clusters are identified in several areas of the country, or there are large numbers of cases from sentinel lab surveillance sites), the suspect case definition would change. The table below summarizes the suspect, probable, and confirmed case definitions, as well as defining who should be considered a contact, adapted from WHO guidelines.

	Table 1.1: COVID-19 Case Definitions
Suspect case (sporadic or cluster transmission pattern)	<ul> <li>A. Any person with acute respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness such as cough, shortness of breath) AND no other cause that fully explains the clinical presentation AND history of travel in last 14 days before onset to area reporting local transmission of COVID-19.</li> <li>B. Any person with acute respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness such as cough, shortness of breath) AND no other cause that fully explains the clinical presentation AND requiring hospitalization OR</li> <li>C. Any person with acute respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness such as cough, shortness of breath) AND no other cause that fully explains the clinical presentation AND requiring hospitalization OR</li> <li>C. Any person with acute respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness (temperature greater than 37.5°C and at least one sign/symptom of respiratory illness such as cough, shortness of breath) AND contact with a confirmed or probable COVID-19 case in last 14 days before symptoms</li> </ul>
Suspect case (community transmission pattern)	Any person or groups of persons with flu-like symptoms such as fever, running nose, sneezing, cough, sore throat and difficulty in breathing.
Probable case	<ul> <li>A. A suspect case for whom testing for COVID-19 is inconclusive</li> <li>OR</li> <li>B. A suspect case for whom testing could not be performed for any reason.</li> </ul>
Confirmed case	A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.
Contact	<ul> <li>Any person who experienced any one of the following exposures during the 2 days before and the 14 days after the onset of symptoms of a probable or confirmed case: <ol> <li>Face-to-face contact with a probable or confirmed case within 2 meter and for more than 15 minutes;</li> <li>Direct physical contact with a probable or confirmed case;</li> <li>Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment</li> </ol> </li> <li>Note: for confirmed asymptomatic cases, the period of contact is measured as the 2 days before through the 14 days after the date on which the sample was taken which led to confirmation.</li> </ul>
wHO. Global surveillance	jor COVID-19 caused by human infection with COVID-19 virus. Interim guidance. 20 March 2020

#### 2.0 COVID-19 Screening and Triage

Triage should follow one of the following three flow diagrams depending on whether Uganda continues to only have sporadic or cluster transmission, whether community transmission is occurring, and whether the case is identified in the community. While Uganda aims to contain the outbreak and isolate cases within a hospital setting, thresholds have been set to triage cases according to need. Both clinical condition and facility isolation capacity will determine whether or not a suspect case will be admitted to an isolation unit within a health facility, admitted to a designated isolation unit outside a health facility, or advised to self-isolate at home.

**Threshold 1**: When more than 60% of the health facility bed capacity dedicated to COVID-19 is still available and care for other conditions can still occur.

• All cases will be managed in isolation units at COVID19-designated health facilities including Mulago NRH, Entebbe hospital, all RRH, designated private facilities, and selected district hospitals and HCIVs.

**Threshold 2**: When more than 60% of the health facility bed capacity dedicated to COVID-19 is used up by the COVID19 confirmed and/or suspect cases and/or is causing a major disruption of essential medical services.

- Isolation in health facility for severe COVID19 confirmed or suspect cases, and those at higher risk of developing severe disease or complications due to co-morbidities.
- Isolation in other designated COVID19 non-health care facility sites (e.g. schools, churches, stadium, gymnasiums, hotels or tents) for non-severe COVID19 confirmed or suspect cases

Threshold 3: When the health facilities and other designated isolation sites are overwhelmed.

- Isolation in health facility for severe COVID19 confirmed or suspect cases.
- Isolation in other designated COVID19 non-health care facility sites (e.g. schools, churches, stadium, gymnasiums, hotels or tents) for non-severe COVID19 confirmed or suspect cases at higher risk of developing severe disease or complications due to comorbidities who need closer monitoring.
- Isolation at home for COVID19 confirmed or suspect cases at low risk of developing complications, live in home that have space and amenities for home isolation (based on checklist) and do not have high-risk individuals in their households.

Specific guidance on requirements for an isolation space for confirmed and suspected cases, and appropriate use of PPE to minimize risk of droplet transmission can be found in Annex.

#### 2.1 COVID-19 Screening and Triage process at the health facility

COVID-19 triage aims to recognize patients with acute respiratory infection (ARI) at first point of contact with the health care system in order to identify severe symptoms to allow for rapid action, rule-out other common causes of symptoms which could mimic COVID, ascertain whether suspect case definition is met, and protect other patients and staff from potential exposure to COVID-19.

At presentation to a facility, any individual with symptoms of acute respiratory infection (flu-like symptoms such as fever, cough, difficulty in breathing, muscle ache, running nose, sneezing, and sore throat) should be directed to a designated area away from other patients. A small team of health care workers should be assigned to staff the triage area and be provided with PPE per guidance in annex 2.0



#### 2.2 Prioritizing hospital admission among COVID-19 suspect and confirmed cases

Given that the vast majority (~80%) of COVID cases are mild, it is critical that the health facility inpatient isolation and high-level care beds are prioritized for those with severe disease, and those who are most likely to develop severe disease or complications due to comorbidities. Data from other countries demonstrates that ~14% will require oxygen therapy and ~5% will require intensive care unit treatment including mechanical ventilation. Furthermore, bed capacity and staff need to be preserved in order to maintain quality care for non-COVID patients. Designating entire sections of a health facility solely to the treatment of the COVID-19 cases could reduce the potential transmission of COVID-19 to non-cases within the health facility.

In the event that suspect and/or confirmed cases overwhelm the capacity of the hospital (space or human resource), individuals with any danger signs or who have any of the conditions listed should, be prioritized for hospital admission.

D	anger signs	High risk of developing severe disease or complications
•	Rapid breathing: >30 per minute	• Age < 1 year
	(adult/child>5y); $\geq$ 40 breaths per minute for	• Age $> 65$ years
	children 1-5 years, $\geq 50$ breaths per minute for	Heart conditions such as history of heart
	children 2-11 months.	attack or stroke
•	Difficult breathing and/or chest in drawing	• Diabetes
•	Persistent high fever for 3 or more days	Sickle cell disease
•	Disorientation	Cancer patients whether or not on
•	Lethargy (excessive weakness, tiredness)	chemotherapy
•	Seizures or convulsions	Advanced liver disease
•	Sunken eyes or other signs of severe dehydration	Person living with HIV
•	Inability to drink or eat	• Lung diseases (e.g. asthma, TB, COPD)
		Kidney disease
		Severe Acute Malnutrition

If any	ONE dange	er sign or l	listed comorbidity	. prioritize for	hospital admission
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# 2.3 Maintaining a high level of suspicion for COVID-19 among inpatients admitted for other reasons

Early in the outbreak, clinicians must maintain a high level of suspicion for COVID-19 when there is a compatible presentation and inquire about any epidemiologic links since this may be an early sign of introduction to the healthcare facility. Identification of ARI clusters in inpatients within a healthcare facility might suggest healthcare-associated COVID-19 transmission. With increased community transmission the likelihood of missing patients with COVID-19 at triage becomes more likely as does the likelihood of healthcare-associated transmission. Thus, routine assessment on the ward for individuals with COVID-related symptoms is critical, and immediate transfer to the isolation unit is necessary to avoid rapid spread.

#### 2.4 Routine screening triage of health care workers

Given the close contact of HCW with patients on a daily basis, HCWs are high risk for becoming cases, particularly in the community transmission scenario. Enhancing identification of ill HCWs, therefore, is necessary to minimize transmission. Establish a plan to remind or prompt HCWs to self-assess for symptoms consistent with COVID-19. **HCW should be actively screened at the beginning of their shift with temperature measurement and symptom checklist, tested if symptomatic, and isolated until results have been released.** 

#### 2.5 Limiting entry of caregivers

Caregivers are critical to the wellbeing of admitted patients. Yet they can also introduce COVID-19 into the hospital setting and are at risk of acquiring it. In order to strike a balance, it is recommended that caregivers' entry is avoided if possible or limited to one caregiver (with the required PPE) of the admitted patient at any given time. The caregiver is actively screened for symptoms of acute respiratory infection **Any caregiver with symptoms should go through the triage algorithm.** 

#### 3.0 IPC including Personal Protective Equipment (PPE) for COVID-19

Infection Prevention and Control (IPC) is a critical and integral part of clinical management of patients. Standard precautions should always be applied in all areas of health care facilities. Standard precautions include hand hygiene and use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and non-intact skin.

Standard precautions also include prevention of needle-stick or sharps injury; safe waste management; cleaning and disinfection of equipment; and cleaning of the environment.

For COVID-19, which is transmitted by droplets, five key IPC strategies should be employed to reduce or prevent transmission in health care setting:

- 1. Ensure triage, early recognition, and source control (isolation) of patients with suspected COVID-19 infection.
- 2. Apply standard precautions for all patients at all times.
- 3. Implement empiric additional precautions droplet, contact and airborne precautions whenever applicable for suspected cases of COVID-19 infection.
- 4. Implement administrative controls all healthcare facilities must ensure that they have an IPC programme, their healthcare workers are correctly trained on basic IPC procedures and able to implement standard and droplet precautions.
- 5. Use environmental controls such as adequate spatial separation of patients, ventilation requirements and appropriate cleaning of the facility environment.

**Suspect cases** of COVID-19 should be isolated, or at least separated by 2m, from other patients. They should be instructed to wear at least medical or cloth mask and practice appropriate hand hygiene. If possible, dedicated toilet facilities should be made available.

**Confirmed cases** should be admitted to a designated isolation facility or room. The room should be well ventilated, have low transit and secure.

**Health workers** supporting triage, attending to patients with respiratory symptoms, or caring for known cases require additional personnel protective equipment in addition to standard precaution.

For more details on the different IPC measures and the PPEs in different scenarios refer to Annex 2.

Level	Setting	РРЕ
Level 1( No Interaction with Patients)	In the community such as administrative areas, cafeterias, and in the community. Staff are encouraged to observe social distancing recommendations and frequent hand hygiene practices.	<b>No PPE</b> . Home clothes/ scrubs with closed shoes.
Level 2 (Patient Interaction without Contact	Screening at entry points Ambulance drivers Symptomatic patients at screening points and during transit	Medical mask needed for droplet precautions when talking to patients. It is important that staff do not touch patients or patient belongings when in this posture:
Level 3 (Patient Contact, no risk of aerosols)	<ul> <li>Collection of respiratory samples</li> <li>Transfer of Suspect/confirmed patients</li> <li>Cleaners*</li> <li>Caring for patients with suspected or confirmed COVID-19 with no aerosol risk</li> <li>Visitors to the patient care area</li> <li>Laboratory personnel</li> </ul>	Facial protection, Gown, gloves(x2), medical mask, Gum boots for tasks that involve contact with suspect/confirmed COVID-19 patients without an aerosol generating procedures.
Level 4 (Risk of Aerosols with or without patient Contact)	<ul> <li>Aerosol generating procedures on a suspect or confirmed COVDI-19 patient such as:</li> <li>bronchoscopy</li> <li>tracheal intubation</li> <li>pressure on the chest during cardiopulmonary resuscitation may induce production of aerosol</li> <li>Collection/induction of sputum</li> <li>Airway Suctioning</li> <li>Passage of a nasogastric tube</li> </ul>	Similar to level 3, the only difference being the <b>N95 mask.</b>

## 3.1 Personal Protective Equipment

#### 4.0 Clinical Management of COVID-19

The goal in clinical management of cases is to reduce morbidity and mortality while minimizing the risk of transmission to uninfected contacts. Early identification of patients who are severely ill and require hospital or ICU admission will be essential in reducing morbidity and mortality.

Adjuvant therapy and support should be given, refer to the treatment protocol in annex 3.0

**Mild cases:** This includes asymptomatic cases or Patients with uncomplicated upper respiratory tract viral infection. These may have nonspecific symptoms as described in table 4.2 below. These cases could be managed outside of the hospital should inpatient capacity be insufficient.

Moderate cases: This refers to cases that present as pneumonia without a need for oxygen.

**Severe cases** require hospital level interventions including oxygen therapy. In a situation where bed capacity is limited, priority should be given to cases with severe disease or those likely to develop severe disease or complications (see table in section 2.2).

**Critically ill patients;** these are patients who present with a danger sign(s). These should be managed in either High dependence or Intensive care units.

Regardless of the severity of the illness, isolation of cases, implementation of IPC measures, and contact tracing within facilities, communities, and households is critical to minimize onward transmission of the virus. Risk communication and widespread messaging are key to successful case management.

#### 4.1. Potential therapeutics for treating COVID-19

There is currently no therapeutic with proven effectiveness for COVID-19. Treatment is mainly supportive and may vary depending on resources available (see annex 3.0). At a minimum, patients should have frequent monitoring to evaluate for progression of disease and availability of oxygen to help support moderate to severe patients from worsening to a critical stage.

Despite there being no clear therapies identified for COVID-19 to date, several potential therapies have been evaluated in patients with COVID-19 in settings outside of Uganda. Importantly, there are ongoing Randomised Clinical Trials (RCT) in different countries but results are pending.

As a result, it is unclear whether any of these therapies have any benefit or whether they can instead be harmful to patients with COVID-19. As well, the Uganda Ministry of Health is planning to conduct similar RCTs and further information will be availed when they start.

In addition to plans for COVID-19-related RCTs, the Uganda Ministry of Health is also considering the administration of potential therapeutics for COVID-19 under the umbrella of the Monitored Emergency Use of Unregistered Interventions (MEURI) framework. MEURI is a mechanism established by the World Health Organization whereby an ethical protocol can be developed to evaluate either novel therapeutics or novel indications of existing therapeutics during public health emergencies. Ultimately, the evidence generated from these Ugandan and other similar global initiatives will inform the treatment of patients with COVID-19 in Uganda.

This current version of the guidelines includes recommendation for use of existing therapeutics for novel indications to directly target SARS-CoV-2 (e.g., hydroxychloroquine) and existing adjunctive therapeutics with potential anti-oxidant, anti-inflammatory and immunomodulatory effects (e.g., vitamin C, thiamine, zinc and "statins").

The table (Annex 3.1) provides a summary of selected therapeutics with uncertainty regarding the level of potential benefits and potential side effects. It includes information with respect to the therapeutic's

recommended dosage, indication, potential benefit, potential side effects and minimum level of monitoring required to be able to administer these therapeutics at a given health facility. If the minimum level of monitoring required for safe administration cannot be achieved at a health facility, the therapeutic should not be administered at all. As it becomes available, new evidence regarding the safety and efficacy of potential therapeutics for COVID-19 will be added to this table in future versions of the guidelines.

#### 4.2: Clinical Management of Confirmed COVID-19 Patient

This table summarizes some key aspect in management, refer to annex 3.0 for the risk categorization and more details on monitoring and treatment.



DISEASE PRESENTATION	SYMPTOMS (DIAGNOSTIC CRITERIA)	TREATMENT
Mild COVID-19	Patients may be asymptomatic or present with uncomplicated upper respiratory tract viral infection, may have non-specific symptoms such as fever, cough, sore throat, nasal congestion, malaise, headache, muscle pain or malaise. The elderly and immunosuppressed may present with atypical symptoms. These patients do not have any signs of dehydration, sepsis or shortness of breath.	<ul> <li>The Isolation is necessary to contain virus transmission refer to section 2.0 <ul> <li>Ensure appropriate IPC practices to contain and mitigate transmission</li> </ul> </li> <li>Supportive <ul> <li>If fever ≥38 C, give Paracetamol 1gm three times a day for 3 days</li> </ul> </li> <li>Treatment for Adults and Children &gt; 12 years <ul> <li>Only If ECG and Electrolytes (Magnesium and Potassium) are normal, Start Tabs Hydroxychloroquine 400mg twice a day for 1 day then 200mg twice a day for 4 days.</li> <li>Tabs Vitamin C 500mg twice a day for 14 days.</li> </ul> </li> <li>CHIDLREN &lt; 12 years <ul> <li>Supportive Therapy days Supportive care</li> <li>If fever ≥38 C, give Paracetamol 10 – 15mg/Kg, three times a day for 3 days</li> <li>Only If ECG and Electrolytes (Magnesium and Potassium) are normal, Start tabs Hydroxychloroquine 6.5mg/kg twice a day for1day then 3.2mg/kg twice a day for 4 days.</li> </ul> </li> <li>Tabs Vitamin C ; <ul> <li>month to 4 years – 125-250 mg daily in one or two divided doses</li> <li>5-12 years – 250 - 500mg in one – two divided doses</li> </ul> </li> </ul>
Moderate COVID-19 - Pneumonia	<ul> <li>Patient with pneumonia and no signs of severe pneumonia.</li> <li>Child with non-severe pneumonia has cough or difficulty breathing + fast breathing: fast breathing (in breaths/min): &lt;2 months, ≥60; 2–11 months, ≥50; 1–5 years, ≥40 and no signs of severe pneumonia</li> <li>Adults have chest pain, fast breathing of 20 breath per minute or more but have normal SpO2 in room air. There may signs on Chest x-ray</li> </ul>	<ul> <li>ADULTS AND CHILDREN &gt; 12 YEARS <ul> <li>Start tabs Azithromycin 500mg once daily for 5 days</li> <li>OR Tabs Amoxicillin 500mg TDS for 1 week</li> </ul> </li> <li>Only If ECG and Electrolytes (Magnesium and Potassium) are normal, Start tabs Hydroxychloroquine 400mg twice a day for1day then 200mg twice a day for 4 days.</li> <li>Tabs Vitamin C 500mg twice a day for 14 days</li> <li>Tabs Zinc 20mg once daily for 14 days</li> <li>CHIDREN &lt; 12 years</li> <li>&lt; 5 years</li> <li>Give oral amoxicillin dispersible tabs (DT) 40 mg/kg every 12 hours for 5 days <ul> <li>2 - 12 months 250 mg (1 tab) every 12 hours for 5 days</li> <li>- 1-3 years 500 mg (2 tabs) every 12 hours for 5 days</li> <li>- 3-5 years 750 mg (3 tabs) every 12 hours for 5 days</li> </ul> </li> </ul>

		<ul> <li>Above 5 years <ul> <li>Amoxicillin 500 mg-1 g every 8 hours for 5 days</li> <li>Tabs Zinc 20mg once daily for 14 days( &lt; 6 months 10 mg once daily for 14 days)</li> <li>Preferably use dispersible tablets in younger children</li> <li>Only If ECG and Electrolytes (Magnesium and Potassium) are normal,Start tabs</li> <li>Hydroxychloroquine 6.5mg/kg twice a day for1day then 3.2mg/kg twice a day for 4 days.</li> <li>Tabs Vitamin C ;</li> <li>month to 4 years – 125-250 mg daily in one or two divided doses</li> <li>5-12 years – 250 - 500mg in one –two divided doses</li> </ul> </li> </ul>
Monitoring for Mild	-Temperature, mental state, heart rate, res	spiratory rate, blood pressure at least 2 to 3 times a day
and Moderate	-Review the laboratory and imaging resu	Its done at baseline and repeat if indicated or clinical deterioration
	- DO KI-PCK test at day 14 and 16	
Severe COVID-19	Adolescent or adult: fever or	ADULTS and CHIDLREN >12 YEARS
Comment D	suspected respiratory infection, plus	• Immediately give oxygen therapy if hypoxemia (SPO <sub>2</sub> $<$ 92% on room air). Target SPO <sub>2</sub>
- Severe Pneumonia	one of respiratory rate $>30$ breaths/min,	>92%-96%. Refer to annex 3.0 for more details
	severe respiratory discuss, or SpO2 <90% on room air.	• Unly If EUG and Electrolytes (Magnesium and Potassium) are normal, Start/continue tabs hydroxychloroquine 400mg twice a day for 1 day then 200mg twice a day for 4 days
		<ul> <li>Start/continue tabs Azithromycin 500mg once a daily for 5 days</li> </ul>
	<b>Child:</b> with cough or difficulty in	<ul> <li>Start tabs Augmentin 625mg twice a day for 7 days if the patient is able to take orally OR</li> </ul>
	breathing, plus at least one of the	IV Ceftriaxone 2g once a day for 7 days
	following: central cyanosis or SpO2	(Augmentin or Ceftriaxone may be changed as guided by culture and sensitivity results)
	<90%; severe respiratory distress (e.g.	• Tabs vitamin C 500mg three times a day for 14 days
	grunting, very severe chest in drawing); signs of pneumonia with a general	• Tabs Zinc 20 mg daily for 14 days
	danger sign: inability to breastfeed or	CHILDDEN $< 12$ months
	drink, lethargy or unconsciousness, or	Give intravenous ampicillin (or benzyl penicillin) and gentamicin
	convulsions.	• Ampicillin 50 mg/kg IV every 6 h for at least 5 days.
	Other signs of pneumonia in children	• Gentamicin 7.5 mg/kg IM or IV once a day for at least 5 days.
	may be present: chest in drawing, fast	If not better ;
	breaking (in breakins/min) : $<2$ months, $>60: 2-11$ months, $>50: 1.5$ years	- Ceftriaxone 1 g IV or IM every 24 hours
	$\geq 00, 2-11$ monules, $\geq 50, 1-5$ years, $\geq 40.2$	- Child: 50 mg/kg per dose (max: 1 g)
	- 10.2	Adjuctive Therapy

	The diagnosis is clinical; chest imaging can exclude complications.	<ul> <li>-Tabs Zinc 20mg once daily for 14 days( &lt; 6 months 10 mg once daily for 14 days)</li> <li>Preferably use dispersible tablets in younger children</li> <li>-Only If ECG and Electrolytes (Magnesium and Potassium) are normal,Start tabs</li> <li>Hydroxychloroquine 6.5mg/kg twice a day for1day then 3.2mg/kg twice a day for 4 days.</li> <li>Tabs Vitamin C ;</li> <li>1 month to 4 years – 125-250 mg daily in one or two divided doses</li> <li>5-12 years – 250 - 500mg in one –two divided doses</li> </ul>
- Sepsis	Adults: life-threatening organ dysfunction caused by a dysregulated host response to suspected or proven infection, with organ dysfunction*. Signs of organ dysfunction include: altered mental status, difficult or fast breathing, low oxygen saturation, reduced urine output, fast heart rate, weak pulse, cold extremities or low blood pressure, skin mottling, or laboratory evidence of coagulopathy, thrombocytopenia, acidosis, high lactate or hyperbilirubinemia. Children: suspected or proven infection and $\geq 2$ Systemic Inflammatory Response Syndrome (SIRS) criteria (Fever of more than 38°C or less than 36°C, Heart rate of more than 90 beats per minute, Respiratory rate of more than 20 breaths per minute or arterial carbon dioxide tension (PaCO <sub>2</sub> ) of less than 32 mm Hg, Abnormal white blood cell count (>12,000/µL or < 4,000/µL or	<ul> <li>A: ADULTS:</li> <li>Give empirical IV antimicrobials within the first hour. This is crucially important.</li> <li>Give Ceftriaxone (1 gram daily IV) OR ampicillin 2 grams every 6 hours plus gentamicin 7.0 mg/kg IV every 24 hours.</li> <li>Adjunctive Therapy</li> <li>Only If ECG and Electrolytes (Magnesium and Potassium) are normal, Continue/start Tabs hydroxychloroquine 400mg twice a day for1day then 200mg twice a day for 4 Days</li> <li>Tabs Azithromycin 500mg once daily for 5 days</li> <li>Tabs Vitamin C 500mg via nasogastric tube (NGT).</li> <li>Tabs Zinc 20mg daily for 7 days or more</li> <li>B: CHILDREN&lt;12</li> <li>Start the child immediately on antibiotics.</li> <li>Give IV ampicillin at 50 mg/kg every 6 h plus IV gentamicin 7.5 mg/kg once a day for 7–10 days; alternatively, give ceftriaxone at 80–100 mg/kg IV once daily over 30–60 min for 7–10 days.</li> <li>When staphylococcal infection is strongly suspected, give flucloxacillin at 50 mg/kg every 6 h IV plus IV gentamicin at 7.5 mg/kg once a day.</li> <li>The therapy should be modified according to culture and sensitivity results.</li> <li>Adjuctive Therapy</li> <li>-Tabs Zinc 20mg once daily for 14 days (&lt; 6 months 10 mg once daily for 14 days )</li> <li>Preferably use dispersible tablets in younger children</li> </ul>

>10% immature [band] forms) of which	<ul> <li>-Only If ECG and Electrolytes (Magnesium and Potassium) are normal, Start tabs</li></ul>
one must be abnormal temperature or	Hydroxychloroquine 6.5mg/kg twice a day for1day then 3.2mg/kg twice a day for 4
white blood cell count.	days. <li>- Tabs Vitamin C ;</li> <li>1 month to 4 years – 125-250 mg daily in one or two divided doses</li> <li>5-12 years – 250 - 500mg in one –two divided doses</li>

#### **Monitoring for Severe**

Oxygen saturation (hourly, if stable 2-4 hrly), heart rate, respiratory rate, respiratory distress, blood pressure, ACVPU (alert, confused, responsive to verbal or pressure stimuli, unconscious) 2-4 hrly, blood sugar 8hrly or more frequently if abnormal, urine output.

- Review the laboratory and imaging results done at baseline and repeat if indicated or If clinical deterioration
- Do RT- PCR when patient is better- at least fever free for 3 days since onset of severe disease. If test is positive, repeat after 7 days.

<ul> <li>Acute Respiratory Distress Syndrome (ARDS)</li> </ul>	<ul> <li>Patient continues to show the following signs despite receiving maximum oxygen flow rate using a face mask with a reservoir bag.</li> <li>Rapid progression of severe respiratory distress:</li> <li>Severe shortness of breath</li> <li>Inability to complete full sentences</li> <li>Tachypnoea</li> <li>Use of accessory muscles of respiration</li> <li>Cyanosis (very severe)</li> </ul>	<ul> <li>Management of ARDS needs to be done in an intensive care unit setting with appropriate facility and medical expertise.</li> <li>A: Recognize severe hypoxemic respiratory failure when a patient with respiratory distress is failing standard oxygen therapy.</li> <li>This may manifest as patients continuing to have increased work of breathing or hypoxemia even when oxygen is delivered via a face mask with reservoir bag (flow rates of 10-15 L/min, which is typically the minimum flow required to maintain bag inflation; FiO2 0.60-0.95).</li> <li>B: IF trained and experienced provider (anesthesiologist / critical care specialist) is present, endotracheal intubation should be performed IMMEDIATELY using airborne precautions.</li> <li>Due to the fact that patients with ARDS, especially young children or those who are obese or pregnant, may de-saturate quickly during intubation, there is need to take precaution before intubation. Pre-oxygenate with 100% FiO2 for 5 minutes, via a face mask with reservoir bag, bag-valve mask*, HFNO*, or NIV* prior to a rapid sequence intubation. (*requires airborne precautions)</li> <li>C: Implement mechanical ventilation using lower tidal volumes (4–8 ml/kg predicted body weight, PBW) and lower inspiratory pressures (plateau pressure &lt;30 cmH2O).</li> <li>D: In patients with severe ARDS, prone ventilation for &gt;12 hours per day is recommended and application of prone ventilation is strongly recommended for adult and pediatric patients with severe ARDS. REQUIRES sufficient human resources and expertise to be performed safely</li> <li>E: Use of a conservative fluid management strategy for ARDS patients without tissue hypo perfusion is strongly recommended to shorten the duration of ventilation.</li> <li>NOTE:</li> <li>High-flow nasal oxygen (HFNO) or non-invasive ventilation (NIV) should only be used in selected patients with hypoxemic respiratory failure. The risk of treatment failure is high in patients with COVID-19 treated with NIV, and patients treated with either HFNO or NIV sho</li></ul>
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Septic shock AD Pers resu main lacta CH thre diag		ADULTS ; Persisting hypotension despite volume resuscitation, requiring vasopressors to maintain MAP ≥65 mmHg and serum lactate level >2 mmol/L. CHIDLREN: The presence of all three clinical criteria required to diagnose shock: - delayed capillary refill > 3 sec,	<ul> <li>Start IV infusion of norepinephrine (4mg in 50mls of normal saline) at 12micrograms/min and titrate to effect, maintain at 2-4mcg/min. IV epinephrine (adrenaline 2mg in 50mls of Normal saline) can be used as an alternative or second line vasopressor.</li> <li>Epinephrine infusion at 5-15mcg/min can be added to norepinephrine in case of refractory shock.</li> <li>If no response to vasopressor therapy consider ECHO to assess cardiac function or add dobutamine (250mg in 50mls of Normal saline) at 2-20mcg/kg/min.</li> </ul>			
		- cold extremities, and				
		- weak and fast pulse.				
		- or, frank hypotension (age- related SBP or MAP				
Age			SBP			
		< 1 month		<50		
		1-12 months		<70		
		1-12 years		70 + (2x  age)		
>12years			< 90			
Monit			Monito	ring for Critically ill ;		
•	Clinician monito	oring (availability of a doctor or nurse at	all tim	les)		
•	Continuous monitoring of ECG, blood pressure, SPO2, capnography and temperature.					
•	Review the test results daily or whenever necessary				no non oct often 7 dans	
•	DO KI-PCK Wh	en patient is better- at least lever free fo	r 3 day	's since onset of critical liness. If test is positi for aritically ill COVID 10 patients	ve, repeat after 7 days	
_ (	Adjunctive Therapy for critically ill COVID-19 patients					
- 7	Tabs Azithromycin 500mg once daily for 5 days					
- I	· IV Piperacillin + Tazobactam 4.5gms 8hrly for 5-7 days					
	(antibiotics may be changed as guided by culture and sensitivity results or PCT)					
- ]	Tabs Vitamin C 500mg via nasogastric tube (NGT).					
- I	IV Thiamine 200mg 12hrly for 7 days then change to tabs via NGT if still required					
- ]	Tabs Zinc 20mg daily for 7 days or more					
- 5	Subcutaneous low molecular weight heparin 40mg (adjust for obese patients) twice daily for 7 days or more if sepsis induced coagulopathy (SIC) score $\geq$ 4, D-					
I	Dimer > 6 fold of upper limit of normal, cytokine storm syndrome, multi-organ failure. If contraindicated, use pneumatic compression devices					

IV fluids should be given conservatively as per ICU protocols or as per discretion of clinician if presence of dehydration. (Total IV fluid + NGT should total 2.5L/24 hours if no dehydration)

Start atorvastatin 40mg once daily or rosuvastatin 20mg once a day if known cardiovascular disease or diabetes (do not give if creatine phosphokinase (CPK)  $\geq$  500 OR ALT >x3 upper limit of normal)

#### CAUTION!

**1**-Do not use hypotonic crystalloids, starches, or gelatins for resuscitation.

2- Fluid resuscitation may lead to volume overload, including respiratory failure and caution should be exercised in patients with SARI especially in resource-limited setting where ventilation is not available. If there is no response to fluid loading and signs of volume overload appear), then reduce or discontinue fluid administration.

3- If fever (≥380C), give IV Paracetamol 1gm x 3 a day for maximum 3 days then tablets if still required

Do not give NSAIDS (Ibuprofen, Aspirin, Indomethacin, Piroxicam etc.)

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Anticipated Outcome	Intervention			
Reduce days of	- Use weaning protocols that include daily assessment for readiness to breath spontaneously			
invasive mechanical	- Minimize continuous or intermittent sedation targeting specific titration endpoints (light sedation unless contraindicated) or with			
ventilation	daily interruption of continuous sedative infusions			
Reduce incidence of	- Oral intubation is preferred to nasal intubation in adolescents and adults			
ventilator associated	- Keep patient in semi-recumbent position (head of bed elevation 30-40 degrees)			
pneumonia	- Use a closed suctioning system periodically drain and discard condensate in tubing			
	- Use a new ventilator circuit for each patient once patient is ventilated, change circuit if it is soiled or damaged but not routinely			
	- Change heat moisture exchanger when it malfunctions, when soiled or every 5-7 days			
Reduce incidence of	- Use pharmacological prophylaxis (low molecular-weight heparin or heparin 5000 units subcutaneously once or twice daily in			
venous	adolescents and adults without contraindications. For those with contraindications, use mechanical prophylaxis (intermittent			
thromboembolism	pneumatic compression devices)			
Reduce incidence of	- Use a checklist with completion verified by a real-time observer as reminder of each step needed for sterile insertion and as a			
catheter related	daily reminder to remove catheter if no longer needed			
bloodstream infection				
Reduce incidence of	- Give early enteral nutrition (within 25-48 hours of admission			
stress ulcers and	- Administer histamine-2 receptor blocker or proton pump inhibitors n patients with risk for GI bleeding. Risk factors for			
gastrointestinal (GI)	gastrointestinal bleeding include mechanical ventilation for >48 hours, coagulopathy, renal replacement therapy, liver disease,			
bleeding	multiple comorbidities and higher organ failure scores			

# 4.3 Prevention of COVID-19 complications in critically ill Patients

# 4.4 Discharge criteria for COVID-19 infection

Case category	Time to perform Discharge PCR1	Time to perform Discharge PCR2	Action required
Asymptomatic cases	At <b>14 days</b> after initial confirmed laboratory tests	24-72 hours after Discharge PCR1	Discharge if both tests are negative
Mild symptomatic cases	At <b>14 days</b> after symptoms onset	<b>24-72</b> hours after Discharge PCR1	Discharge if both tests are negative
Severe Symptomatic Cases	<ol> <li>At 14 days after symptoms onset AND</li> <li>Patient has been fever free for 72 hours (without antipyretics).</li> <li>Patient's respiratory symptoms have markedly improved.</li> </ol>	<b>24-72</b> hours after Discharge PCR1	Discharge if both tests are negative <b>PLUS</b> Patient is fever free for 72 hours (without anti- pyretics) Patient's respiratory symptoms have markedly improved.

Note

• Patients who Test positive at either the Discharge PCR1 or Discharge PCR2, should continue with isolation.

And a 3<sup>rd</sup> repeat test (discharge PCR3) should take place 7 days later (to make 21 days in total), followed by a 4<sup>th</sup> repeat test (discharge PCR4) at 24-72 hours later. If the patient tests negative on both Discharge PCR3 and Discharge PCR4 tests, he/she should be discharged.

• If the patient tests positive on Discharge PCR3 or Discharge PCR4, he/she should continue in isolation for another 7 days (to make 28 days in total), at the end of which another two consecutive PCR tests will be performed. If the patient tests negative in two consecutive PCR tests he/she should be discharged.

This guidance is subject to change should testing supplies become limited or new data becomes available

#### 4.5 Recommendation for follow up

Patients should be followed up one week after discharge, preferably by phone. The patient should be cautioned to return to the health facility in case any symptoms return. Psychosocial Support should continue for as long as needed.

#### 5.0 Management of COVID-19 in designated locations outside of health facilities.

Cases may come to the attention of VHTs, district surveillance teams, or other community members. The algorithm in Appendix xx provides a guide for lay providers and surveillance officers to identify suspect cases and act according to the severity of symptoms.

The number of confirmed COVID-19 non-severe cases may overwhelm the health facilities capacity to isolate (thresholds 2 and 3 above). As a part of the plan for surge capacity, other designated facilities can be used for diagnostic evaluation and treatment of COVID-19.

There is a need for a plan to identify and support secondary isolation sites such as community facilities (e.g. schools, churches, stadium, gymnasium, hotel or tent). These sites may be used to manage non-severe, non-high risk cases, and could be turned into health facility overflow sites for higher-risk patients currently with mild disease should the need arise. Potential sites will be designated by the district task force as guided by the National Task Force.

#### 5.1 Guiding principles for other COVID-19 designated isolation sites.

The designated site should meet the following minimum requirements;

- 1. Proximity to a health facility with readily available transport
- 2. Ability to monitor case progression i.e. Human resources in a recommended ratio of 100 patients: 1 health team (A nurse and a nursing aid) and Logistics.
- 3. Transport plan in case of disease progression
- 4. Access to running water, toilets and bathrooms
- 5. Provision of food
- 6. Security personnel
- 7. Psychosocial support for the patients

#### 5.2 Isolation and monitoring while in other designated COVID-19 facilities or at home.

Educate the patient on COVID-19 transmission, IPC measures, and provide guidance on home isolation should the patient not be in a position to get to the facility (appendix 10). If the patient is likely to stay home, it should be advised that:

- There should be NO person in the patient's household in a high-risk group
- The patient should be placed in a separate room if at all possible
- Preferably the patient should have a separate bath room and toilet from the rest of the family.
- There should be a designated adult caregiver.
- A health facility should be within 2 hours reach.
- The patient or caregiver should have immediate access to a functioning telephone
- A source of clean water should be readily available
- The patients should have access to separate toilet/pit latrine if possible
- The home should have a door and a window for adequate cross-ventilation
- Soap (or other hand-hygiene products) should be available

Monitor the patient for danger signs (Section 2.2). If any develop, transfer to the nearest Health Facility with critical care capability. Refer to annex for more guidance.

# 6.0 Patient transportation guidelines

#### Patient preparation for transport.

- Patient escorts will only be allowed if the patient is a minor, advanced pregnancy or unable to provide any specific details e.g. psychiatric patients. Escorts must wear a surgical facemask.
- Ensure that the exit route to the ambulance is cleared of obstacles.
- Inform driver of PUI status, mobility and to don surgical facemask.
- Escort patient to ambulance and load him/her, maintaining social distancing (where possible). Place patient as far back in the ambulance as possible.
- Avoid contact with the patient as far as possible. Direct contact with a suspect or confirmed case should be limited to the least number of personnel possible.
- Personnel not in appropriate PPE should maintain a distance of at least 1 meter from the patient and should wear gloves to guard against infectious agents on the surfaces of objects close to the patient.
- Ensure that all windows of the ambulance remain closed until decontamination commences.
- The driver should open and close doors for the ECPs and patient at scene and at receiving facility.
- The driver should follow appropriate doffing. S/he must dispose of all PPE prior to entering the driver compartment in order to avoid soiling.
- The driver should help with preparing/clearing access route for delivering patient from ambulance to receiving area in the hospital.

#### Patient Assessment and Disposition.

#### Step 1:

- Place the surgical face mask and gloves in front of the patient and show them how to apply it to themselves (where possible).
- If they require additional oxygen, the patient should apply the NPO2 cannula first, then the surgical face mask (N95 is not required) and finally the gloves and tissues for secretion control. Patients should be encouraged to practice hand hygiene and instructed on proper cough etiquette practices.

**<u>Step 2</u>**: Determine the clinical presentation AND risk for aerosolization.

#### **Clinical presentation**:

- Stable: Ambulatory patients presenting with mild symptoms only (e.g. no decreased LOC, walking, intermittent coughing and mild dyspnea)
- Unstable: Non-ambulatory patients with moderate to severe symptoms (e.g. decreased LOC, stretcher required, persistent coughing, require ventilatory support)
- You may use the COVID-19 Severity Scoring Tool (AFEM). (See ANNEXURE D) to assess severity. This tool was developed to inform and not replace clinical decision making in a low resource setting. The tool makes use of basic patient assessments to inform clinical management and patient disposition (receiving facility).

#### Risk for aerosolization:

Low risk:	High risk:
When no aerosolizing procedures are anticipated.	When aerosolizing procedures are anticipated. These include; BVMR ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, Continuous Positive Airway Pressure (CPAP), Bi-phasic Positive Airway Pressure 9BiPAP), Cardiopulmonary Resuscitation (CPR)

- Low risk PPE are recommended when no aerosolizing procedures are anticipated and/or the patient presents clinically stable.
- High risk PPE are recommended for patient in which aerosolizing procedures are anticipated and/or patient present clinically unstable.
- Providers must exercise caution when performing aerosolizing procedures and perform them only if and when medically necessary. It is important to keep procedures for respiratory support up to date with current guidelines.
- To decrease droplet generation, providers should consider metered dose inhalers instead of nebulizers and use a BVM or ventilator with a HEPA filter on the exhalation port.
- If performing aerosol generating procedures, providers should consider having the patient compartment exhaust vent on high during transport.

#### Patient disposition.

- a. Mild / moderate cases (or AFEM tool score 1 4, Annexure C): Patients not requiring supplemental oxygen.
- Can be transported to treatment center with Ambulance type B.
- b. Severe cases (or AFEM tool score 5 7, Annexure C): <u>Patients requiring supplemental oxygen (but no ventilatory support).</u>
- Should be transported to the appropriate treatment centre as advised by the medical control officer (MCO). The Dispatcher should telephonically connect the ECP to the MCO.
- c. Critical cases (or AFEM tool score 8+, Annexure C): Patients requiring supplemental oxygen and ventilatory support.
- Should be transported to a dedicated COVID-19 Intensive Care Unit such as Mulago National Referral Hospital as advised by the MCO. The Dispatcher should telephonically connect the ECP to the MCO.
  - Await contact from dispatcher. You may be required to repeat the case definition and answer additional questions.
  - Keep patient and relatives calm at all times. Gently explain to patient and his/her relatives that he/she meets the initial criteria for COVID-19 testing.

# ANNEXES



#### $Annex \ 1.0: \mbox{ Health facility triage algorithm for COVID19 under conditions of community transmission}$



# Annex 2.0: Infection and Prevention Control Practices

#### Standard IPC precautions for all staff

IPC is a critical and integral part of clinical management of patients and should be initiated at the point of entry of the patient to hospital (typically the Emergency Department). Standard precautions should always be routinely applied in all areas of health care facilities. **Standard precautions include:** 

- Hand hygiene;
- Use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and non-intact skin.
- Prevention of needle-stick or sharps injury;
- Safe waste management;
- Cleaning and disinfection of equipment;
- Cleaning of the environment.

#### Infection prevention and control measures for patients with suspected or confirmed COVID-19 at the health facility

#### a) At triage area:

- Give suspect patient a medical mask and direct patient to separate area, an isolation room if available.
- Keep at least **2 meter distance between suspected patients and other patients**.
- Instruct all patients to cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others.
- Perform hand hygiene after contact with respiratory secretions

#### b) Applying droplet precautions:

Droplet precautions prevent large droplet transmission of respiratory viruses.

- Use a medical mask if working within 2 meters of the patient.
- For suspect cases, place patients in single rooms if available or separate patients by 2m spatial separation.
- 1 m is accepted for confirmed cases incases space is limited
- When providing care in close contact with a patient with respiratory symptoms (e.g. coughing or sneezing), use eye protection (face-mask or goggles).
- Limit patient movement within the institution and ensure that patients wear medical masks when outside their rooms.

#### c) Applying contact precautions

Droplet and contact precautions prevent direct or indirect transmission from contact with contaminated surfaces or equipment (i.e. contact with contaminated oxygen tubing / interfaces).

- Use PPE (medical mask, eye protection, gloves and gown) when entering room and appropriately remove PPE when leaving. If possible, use either disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers).
- If equipment needs to be shared among patients, clean and disinfect between each patient use.
- Ensure that health care workers refrain from touching their eyes, nose, and mouth with potentially contaminated gloved or ungloved hands.

- Avoid contaminating environmental surfaces that are not directly related to patient care (e.g. door handles and light switches).
- Ensure adequate room ventilation.
- Avoid movement of patients or transport.
- Perform hand hygiene.
- d) Apply airborne precautions when performing an aerosol generating procedure
- Ensure that healthcare workers performing aerosol-generating procedures (i.e. open suctioning of respiratory tract, intubation, bronchoscopy, cardiopulmonary resuscitation) use PPE, including gloves, long-sleeved gowns, eye protection and fit-tested particulate respirators (N95 or equivalent, or higher level of protection).
- Whenever possible, use adequately ventilated single rooms when performing aerosol-generating procedures.
- Avoid the presence of unnecessary individuals in the room. Care for the patient in the same type of room after mechanical ventilation commences.

## Annex 2.1 Recommended Personal Protective Equipment for COVID-19.

These guidelines are informed by WHO guidance on PPEs for COVID-19 and institutional experiences in US and the UK.

	PPE	Characteristics and how to Use
1	Eye protection (goggles/Face Shield )	<ul> <li>Face shield or goggles can be used</li> <li>Should adequately protect the healthcare workers conjunctival mucous membranes from splashes</li> <li>Normal reading glasses are not acceptable as PPE for eye protection so a face shield with anti-fog should be worn over the glasses or goggles big enough to cover the glasses</li> <li>Goggles must fit comfortably and securely;</li> <li>Depending on the type of goggles and face shield can be decontaminated and reused.</li> </ul>
2	Mouth and nose protection (surgical \ Medical face mask)	<ul> <li>Healthcare workers must cover the mouth and nose to avoid body fluid splashes and droplet spread.</li> <li>Medical-surgical mask should be fluid-resistant.</li> <li>The mask should be removed safely and disposed appropriately when soiled to avoid transmissions.</li> </ul>
3	Gloves	<ul> <li>Correctly sized latex or nitrile examination gloves should be used to protect hands against both direct and indirect contact.</li> <li>A new pair of gloves should be used for each patient. Remember that for invasive procedures you need sterile gloves.</li> <li>DO NOT touch eyes, nose or mouth areas with gloved hands.</li> <li>Hand washing/rubbing should be done before and after putting on gloves.</li> <li>Double gloving technique should be utilized for all contact with patient under investigation for COVID-19 or patients with confirmed COVID-19.</li> </ul>
4	Body protection (gowns)	<ul> <li>Long-sleeved water-resistant gowns should be used.</li> <li>Non water resistant gowns such as Cotton can be used if the resistant gowns aren't available.</li> <li>This PPE does not need to be sterile, unless used in a sterile environment (e.g. operating room).</li> </ul>

	5	- If the COVID-19 status of the patient is not known (suspect), the gown should be safely removed and disposed of between patients to prevent nosocomial spread.
5	Apron	- Single-use plastic aprons can be used on top of the non-water-resistant gown to provide extra protection to the front part of the body in case of soiling.
6	Respiratory protection (N95 or FFP2)	<ul> <li>The respirator protects from the inhalation of small airborne droplets and particles.</li> <li>Given that the fitting of different types of respirator will vary for each user, the respirator will require a fitting test in order to find the best match of PPE to user.</li> <li>A respirator should always be used when performing aerosol-generating procedures in a COVID-19 patient.</li> <li>The mask should be removed safely and disposed appropriately when soiled to avoid transmissions.</li> <li>Extended use should not extend beyond a day to reduce risk of transmissions.</li> <li>Hand washing/rubbing is required in case the outside surface is touched.</li> </ul>
7	Heavy-duty rubber gloves	<ul> <li>Cleaners, laundry workers and healthcare workers when handling infectious waste should wear heavy duty rubber gloves over nitrile gloves.</li> <li>Movement of human remains or performing environmental cleaning activities also requires the use of heavy-duty rubber gloves.</li> </ul>
	Boots	<ul> <li>All Clinical staff, cleaners and visitors entering designated isolation units for COVID-19 should wear gumboots</li> <li>Gumboots should be disinfected in a footbath before exiting the patient care area. Gumboots should not be taken home.</li> </ul>

RFW)	Closed shoes are recommended in the rest of the healthcare settings as part of standard precautions	
Before exiting isolation area, carefully remove PPE and dispose in waste containers in a designated doffing area.		

- Place reusable equipment in bin for decontamination such as Face shields, Goggles and Heavy Duty gloves. ٠
- Do not recycle any single-use PPE such as Gloves, masks, gowns and aprons
  Remove PPE under supervision of a trained buddy.

# Annex 2.2: Rational Use of PPE

This were adopted in guidance from WHO <u>https://apps.who.int/iris/bitstream/handle/10665/331498/WHO-2019-nCoV-IPCPPE\_use-2020.2-eng.pdf</u>

Setting	Target personnel or patients	Activity	Type of PPE or procedure		
Healthcare facilities					
Inpatient facilities					
Patient room	Healthcare workers	Providing direct care to COVID-19 patients.	Medical mask Gown Gloves Eye protection (goggles or face shield). Gum boots		
		Aerosol-generating procedures performed on COVID-19 patients.	Respirator N95 or FFP2 standard, or equivalent. Gown Gloves Eye protection Apron		
	Cleaners	Entering the room of COVID-19 patients.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Gum Boots		
	Visitors	Entering the room of a COVID-19 patient	Medical mask Gown Gloves Eye protection (goggles or face shield). Gum boots / Shoe covers		
Other areas of patient transit (e.g., wards, corridors).	All staff, including healthcare workers.	Any activity that does not involve contact with COVID-19 patients.	No PPE required		
Triage	Healthcare workers Preliminary screeni involving direct con		vening not contactMaintain spatial distance of at least 2 m. Medical mask		
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	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 2 m. Provide medical or Cloth mask to the patient ( if tolerated )		
	Patients without respiratory symptoms.	Any	Maintain spatial distance of at least 2 m. No PPE required		
Laboratory	Lab technician	Collection and Manipulation respiratory samples.	Medical mask Gown Gloves Eye protection (if risk of splash)		
Administrative areas	All staff, including healthcare workers.	Administrative tasks that do not involve contact with COVID-19 patients.	No PPE required		

Outpatient facilities			
Consultation room	Healthcare workers	Physical examination of patient with respiratory symptoms.	Medical mask Gown Gloves Eye protection
		Physical examination of patients without respiratory symptoms.	PPE according to standard precautions and risk assessment.
	Patients with respiratory symptoms.	Any	Provide medical or cloth mask (if tolerated.)
	Patients without respiratory symptoms.	Any	No PPE required

	Cleaners	After and between consultations with patients with respiratory symptoms.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Gum Boots or closed work shoes
Waiting room	Patients with respiratory symptoms.	Any	Provide medical mask if tolerated. Immediately move the patient to an isolation room or separate area away from others; if this is not feasible, ensure spatial distance of at least 2 m from other patients.
	Patients without respiratory symptoms.	Any	No PPE required
Administrative areas	All staff, including healthcare workers.	Administrative tasks	No PPE required
Triage	Healthcare workers	Preliminary screening not involving direct contact	Maintain spatial distance of at least 2 m. Provide medical or Cloth mask to the patient (if tolerated)
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 2 m. Provide medical or Cloth mask to the patient ( if tolerated )
	Patients without respiratory symptoms.	Any	Maintain spatial distance of at least 2 m. No PPE required
Community	-	-	
Home	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 2 m. Provide medical mask if tolerated,
	Caregiver	Entering the patient's room, but not providing direct care or assistance.	Medical mask

	Caregiver	Providing direct care or when handling stool, urine or waste from COVID-19 patient being cared for at home.	Gloves Medical mask Apron (if risk of splash)
	Healthcare workers	Providing direct care or assistance to a COVID-19 patient at home	Medical mask Gown Gloves Eye protection Shoe covers
Public areas (e.g., schools, shopping malls, train stations).	Individuals without respiratory symptoms	Any	Maintain spatial distance of at least 2 m. No PPE required

Points of entry			
Administrative areas	All staff	Any	No PPE required
Screening area	Staff	First screening (temperature measurement) not involving direct contact	Maintain spatial distance of at least 2 m. No PPE required
	Staff	Second screening (i.e., interviewing passengers with fever for clinical symptoms suggestive of COVID-19 disease and travel history).	Medical mask Gloves
	Cleaners	Cleaning the area where passengers with fever are being screened.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
Temporary isolation area	Staff	Entering the isolation area, but not providing direct assistance.	Maintain spatial distance of at least 2 m. Medical mask Gloves

	Staff, healthcare workers	Assisting passenger being transported to a healthcare facility.	Medical mask Gown Gloves Eye protection
	Cleaners	Cleaning isolation area	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
Ambulance or transfer vehicle	Healthcare workers	Transporting suspected COVID-19 patients to the referral healthcare facility.	Medical mask Gowns Gloves Eye protection
	Driver	Involved only in driving the patient with suspected COVID-19 disease and the driver's compartment is separated from the COVID-19 patient.	Maintain spatial distance of at least 2 m. No PPE required
		Assisting with loading or unloading patient with suspected COVID-19 disease.	Medical mask Gowns Gloves Eye protection
		No direct contact with patient with suspected COVID-19, but no separation between driver's and patient's compartments.	Medical mask
	Patient with suspected COVID-19 disease.	Transport to the referral healthcare facility.	Medical mask if tolerated

Cleaners	Cleaning after and between transports of patients with suspected COVID-19 disease to the referral healthcare facility.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
----------	--	--

## <u>Date of enrolment [\_D\_][\_D\_]/[\_M\_][\_M\_]/[\_2\_][\_0\_][\_Y\_][\_Y\_]</u>

CLINICAL INCLUSION CRITERIA

Proven or sus	spected infection with pathogen of Public Health Interest	
One or more	A history of self-reported feverishness or measured fever of $\geq$ 38oC	□Yes □No
of these	Cough	
during this	Dyspnoea (shortness of breath) OR Tachypnoea*  UYes  No	
illness	Sore throat  Yes  No	
* respiratory	<u>rate <math>\geq</math>50 breaths/min for &lt;1 year; <math>\geq</math>40 for 1-4 years; <math>\geq</math>30 for 5-12 years; <math>\geq</math>20 for</u>	<u>or ≥13 years</u>

## **DEMOGRAPHICS**

 Sex
 Male
 Female
 Not specified
 Date of birth
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DATE OF ONSET AN	ND ADMISSION	N VITAL S	SIGNS (first available	e data at presentation/admission)
Symptom onset (date c	of first/earliest sy	mptom) [_]	D_][_D_]/[_M_][_M_	]/[_2_][_0_][_Y_][_Y_]
Admission date at this	facility [_D_][_	D_]/[_M_]	[_M_]/[_2_][_0_][_Y	_][_Y_] <b>Temperature</b> [][
].[	]°C He	art rate [	_][_][_]beats/min <b>Re</b>	spiratory rate [][
]breaths/min				
<b>BP</b> [][][]	(systolic) [ ][	][	](diastolic) mmHg	Severe dehydration  Severe dehydration
Unknown	-		-	-
Oxygen saturation: [	][]% on [	∃room air	$\Box$ oxygen therapy $\Box$ U	nknown AVPU (circle one)
<b>Glasgow Coma Score</b>	(GCS /15) [ ][	]	<b>Malnutrition</b> $\Box$ Yes	□No □Unknown
Mid-upper arm circun	nference [][_	][]mr	n <b>Height:</b> [ _] [ _]	[]cm <b>Weight</b> : [][][]kg
			-	

<b>CO-MORBIDITIES</b> (existing prior to admission) (Unk = Unknown)						
Chronic cardiac disease	$\Box$ Yes	□No	Diabetes	$\Box$ Yes $\Box$ No		
<u>(not hypertension)</u>	<u> </u>	<u>Jnk</u>		$\Box Unk$		
Hypertension	$\Box \underline{Y}es$	$\Box$ No	Current smoking	$\Box$ Yes $\Box$ No		
	<u> </u>	J <u>nk</u>		$\Box Unk$		
Chronic pulmonary disease	$\Box \underline{Yes}$	□No	Tuberculosis	$\Box$ Yes $\Box$ No		
	<u> </u>	<u>Jnk</u>		$\Box Unk$		
Asthma	$\Box$ Yes	$\Box$ No	Cancer	$\Box$ Yes $\Box$ No		
		J <u>nk</u>		Unk		
Chronic kidney disease	$\Box \underline{Yes}$	□No	Other	$\Box$ Yes $\Box$ No		
	<u> </u>	J <u>nk</u>		Unk		
Chronic liver disease	$\Box$ Yes	□No	If yes, specify:			
	<u> </u>	<u>Jnk</u>				
Chronic neurological	□ Yes	□No				
<u>disorder</u>	$\Box U$	<u>Jnk</u>				
HIV  Yes-on ART Yes-no	t on ART	□No □	Unknown			

# PRE-ADMISSION & CHRONIC MEDICATIONAny medication in the last 14 days prior to<br/>admission?

SIGNS AND SYMPTOMS ON ADMISSION (Unk = Unknown)					
History of fever	□ <u>Yes □No □Unk</u>	Lower chest wall	$\Box$ Yes $\Box$ No		
		<u>indrawing</u>	$\Box$ Unk		
Cough	□ <u>Yes □No □Unk</u>	Headache.	$\Box \underline{\text{Yes}} \Box \underline{\text{No}}$		
with sputum production	$\Box \underline{\text{Yes}} \sqcup \underline{\text{No}} \sqcup \underline{\text{Unk}}$	Altered	$\Box \underline{\text{Yes}} \sqcup \underline{\text{No}}$		
with he are anticia		<u>consciousness/confusion</u>	$\square Unk$		
with naemoptysis	$\Box \underline{\mathbf{Y}} \underline{\mathbf{es}} \Box \underline{\mathbf{NO}} \Box \underline{\mathbf{O}} \underline{\mathbf{nk}}$	Seizures	$\Box \underline{\text{res}} \Box \underline{\text{ho}}$		
Sore throat	□ <u>Yes</u> □No □Unk	Abdominal pain	□ <u>Yes</u> □No		
		· · · · · · · · · · · · · · · · · · ·	$\underline{\Box Unk}$		
Runny nose	$\Box$ Yes $\Box$ No $\Box$ Unk	Vomiting / Nausea	$\Box \underline{\text{Yes}} \sqcup \underline{\text{No}}$		
(rhinorrhoea).		Diamhaaa	$\frac{\Box U n K}{\Box N a}$		
w neezing	$\Box$ Yes $\Box$ INO $\Box$ UNK	Diarrnoea	$\square \underline{\text{Yes}} \square \underline{\text{NO}}$		
Chest pain.	$\Box$ Yes $\Box$ No $\Box$ Unk	<u>Conjunctivitis</u>	$\Box$ Yes $\Box$ No		
Muscle aches	$\Box \underline{\text{Yes}} \sqcup \underline{\text{No}} \sqcup \underline{\text{Unk}}$	<u>Skin rash</u>	$\Box \underline{\text{Yes}} \sqcup \underline{\text{No}}$		
(myalgia)			$\square Unk$		
<u>Joint pain (arthraigia).</u>	$\Box \underline{\mathbf{Y}} \underline{\mathbf{es}} \Box \underline{\mathbf{NO}} \Box \underline{\mathbf{O}} \underline{\mathbf{nk}}$	<u>Skin uicers</u>	$\underline{\square Unk}$		
<u>Fatigue / Malaise</u>	□ <u>Yes</u> □No □Unk	Lymphadenopathy	$\Box \underline{\text{Yes}} \Box \underline{\text{No}}$ $\Box \underline{\text{Unk}}$		
Shortness of breath .	<u>□</u> Yes □No □Unl	Bleeding	$\Box$ Yes $\Box$ No		
	<u> </u>	(Haemorrhage).	$\Box$ Unk		
Inability to walk	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unl}}$	<u>If bleeding: specify site(s):</u>			
Other □Yes □No □Unk If	yes, specify:	1			
MEDICATION Is the p	atient CURRENTLY	receiving any of the following?			
<b>Oral/ fluids?</b> □Yes □No □ U	Jnknown Intrav	z <b>enous fluids?</b> □Yes □No □Unkn	lown		
For Intravenous fluids, if ye	<b>s. Crystalloids</b> □Yes	□No Colloids? □Yes □No			
Antiviral?  Yes No Un	known <b>If yes:</b> □Riba	virin 🗆 Lopinavir/Ritonavir 🗆 Neur	raminidase inhibitor		
Cantingstansid? Neg DNg			alad		
$\frac{\text{Corresteroid:}}{\text{If ves Devemethsoone}} = 1 \text{ es } 100$	$\square \cup \square K \square O \square Y = S,$	1000000000000000000000000000000000000	tisone/ Other? DVes		
$\square$ No					
Antibiotic?  Yes No U	nknown Antifu	<b>Ingal agent?</b>	wn		
Antimalarial agent?  Yes No Unknown If yes, specify:					
ART DILD TLE PI Other Despecify					
Anti-TB drugs  Yes  No	<u>Unknown</u>				
Experimental agent? UYes UNo UUnknown If yes, specify:Non-steroidal					
anti-inflammatory (NSAID) $\Box$ Y es $\Box$ No $\Box$ Unknown					
Angiotensin converting enzyme inhibitors (ACE inhibitors) $\Box$ Yes $\Box$ No $\Box$ Unknown					
SUPPOPTIVE CADE	Is the nationt CUDD	ENTLY receiving any of the fellow	uina?		
SUFFURITVE CAKE	is the patient CUKRI	ENTLI receiving any of the follow	ving:		

ICU or High Depende	ency Unit admission?	Yes 🗆	No 🗆 Unknown					
<b>Oxygen therapy?</b> $\Box$ Yes $\Box$ No $\Box$ Unknown <b>If ves.</b> complete all below								
<b>O2 flow</b> : $\Box$ 1-5 L/min $\Box$ 6-10 L/min $\Box$ 11-15 L/min $\Box$ >15 L/min $\Box$ Unknown (document worst value of the								
day)								
Source of oxygen: DP	iped Cylinder Conce	entrator	Unknown					
Interface: □Nasal prop	ngs 🗆 HF nasal cannula	□Mask	□ Mask with reservoir	□CPAP/NIV mask □Unk	<u>nown</u>			
Non-invasive ventilati	ion? (e.g.BIPAP/CPAP)	□Yes [	$\Box$ No $\Box$ N/A If yes wors	st pressure support				
requiredcm H2o								
Invasive ventilation (A	Any)? $\Box$ Yes $\Box$ No $\Box$ Ur	<u>nknown</u>	Inotropes/vasop	ressors?  QYes  No  Ur	lknown			
<u>If yes, worst SPO2/Fi</u>	<u> D2 ratio of day</u>							
<b>Blood gas done?</b> □Ye	$s \Box No$							
Insert worst values of	<u>'day pH PaO<sub>2</sub>]</u>	PCO <sub>2</sub>	HCO3					
Extracorporeal (ECN	IO) support?	No 🗆 U	Jnknown <b>Prone po</b>	sition?	<u>cnown</u>			
LABORATORY RES	SULTS ON ADMISSIC	<b>)N</b> (*red	cord units if different fi	rom those listed)				
<u>Parameter</u>	Value*	<u>Not</u>	<u>Parameter</u>	<u>Value*</u>	<u>Not</u>			
		<u>done</u>			<u>done</u>			
<u>Haemoglobin (g/L)</u>			<u>Creatinine (µmol/L)</u>					
<u>WBC count (x109/L)</u>			<u>Sodium (mEq/L)</u>					
Haematocrit (%)			Potassium (mEq/L)					
Platelets (x109/L)			Procalcitonin (ng/mL)					
<u>APTT/APTR</u>			<u>CRP (mg/L)</u>					
PT (seconds)			<u>LDH (U/L)</u>					
INR			Creatine kinase (U/L)					
<u>ALT/SGPT (U/L)</u>			<u>Troponin (ng/mL)</u>					
<u>Total bilirubin</u>			ESR (mm/hr)					
<u>(µmol/L)</u>								
AST/SGOT (U/L)			D-dimer (mg/L)					
Urea (BUN) (mmol/L)			Ferritin (ng/mL)					
Lactate (mmol/L)			IL-6 (pg/mL)					

MODULE 2: follow-up (frequency of completion determined by available resources) **Date of follow up** [\_D\_][\_D\_]/[\_M\_][\_M\_]/[\_2\_][\_0\_][\_Y\_][\_Y\_]

VITAL SIGNS (record mo	<u>st abnormal</u>	value betw	<u>een 00:00 to 24:00)</u>			• ·
Temperature		<u>Heart</u>	<u>rate   _   _  _</u>	beats per min	<u>n R</u>	<u>espiratory</u>
rate       breaths/min	<u>BP    </u>		(systolic)	1111	(diastolic	<u>c) mmHg</u>
Severe dehydration	$\square \sqcup Yes \sqcup No$		rn GCS/15	D	Digital Capillar	<u>y refill</u>
$\underline{\text{time}} \ge 2s  \sqcup  \underline{\text{Yes}}  \sqcup  \underline{\text{No}}$		_				/ <b>.</b> .
Oxygen saturation	%	on $\Box$ roon	h air $\Box$ oxygen thera	py ∐Unknov	vn AVPU	(circle
<u>one)</u>						
DAILY CLINICAL FEAT	f <b>URES</b> (Unk	<u> = Unknov</u>	<u>vn)</u>		-	
Cough	$\Box$ <u>Yes</u> $\Box$ No	$\Box$ Unk	Seizures		$\Box$ Yes $\Box$ No	$\Box$ Unk
and sputum production	$\Box$ <u>Yes</u> $\Box$ No	$\Box$ Unk	Vomiting / Nausea	<u>Diarrhoea</u>	$\Box$ Yes $\Box$ No	$\Box$ Unk
Sore throat.	$\Box$ <u>Yes</u> $\Box$ <u>No</u>	$\Box Unk$	Conjunctivitis Myal	l <u>gia</u>	$\Box$ Yes $\Box$ No	$\Box$ Unk
Chest pain Shortness of	$\Box$ <u>Yes</u> $\Box$ <u>No</u>	$\Box Unk$	Other, specify:		$\Box$ Yes $\Box$ No	$\Box$ Unk
breath Confusion	$\Box$ <u>Yes</u> $\Box$ No	$\Box$ Unk			$\Box$ Yes $\Box$ No	$\Box$ Unk
	$\Box$ <u>Yes</u> $\Box$ <u>No</u>	□Unk			$\Box$ Yes $\Box$ No	$\Box$ Unk
LABORATORY RESULT	Γ <b>S</b> (*record ι	units if diffe	erent from those liste	<u>ed)</u>		
Parameter Valu	ue*	No	t Parameter	Value*		Not
		doı	ne			done
Haemoglobin (g/L)			Creatinine (µmo	1/L)		
WBC count (x109/L)			Sodium (mEq/L)	)		
Haematocrit (%)			Potassium (mEq	/L)		
Platelets (x109/L)			Procalcitonin (ng	g/mL)		
APTT/APTR			CRP (mg/L)	2/		$\square$
PT (seconds)			$\frac{U (U/L)}{U (U/L)}$			
INR			Creatine kinase (			
ALT/SGPT (U/L)			Troponin (ng/ml			
Total bilirubin			$\frac{110p01111 (llg/llll}{FSP (mm/br)}$	<u>_)</u>		
(umol/L)						
AST/SGOT (U/L)			D_dimer (mg/L)			
$\frac{\text{AS1/SOOT}(0/L)}{\text{Uron}(PLIN)(mmol/L)}$			Eorritin (ng/mL)			
L actata (mmal/L)			<u>I CIIIIII (IIg/IIIL)</u>			
			<u>IL-0 (pg/IIIL)</u>	a fallouin a 2		
MEDICATION Is the	<u>? patient CUI</u>	KKENILY	receiving any of the	<u>e following:</u>		
$\frac{\text{Oral/ fluids?}}{\text{IIII}}$ Yes $\frac{1}{1}$ No $\frac{1}{1}$	Unknown		venous fluids? U Y es	$\underline{S \sqcup No \sqcup Unkr}$	nown	
For Intravenous fluids, if	<u>yes. Crystall</u>	$\underline{\text{olds}} \sqcup Y es$	$\frac{   \text{No Colloids} ?    Y}{   Y}$	$\underline{es \sqcup No}$		·1 ·2
	<u>Jnknown II y</u>	$\frac{7\text{es:}}{2} \square X$	$\frac{ V r n    Lop nav r/R }{ V n }$	1000000000000000000000000000000000000	<u>raminidase inr</u>	$\square \mathbf{V}$
Immunomodulators : Hyd	iroxychioroq	une : $\Box$ r	es 🗆 No Chioroquine	$\therefore \square I \in \square \square \square \square \square$	Azithromycin	$\Box$ res
$\frac{\Box \text{INO}}{C \text{iven in combination}} \Box \Sigma$	Vac 🗆 No If y	og Which	combination?			
Any additional supplement	$\frac{1}{1} \frac{1}{2} \frac{1}$	es, which	<u>comonation :</u> No Solonium [] Voc [	No Other? D	losso specify	
Any additional supplement	its given: Zh				lease specify	
Continentarial? Vas IN	No 🗆 Unknow	n If you	route: Oral OIntro	wanaya 🗆 Inh	alad	
$\text{Condensite on one of the constant of the$	$\neg V_{\text{eff}} \Box N_{\text{eff}} N_{\text{eff}}$	In II yes,	nisolono?	No Hydrocor	<u>iaicu</u> tisono/ Othor	2□□Ves
		<u>ieury preu</u>				$\Box \Box \Box \Box \Box \Box \Box$
$\frac{\Box NO}{A ntibiotic} = \Box Ves \Box NO \Box$	Unknown		Antifungal	agant? DVas	No DUnkn	own
$\mathbf{ART}  \Box \text{ TI } \Box  $	PI Other	specify	Annungal			<u> </u>
Anti-TB drugs TVes TNc	$\square$					
Antimalarial agent? $\Box Y_e$	$\sim \square No \square Un$	known	If ves. specify.	Es	xperimental a	gent?
Yes No Unknown	If v	ves. specify	<u></u>		-por montun a	<u></u>
Non-steroidal anti-inflam	natory (NSA	$(ID) \square Yes$	<u>No</u> Unknown			
Angiotensin converting en	zvme inhibit	tors (ACE	inhibitors) []Yes [	No []Unknov	wn	
Angiotensin II recentor bl	ockers (ARF	$\mathbf{Ss}$ ) $\Box$ Yes $\Box$	$\Box$ No $\Box$ Unknown			

# **SUPPORTIVE CARE** Is the patient CURRENTLY receiving any of the following?

 ICU or High Dependency Unit admission?
 Yes
 No
 Unknown

 Date of ICU/HDU admission [
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 Unknown

 ICU/HDU discharge date
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 ICU/HDU discharge date
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 Unknown

**Oxygen therapy?** Yes No Unknown **If yes**, complete all below

**O2 flow**:  $\Box$  1-5 L/min  $\Box$  6-10 L/min  $\Box$  11-15 L/min  $\Box$ >15 L/min  $\Box$  Unknown (document worst value of the day)

Source of oxygen: 
Piped 
Cylinder 
Concentrator 
Unknown

**Interface**:  $\Box$  Nasal prongs  $\Box$  HF nasal cannula  $\Box$  Mask  $\Box$  Mask with reservoir  $\Box$  CPAP/NIV mask  $\Box$  Unknown Non-invasive ventilation? (*e.g.BIPAP/CPAP*)  $\Box$  Yes  $\Box$  No  $\Box$ N/A.

If yes Worst pressure support required.....cm H2o

Invasive ventilation (Any)? □Yes □No □ Unknown Inotropes/vasopressors? □Yes □No □Unknown If yes, worst SPO<sub>2</sub>/FiO<sub>2</sub> ratio of day

Blood gas done? 

Yes 
No

Insert worst values of day pH..... PaO2.....PCO2......HCO3......

 Extracorporeal (ECMO) support?
 Yes
 No
 Unknown
 Prone position?
 Yes
 No

 Unknown Renal replacement therapy (RRT) or dialysis?
 Yes
 No
 Unknown

# 

MODULE 3: complete at discharge/death

## DIAGNOSTIC/PATHOGEN TESTING

**Chest X-Ray** Yes No Unknown **If Yes: infiltrates present?** Yes No Unknown

Was pathogen testing done during this illness episode?YesNoUnknownIf yes, complete all below:Coronavirus:PositiveNot doneIf positive:MERS-CoVSARS-CoV-2Other

**Other respiratory pathogen:** Positive Negative Not done **If positive,** specify

**Falciparum malaria:** 
Desitive Degative Not done Non-falciparum malaria:

□Positive □Negative □Not done

**HIV:** 
Dositive 
Negative 
Not done

COMPLICATIONS: At any time during hospitalisation did the patient experience:										
Shock	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	known Bacteraemia	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
Seizure	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	Iknown Bleeding	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
Meningitis/Encephalitis	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	known Endocarditis	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u><u>n</u></u>							
Anaemia	$\Box \underline{\text{Yes}} \ \Box \underline{\text{No}} \ \Box \underline{\text{Ur}}$	known Myocarditis/Pericarditis	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
Cardiac arrhythmia	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	known Acute renal injury	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
Cardiac arrest	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	known Pancreatitis	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
<u>Pneumonia</u>	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	known Liver dysfunction	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
<u>Bronchiolitis</u>	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	<u>known</u> Cardiomyopathy	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
			<u>n</u>							
Acute Respiratory Distress	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Ur}}$	<u>Iknown</u> Other	$\Box \underline{\text{Yes}} \Box \underline{\text{No}} \Box \underline{\text{Unknow}}$							
Syndrome		If Yes, specify	<u>n</u>							
MEDICATION: While hospital	ized or at discharge, v	vere any of the following admin	<u>nistered ?</u>							
Oral/ fluids?   Yes  No  Unki	nown Intravenou	s fluids?  Yes No Unknow	<u>n</u>							
For Intravenous fluids, if yes. C	<u>rystalloids <math>\Box</math> Yes <math>\Box</math> No</u>	$\frac{Olloids?}{Olloids} \subseteq \frac{Olloids}{Olloids}$								
Antiviral? UYes UNo UUnkno	wn <b>If yes:</b> $\Box$ Ribavirin	□Lopinavir/Ritonavir □Neuram	inidase inhibitor							
	TI TO		1							
	nknown <b>If yes,</b> route	$: \Box Oral \Box Intravenous \Box Inhaled$	$\frac{1}{2}$							
If yes, Dexamethasone? U Yes		one: L L Yes L No Hydrocortiso	<b>ne/ Other ?</b> $\Box \Box \Upsilon es \Box No$							
$\begin{array}{c c} \mathbf{I}  \mathbf{Antirungal agent} \\ \mathbf{A}  \mathbf{D} \\ \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{E}  \mathbf{D}  \mathbf{O} \\ \mathbf{A}  \mathbf{D} \\ \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{E}  \mathbf{D}  \mathbf{O} \\ \mathbf{A}  \mathbf{D} \\ \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{E}  \mathbf{D}  \mathbf{O} \\ \mathbf{A}  \mathbf{D} \\ \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{E}  \mathbf{D}  \mathbf{D}  \mathbf{O} \\ \mathbf{A}  \mathbf{D} \\ \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{D}  \mathbf{T}  \mathbf{E}  \mathbf{D}  \mathbf{D}  \mathbf{O} \\ \mathbf{D}  \mathbf{D} $	<u>buunknown II ye</u>	es, specify:								
$\begin{array}{c c} \mathbf{Anti} & \Box & \Pi \\ \mathbf{ILD} & \Box & \Pi \\ \mathbf{ILE} & \Box & \Pi \\ \mathbf{Anti} & \mathbf{TB} & \mathbf{drugs} \\ \hline \mathbf{Ves} & \Box \\ \mathbf{Ns} & \Box \\ \mathbf{Ns} \\ \hline \mathbf{Ns} \\ \mathbf{Ns} \\$	her 🗆 specify									
Antimalarial agent? $\Box V_{ac} \Box N$	n IIInknown	If vec specify:	Experimental agent?							
$\square \text{Ves} \square \text{No} \square \text{Unknown}$	If ves specify.	n yes, speeny.								
Non-steroidal anti-inflammator	<b>v</b> (NSAID) $\Box$ Yes $\Box$ Nc									
1011 Stor Oldar anti-initialinitator	$j (1) \partial I 1 \partial j \Box 1 \partial \beta \Box 1 1 \partial \beta$	$\mu = 0$ manowing $\mu = 0$ specify	•							

SUPPORTIVE CARE: At ANY time during hospitalisation, did the patient receive/undergo:

ICU or High Dependency Unit admission? 

Yes 
No 
Unknown

**Oxygen therapy?** Tyes No Unknown If yes, complete all below

**O2 flow**: D1-5 L/min D6-10 L/min D11-15 L/min D>15 L/min Dunknown (document worst value of the day) **Source of oxygen**: Diped Cylinder Concentrator Unknown

**Interface**: Nasal prongs OHF nasal cannula Mask Mask with reservoir CPAP/NIV mask Unknown

Non-invasive ventilation? (*e.g.BIPAP/CPAP*) \[ Yes \[ No \[ N/A If yes Worst pressure support required.....cm H20

 Invasive ventilation (Any)?
 Yes
 No
 Unknown
 Inotropes/vasopressors?
 Yes
 No
 Unknown

 If yes, worst SPO2/FiO2 ratio of day
 Image: SPO2/FiO2 ratio of day
 Image: SPO2/FiO2 ratio of day
 Image: SPO2/FiO2 ratio of day

Blood gas done? □Yes □No

Insert worst values of day pH..... PaO2.....PCO2......HCO3......

Extracorporeal (ECMO) support? Yes No Unknown If yes, total duration: days Prone

**position?** □Yes □No □ Unknown **If yes,** total duration: days

**Renal replacement therapy (RRT) or dialysis?** Yes No Unknown

**Inotropes/vasopressors?** Yes No Unknown **If yes,** total duration: \_days

**OUTCOME** 

**Outcome:** Discharged alive Hospitalized Transfer to other facility Death Palliative discharge Unknown **Outcome date:** [D][D]/[M][M]/[2][0][Y][Y][Y]

If Discharged alive: Ability to self-care at discharge versus before illness: Same as before illness Worse

□<u>Better</u> □Unknown

### CATEGORIES OF COVID-19 DISEASE SEVERITY BASED ON SYMPTOMS/SIGNS & INVESTIGATIONS

Note which of these factors are present in the patient

	CATEGORY 2	CATEGORY 3	Danger signs CATEGORY 4
<b>CATEGORY 1</b>			
[] Asymptomatic	Any factor(s) in category 1	Severe pneumonia/disease with	[] Obstructed or absent breathing
OR	PLUS Pneumonia with no	need for Oxygen	[] Severe respiratory distress
[] Fever	need for oxygen	[] Respiratory rate >30b/min	(inability to talk, use of accessory muscles of
[] Dry Cough	[] Chest pain	[] Respiratory distress	respiration, flaring of alae- nasi, respiratory rate >30
[] Sore throat	[] Difficulty in breathing	[] Heart rate >110 beats/min	breaths/min, refractory hypoxemia (SPO <sub>2</sub> <92% on
[] Nasal	[] Respiratory rate	[ ] SPO2 ≤92% on room air	O <sub>2</sub> )
Congestion	>24breaths/min	[] Infiltrates/consolidation	[] Blue discoloration of mucous membranes (cyanosis)
[] Headache	[] Productive cough	on CXR/lung ultrasound	[] Refractory shock (systolic <90mmHg)
[] Malaise	[] ±Infiltrates/consolidation	[] Systolic BP <90mmHg	[] Unconscious/ unresponsive
[] Muscle pain	on CXR/lung ultrasound	[] Temperature $\geq 38^{\circ}C$	[] Convulsions
	[] SPO2 $\geq$ 92% on room air	[]Confused, responds to	[ ] Modified NEWS2 score ≥7
		Verbal stimuli, responds to	
		Pressure stimuli	

[ ] Manage as Mild disease if asymptomatic or presence of at least one factor in Category 1

[] Manage as Moderate disease if presence of at least one Category 2 factors

[] Manage as Severe disease if presence of at least one Category 3

[ ] Manage as **Critically ill** if presence of at least one **Category 4** factors

The laboratory results below when available, show the severity or Prognosis of the patient

[] D-dimer >1000ng/ml	[] LDH >245 U/L >0.5 (if available)
[] CPK > x2 upper limit of normal	[ ] Lactate ≥2mmol/L
[] CRP >100	[] Absolute lymphocyte Count <0.8
[] Elevated troponin x3 upper limit of normal	[] Ferritin >300 ug/L
	[] Procalcitonin (PCT)

		An	nex 3.1 Summary of the	e Possible Therapeutic	CS
Therapeutic	Dosage	Recommended	Potential benefit	Potential side	Minimum level of monitoring required to
Hydroxychloroquine (HQ) (+/- azithromycin)	400mg twice a day (x1d), then 200mg twice a day (x4 d)	Mild, moderate, severe, critically ill cases (See Annex 3.0)	Initial low-quality studies suggest potentially improved outcomes, decreased viral replication and shedding. An increasing number of studies, however, report conflicting results and concern for adverse events. High quality RCTs currently underway.	effectsRetinopathyQ-T interval prolongation (Q-T interval prolongation can lead to Torsades de pointes and life- threatening ventricular dysrhythmias)Hypoglycemia (severe)Agranulocytosis; anemia; pancytopenia	administer therapeutic*Baseline electrocardiogram (ECG); baselinelaboratory testing to include K+, Mg+, glucose,renal function tests (BUN/ creatinine) and FBC;baseline and daily review of ophthalmologicsymptomsIf Q-T prolongation observed on ECG, avoidother medicines that cause Q-T prolongation(including azithromycin).If lab result shows that patient is hypoglycemic,hypomagnesemic or hypo-/hyper-kalemic, do notadminister HQ unless glucose, Mg+ and/or K+are normalized. Mg+ and K+ abnormalities canincrease risk for life-threatening ventriculardysrhythmias and can be worsened in presence ofacute kidney injury.
Intravenous Vitamin C (ascorbic acid)	1.5g q6h (x4d)	Critically ill cases (See Annex 3.0)	No known direct benefit for COVID-19. Potential vascular benefits (prevention of micrcocirculatory flow dysfunction; agonist for endogenous cathecholamine receptors; preservation of endothelial barriers) A Phase II RCT (CITRIS-ALI) evaluated intravenous	Hemolysis in patients with G6PD deficiency Increased risk of acute oxalate nephropathy in patients with history of renal disease, history of oxalate kidney stones, geriatric patients and pediatric patients < 2yo	Baseline and daily CBC and renal function tests (BUN; creatinine) If abnormal kidney function, avoid use of intravenous vitamin C.

"Statins" (e.g., atorvastatin or rosuvastatin)	Atorvasta tin: 40mg qd (x1 mo) OR Rosuvast atin (20mg qd (x1 mo)	Severe or critically ill cases with known cardiovascular disease or diabetes (See Annex 3.0)	vitamin C on ventilated ICU patients with sepsis- induced acute lung injury. No benefit with respect to primary outcome of change in organ failure, but significant early reduction in mortality (secondary endpoint) was observed. Similar findings have not been reported in recent RCTs evaluating intravenous vitamin C in patients with sepsis. No known direct benefit for COVID-19. Given that patients with underlying (or high risk for) cardiovascular disease and diabetes appear to have worse prognosis with COVID-19, continuation of statins	Common: Diarrhea, arthralgia, myalgia, UTI, nasopharyngitis Serious: transaminitis; liver failure; rhabdomyolysis	Baseline and weekly transaminases (e.g., AST and ALT) and CPK Do not give if creatine phosphokinase (CPK) ≥ 500 OR ALT >X3 upper limit of normal
	(x1 mo)		continuation of statins in patients already taking them may be beneficial.		

#### Annex 3.2 NATIONAL COVID-19 PATIENT MANAGEMENT

#### THE MODIFIED NEWS2 SCORE (National Early Warning Score (NEWS)

The score is to aid the clinician in monitoring the admitted COVID-19 patients.

Physiological		SCORE												
parameter	3	2 1		0	1	2	3							
Respiration rate (per minute)	<u>&lt;</u> 8		9 - 11	12- 20		21 - 24	≥25							
SpO <sub>2</sub>	<u>&lt;</u> 91	92 - 93	94 - 95	≥96										
Air or Oxygen	-	Oxygen		Air										
Systolic BP (mm Hg)	<u>&lt;</u> 90	91 - 100	101 - 110	111 – 219*			<u>&gt;</u> 220							
Pulse (per minute)	<u>&lt;</u> 40		41 – 50**	51 – 90	91 - 110	111 - 130	<u>&gt;</u> 131							
Consciousness				Alert			CVPU <sup>1</sup>							
Temperature ( <sup>o</sup> C)	<u>&lt;</u> 35.0		25.1 - 36.0	36.1 - 38.0	38.1 - 39.0	<u>&gt;</u> 39.1								

\*Systolic BP >160mmHg alert the physician, \*\* Pulse rate < 50 beats/min alert the physician <sup>1</sup>CVPU- Confused, Verbal response, Pain response, Unconscious

NEWS2 SCORE	Frequency of monitoring	Clinical response
0	Minimum 12 hourly	continuous monitoring
Total 1-4	Minimum 4-6 hourly	<ul> <li>Inform the RN who must assess the patient.</li> <li>RN decides whether increased frequency of monitoring and or escalation of care is required</li> </ul>
3 in single parameter	Minimum 1 hourly	• RN to inform the medical team caring for the patient, who will review and decide whether escalation of care is necessary
Total 5 or more Urgent response threshold	Minimum 1 hourly	<ul> <li>RN to immediately inform the medical team caring for the patient.</li> <li>RN to request urgent assessment by the physician or team with core competencies in the care of the acutely ill patient.</li> <li>Provide clinical care in an environment with monitoring facilities.</li> <li>Consider transfer to a facility with ICU level care</li> </ul>
Total 7 or more Emergency response threshold	continuous monitoring of vital signs	<ul> <li>MO to immediately inform the medical team caring for the patient - this should be at least a specialist.</li> <li>Emergency assessment by the ICURT.</li> <li>Clinical care in an environment with monitoring facilities.</li> </ul>

# CLINICAL RESPONSE TO THE NEWS2 TRIGGER THRESHOLDS

NB: For systolic BP >160mmHg alert the physician, pulse rate < 50beats/min alert the physician

## Annex 4.0 COVID-19 Waste Management Safe management of health care waste

Waste management is the collection, handling, treatment, transportation, processing, recycling or disposal, and monitoring of waste materials.

Safe health-care waste management is fundamental for the provision of quality, people-centered care, protecting patient and staff safety and safeguarding the environment.

Best practices for safely managing health care waste should be followed, including assigning responsibility and sufficient human and material resources to dispose of such waste safely.

There is **no** evidence at the time of developing these guidelines that direct, unprotected human contact during the handling of health care waste has resulted in the transmission of the COVID-19 virus therefore necessary IPC Precautions should be observed.

All health care waste produced during the care of COVID 19 patients should be collected safely in designated containers and bags, treated, and then safely disposed of or treated, or both, preferably onsite. *See below for different types of wastes.* 

#### **Categories of Waste**

Health Care Waste (HCW)	This is the total waste stream from health care service delivery or research facilities and includes both potential risk and non-risk waste materials.
Hazardous Health Care Waste	This is waste with a potential to cause harm to both humans and the environment if exposed or improperly handled or disposed of. Approximately 20% of all HCW is estimated to be hazardous and 1% is estimated to be sharps waste.
Non-hazardous Waste	The largest component of HCW (80%) is non-hazardous waste. However, this can cause a nuisance or create breeding sites of disease vectors like flies and rats. It includes domestic waste, office or compound sweepings and wrappings, and containers of medicines.
Infectious	Has living organisms in it that are capable of causing disease.
Pathological	These are parts of the human body that are removed because they are diseased, usually for identifying the cause of disease.
Snarps	These are objects that can penetrate skin easily and include needle/syringes.
Pharmaceuticals	Related to manufacturing, dispensing, and disposing of unusable medicines and consumables.

#### Segregation of Waste in Color Coded Bags



If waste is moved off-site, it is critical to understand where and how it will be treated and destroyed.

All who handle health care waste should wear appropriate PPE (boots, apron, long-sleeved gown, thick gloves, mask, and goggles or a face shield) and perform hand hygiene after removing it.

# Annex 5.0: Safe and Dignified Burial of a Patient Who Has Died From Suspected or Confirmed COVID-19

These have been guided by WHOs Infection Prevention and Control for the safe management of a dead body in the context of COVID-19 <u>https://apps.who.int/iris/bitstream/handle/10665/331538/WHO-COVID-19-IPC\_DBMgmt-2020.1-eng.pdf</u>

During the epidemic of COVID-19, the dead bodies of infected persons may constitute a biological risk if they are handled without appropriate protection; that is why the management of burials should be incumbent upon the case management team. In addition; burial ceremonies may attract so some many people; making the guidance on social distancing very difficult to implement and hence the need for a trained burial team to supervise the conduct of the burial ceremony.

The Case Management committee is in charge of creating an expert team that will be responsible for the safe conduct of burials of victims. The team will be guided by the following main principles:

- 1. Burials should be conducted as a funeral ceremony, with due respect to the deceased, to facilitate the mourning by the families;
- 2. During the funeral rites, the team should explain the concept of disinfection and put it into practice;
- 3. The medical team should present its condolences to the families of the victims;
- 4. The funeral team should carry out appropriate disinfection the articles in home of the victim that the victim was using especially if the victim has died from home.

## a) Safely prepare the dead bodies

The burial must take place as early as possible after preparation of remains at the hospital. The hospital staff should:

- Prepare the body with care and with appropriate PPE protection in order to avoid getting contaminated;
- Strive to respect the cultural practices and religious beliefs of the family, so long as they do not result in a risk of transmission. Let the family understand that certain practices, that entail a risk of transmission should be abandoned;
- Advise the family and the community about actions to take in order to protect themselves against the disease. If the body is prepared without information nor support to the family and the community, the members of the community would not be willing to bring other relatives to the hospital for fear of not receiving the dead body once the patient has died;
- Find an influential member of the family and get him to ensure that dangerous practices like touching and washing the dead body are avoided.

## To prepare the body at the hospital:

- Wear full protective PPE recommended for COVID-19 including eye protection and a second pair of rubber gloves;
- Prepare the body for transfer including removal of all lines, catheters and other tubes;
- Ensure that any body fluids leaking from orifices are contained;
- Keep both the movement and handling of the body to a minimum;

- Wrap body in cloth and put it in a body bag and transfer it as soon as possible to the mortuary area or to the ambulance whichever is applicable.
- There is no need to disinfect the body before putting in the body bag.
- Disinfect the outside of the body bag after the body has been put in it.
   deadboodyshould be put in Body bag to avoid any leakage of excessive fluids from the
- No special transport equipment or vehicle is required to transport
- Preferably there should be separate transport for the burial team; if available.

#### b) Safely transport the body.

- 1. The infection control measures for COVID-19 should remain in force during the transportation of the body to the burial site.
- 2. The body should be transported to the burial place as quickly as possible. Designate a health worker or a member of staff of the establishment to accompany the remains in order to be sure all safety precautions are observed
- 3. Take the shortest route possible for safety reasons and also to limit any possibility of transmission through accidental contact;
- 4. If he has no contact with the body, the driver of the vehicle does not need to wear protective clothes;
- 5. Take along a spray containing household bleach at 0.5% in case of accidental contact with the body or infectious body fluids. Also use it to clean liquids spilled in the vehicle.

#### c) Prepare the burial site

- 1. The tomb must be prepared well in advance and should be deep enough; but at least 2 metres deep;
- 2. The burial site should be cleared to ensure that there is enough space for the family members participating in the burial ceremony to ensure that they can practice social distancing during the burial.

## d) Conduct of the burial at the burial site.

1. Only immediate members of the family of the deceased should be allowed to attend the

burial ceremony, in any case not more than **50 people** to attend the burial.

- 2. Adults >60 years and immunosuppressed persons and people with other risk factors should be discouraged from attending the burial and should not directly interact with the body.
- 3. People who have died from COVID-19 should be given a dignified burial with

appropriate a religious ceremony as appropriate; based on the wished of the relatives.

Strict social distancing rules should be followed and Holy Communion should not be administered by the priest during the burial ceremony.

4. Facility for IPC including hand washing facility and/or hand sanitizers should be made available at the burial site.

- 5.All people attending the burial ceremony to wash / sanitize their hands before entering the burial ground and again wash / sanitize their hands after attending the burial ceremony.
- 6.A person / persons with IPC knowledge should be deployed to observe and ensure that

COVID-19 specific IPC measures are adhered to during the ceremony.

- 7. If the family wishes only to view the body and not touch it, they may do so, using standard precautions at all times including hand hygiene. Give the family clear instructions not to touch or kiss the body;
- 8. The parents surrounding the coffin placed on the plateau do not need personal protection equipment, except the pall bearers who should wear thick gloves;
- 9. The people carrying the body bag to the grave only need gloves and face masks ( due to

the close proximity of the people carrying the coffin or body bag) as long as the outside of the body bag is decontaminated.

#### e) Disinfection the vehicle and other artifacts after transporting and burial of the body

- 1. The members of burial team who will disinfect the vehicle should wear protective clothes;
- 2. Wash the interior of the vehicle where the body was placed with a household bleach solution at 0.5% Concentration;
- 3. Leave to act for 10 minutes;
- 4. Rinse abundantly with clean water and let it dry. Be careful: rinse well as household bleach is corrosive.
- 5. Burn the non-reusable PPE; that is potentially infectious that was used during the burial after the burial ceremony.
- 6. The clothing and beddings used by the deceased should be disinfected using 0.5% Chlorine Solution.



#### **COVID-19** Contact Listing Form

Confirmed Case Information										
First name	Surname	Age in years	Sex (M/F)	Head of Household	Current Address (Village, Sub-county, District)	Date of Symptom Onset	Address where Case was Identified (Village, Sub- county, District)	Is Case Health worker? Y/N		

					Cor	ntact Information					
Number or Code	First name	Surname	Sex (M/F)	Age in years	Relation to Case	Date of Last Contact with Case	Contact type (1,2,3)* <u>list all</u>	Head of Household	Address (Village, Sub- county, District)	Phone contact	Is Case Health worker? Y/N

#### Contact types:

1. A person having had face-to-face contact (within 2 meters) or was in a closed environment with a COVID-19 case, this includes, amongst others, persons living in the same household as a COVID-19 case, and also people working closely in the same environment with the case.

2. A healthcare worker or other person providing direct care for COVID-19 case, while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, eye protection).

3. A person in an Aircraft/Bus/Taxi/Car sitting within five seats (in any direction of the case), travel companions or persons providing care, and crew members serving in the section of the aircraft/car where the index case was seated.

Contact sheet filled by: Name:

Title:

**Telephone:** 



Details of contact / person	under	follow-	·up											
First name:		Surname:						_Sex: MF Date of birth://						
Telephone contact 1:				Teleph	one contac	:t 2:			Occu	pation:				
Village:	Su	b Count	:y:			District:								
Nationality:														
Health worker:Yes	No	if yes,	health f	acility:					-					
Instructions for completion: Indi	cate Y i	if sympto	om prese	ent and N i	f No sympto	ms. If any s	ymptoms are	e present	, immediat	ely hand ov	/er to alert/	case mana	gement tean	ns
Day since last contact with confirmed case	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Date(DD/MM)														
Measured body temperature (write the temperature)														
Chills														
Cough														
Sore throat														
Shortness of breath														
Body pains														
Diarrhea														
Flu														

# Annex 6.0 Institutional Quarantine

#### What is Institutional Quarantine?

This is a transparent restriction of persons' activities when they are not ill with COVID-19 for the purpose of protecting unexposed members of the communities from contracting the disease Should any person at risk become sick?

This is particularly important for persons who may have been in contact with a person who has Signs and symptoms of COVID-19 or is suffering from the disease or has travelled from one of The areas with high transmission of COVID-19.

This means one will stay at a facility identified by the Government without mixing with family Members or the general public for the mandatory period of 14 days. However, individuals will be required to interact only with surveillance officers dressed in appropriate Personal Protective Equipment (PPE) who will come daily to carry out a medical check-up.

Institutional quarantine is intended to facilitate early detection of ill health due to COVID-19 and to prevent its spread in the communities, to loved ones and/or other countries or areas.

#### Who should undergo institutional quarantine?

- Travelers coming from countries/territories/areas with active transmission of COVID-19 as analyzed and designated by the Ministry of Health (refer to the list of Category 1 countries) shall be quarantined for 14 days at a facility identified by Government.
- Any individual who has been in close contact with a person confirmed to be having coronavirus disease will be quarantined for 14 days?

#### How will I travel from the Point of Entry to the place of quarantine?

- Government is providing transport to all travelers from the high-risk countries from the point of entry to the designated facility
- Ensure adequate ventilation throughout your trip
- Avoid contact with the driver or any other support staff.

## How will I be monitored during institutional quarantine?

The Ministry of Health surveillance team will come to the designated facility to monitor you daily for 14 days.

# Do family members or other people I live with also need institutional Quarantine?

No family members or friends are allowed to visit you while you are under institutional quarantine. However, if there is any financial support that you require during this period, your next of kin can send it through the management of the institution.

## What should I do for effective institutional quarantine?

- If you are under quarantine, you are advised to observe the following prevention and control measures
- Stay in a well-ventilated room **ALONE** with separate hygiene and toilet facilities. Ensure you disinfect it after use using the provided disinfectants or soap and water.
- Ensure that you have adequate food, water, hygiene provisions and appropriate medical treatment for existing medical conditions while in quarantine.

- Ensure that you have the necessary communication facilities e.g. mobile telephone to communicate with family members and other people while in quarantine.
- Always wash your hands with soap and water regularly or use an alcohol-based hand rub
- Cover your nose and mouth with a handkerchief or tissue when coughing and sneezing. Throw away used tissue immediately into a dustbin or burn it and wash your hands immediately with soap and water or an alcohol-based hand rub. The handkerchief must be washed, dried and ironed by you daily.
- Avoid sharing toothbrushes, utensils, dishes, drinks, towels, clothes or bed linen with anybody in your home.
- Clean and disinfect frequently touched surfaces such as doorknobs/handles, bedside tables, bedframes, and other bedroom furniture daily with regular disinfectant or soap and water
- Clean and disinfect bathroom and toilet surfaces at least once a day with available disinfectants or soap and water.
- If you develop symptoms of acute respiratory infection, including fever, cough, sore throat and difficulty in breathing, please call the Ministry of Health toll free lines on **0800-100-066 or 0800-203-033** or any other contact provided by the surveillance team for immediate help

#### What happens if individuals do not comply with institutional quarantine orders?

Institutional quarantine is **MANDATORY** for a period of 14 days however, should a positive case be identified during the period of quarantine, the duration of quarantine will be extended for a further 14 days. All those who will not comply with these guidelines will be dealt with as provided for in the laws of Uganda.

What should individuals do to keep my spirit up under quarantine?

Being under quarantine can be frightening. The following should be done to reduce anxiety:

- Talk to the other members of the family about the COVID-19. Understanding this disease will reduce anxiety.
- Reassure young children using age-appropriate language.
- Think about how you have coped with difficult situations in the past and reassure yourself that you will cope with this situation too. Remember that quarantine won't last for long.
- Keep in touch with family members and friends via telephone, email or social media.
- Exercise regularly from your quarantine area.
- Ensure that you drink at least 8 glasses of water every day to keep hydrated.
- Eat all your meals in a timely manner.

#### What happens when I complete the 14 days of quarantine?

- If you complete the 14 days of quarantine without any symptoms, the surveillance team/health authorities will formally discharge you from follow up and you will be free to go about your usual activities.
- A medical certificate of completion of quarantine will be issued to you.

#### What happens if I develop symptoms during the 14 days of quarantine?

If at any time during your 14 days of self-quarantine, you develop symptoms, you should seek Medical attention immediately by calling the following officers, call the Ministry of Health toll free lines on: **0800-100-066**, **0800 2030** 









# Community Triage Algorithm for VHT and/or district surveillance team



### **Standard IPC procedures:**

- Wear a medical mask
- Thoroughly wash hands before and after visit
- Give suspect patient a medical mask
- Keep at least a 2 meter distance from the suspected patient
- Minimize touching surfaces.

# 2

3

4

#### If any ONE danger sign or listed comorbidity, prioritize for hospital admission:

Danger signs		High risk of developing severe disease or
		complications
•	Rapid breathing: >30 per minute	• Age $< 1$ year or Age $> 65$ years
	$(adult/child>5y); \geq 40$ breaths per minute	• Heart conditions such as history of heart attack
	for children 1-5 years, ≥50 breaths per	or stroke
	minute for children 2-11months.	• Diabetes
•	Difficulty breathing and/or chest in	Sickle cell disease
	drawing	Cancer patients whether or not on
•	Persistent high fever for 3 or more days	chemotherapy
•	Disorientation	Advanced liver disease
•	Lethargy (excessive weakness, tiredness)	Person living with HIV
•	Seizures or convulsions	• Lung diseases (e.g. asthma, TB, COPD)
•	Sunken eyes or other signs of severe	Kidney disease
	dehydration	Severe Acute Malnutrition
•	Inability to drink or eat	
	-	

## Guidance on safe home isolation

- There should be **NO** person in the patient's household in a high-risk group (See community algorithm in appendix).
- The patient should be placed in a separate room if at all possible
- Preferably the patient should have a separate toilet from the rest of the family.
- There should be a designated adult caregiver.
- A health facility should be within 2 hours reach.
- The patient or caregiver should have immediate access to a functioning telephone
- A source of clean water should be readily available
- The patients should have access to separate toilet/pit latrine if possible
- The home should have a door and a window for adequate cross-ventilation
- Soap (or other hand-hygiene products) should be available

**Monitoring cases in the community** – Patients should be monitored daily, preferably by phone, for the development of danger signs, and for any household members who may be developing symptoms.

# Annex 7.1 Guidance on Isolating and Monitoring patients at home

# Guidance On Isolating and Monitoring Patients at Home

#### Isolation Space at home



- Place the patient in a well-ventilated area within the house
- Limit the number of caretakers to only one person who is in good health.
- Persons with fever, cough or shortness of breath should remain at home until their symptoms improve or help arrives



 provide the patient with a face-mask (you may use a clean piece of cotton cloth if mask is <u>unavailable</u>)



 Call 0800-203-033 / 0800-100-066 for further assistance

# Infection Prevention at home



- Avoid direct contact with saliva, sputum or "flu" of the patient.
- Wash hands frequently and avoid close contact as much as possible



 Avoid sharing utensils and personal effects with patients



- Clean frequently touched surfaces with soap and water.
- Wash clothes thoroughly and iron them
- Clean bathroom and toilet/latrine surfaces frequently

# Managing Household Contacts



 Inform all household members that they are considered contacts and their health should be monitored: Help children and older persons



If a household member develops fever, cough, sore throat or difficulty in breathing, please call for immediate help on the telephone numbers provided.

Transfer to the nearest health facility if the patient develops any of the following; difficulty in breathing, persistent high fever, dehydration, inability to drink or eat.

# Annex 7.2 General Guidelines for Non-Traditional Isolation Facilities

The facility needs to be set up for cohorting, where suspect and confirmed cases can be separated. More guidance to come on this.

IPC and standard Precautions need to be followed to protect the staff. The committee suggests the following guidelines to guide in running the facilities.

- Hand sanitizers and hand washing facilities should be available at multiple points throughout the isolation facility.
- Mattresses, bedding, meals, drinking water and insecticide treated bed nets will be provided by the government to ease compliance
- Any mild case whose symptoms worsen should be triaged by the Health Worker.
- The cases should clean their own dormitory or rooms and do their own laundry.
- IEC materials should be pinned where center staff move the most so that the walls talk to them about COVID 19 signs, symptoms, prevention and who to call.
- Food preparers and servers should be kept to a minimum number needed to prepare food without additional staff. Servers should wear gloves and masks when cleaning away dishes or plates.
- Dishes and plates should first be soaked in warm soapy water for 1 hour before they can be washed to allow for virus to get killed. All dining hall or cafeteria surfaces must be cleaned and disinfected between each meal.
- Staff interaction with isolated cases should also be kept to a minimum number. They should keep a minimum distance of at least 2 meter when interacting with cases and they must wear medical masks and plastic aprons which must be disinfected daily at the end of a shift for use the next day.
- Proper waste collection and disposable protocols should be followed

## Patient Monitoring at the NTIF

Twice daily and also as per need follow-up of persons in isolation should be conducted for the duration of their stay. Follow up entails taking body temperatures and screening for symptoms and their severity.

The Health worker should be a trained person designated by the Ministry of Health and should ideally be the same person for one facility to avoid multiple exposures if different persons are used to conduct the activity.

#### **Occupational Health**

- All staff should be trained on the basics of infection prevention and control (IPC) procedures for non-medical facilities, as well as how to don and doff PPE.
- Special disposal bins should be provided for PPE disposal.
- All staff should maintain a minimum distance of 2m from all other persons in the isolation center at all times.
- All staff should undergo temperature and symptom screening on entry to and exit from work each day. These screenings should be logged in a paper log, to be checked by the Ministry of Health surveillance officer / symptom monitor who visits the isolation facility.
- Anyone feeling ill should report symptoms immediately to the quarantine site focal point.

# Annex 8.0 Guidelines for The Management Of Pregnant, Breastfeeding Women, And Infants In The Context Of Covid-19

### BACKGROUND

- Sexual and reproductive health is a significant public health issue during epidemics, and safe pregnancy and childbirth
- The COVID-19 pandemic has raised specific concerns regarding the management of pregnant, breast feeding women and infants.
- There is limited data on effects of the COVID-19 virus among pregnant, breastfeeding feeding women and infants.
- There is no evidence that pregnant women present with different signs or symptoms or are at higher risk of severe illness. There is currently no known difference between the clinical manifestations of COVID-19 pregnant and non-pregnant women or adults of reproductive age.
- So far, there is no evidence on mother-to-child transmission. Increased severe maternal or neonatal outcomes is uncertain, and limited to infection in the third trimester, with some cases of premature rupture of membranes, foetal distress, and preterm birth reported.

#### Advice for health workers to share with pregnant women during Antenatal Care

- Health workers should provide psychosocial counseling and support to suspected, probable or confirmed pregnant women with COVID-19. **Key messages** 
  - If you are infected with COVID-19, you are still most likely to have no symptoms or a mild illness from which you will make a full recovery.
  - If you develop more severe symptoms or your recovery is delayed, this may be a sign that you are developing a more significant chest infection that requires enhanced care, you should contact your health worker for further information and advice.
- Health workers should encourage pregnant women to increase their social distancing to reduce the risk of infection during their stay at the health facility and in the community.
- Pregnant women should pay particular attention to avoiding contact with people who are known to have COVID-19 or those who exhibit possible symptoms. Women above 28 weeks' gestation should be particularly attentive to social distancing and minimizing contact with others.

#### Advice for health workers while giving caring to pregnant women

- Care for pregnant and postnatal women is an essential service and should be planned for along with other essential services.
- Health workers should continue to provide antenatal, delivery and postnatal care as a routine package but should practice appropriate IPC measures for COVID-19, including personal protective wear.

- Women should be advised to attend routine antenatal care unless they meet current selfquarantine guidance for individuals and households of individuals with symptoms of new continuous cough or fever.
- While in the community, if a pregnant woman develops symptoms suggestive of COVID-19, and fits the criteria for case definition for suspect or probable case for COVID-19, she should contact the midwife or obstetrician attending to her at the health facility to postpone the routine ANC visits. The health worker will contact surveillance teams to continue checking on the suspected, probable pregnant woman to ensure they comply with the selfquarantine measures.
- At the health facility, if a pregnant woman is a suspected, probable case and fits the criteria for case definition of COVID-19, the health worker shall inform the laboratory staff who shall initiate testing for COVID-19. If the patient is negative but has been exposed, she should start self-quarantine for 14 days. She should contact the health workers at the health facility to postpone routine visits and the health worker should ensure that the health surveillance team conducts follow up checks until after the self-quarantine period is over.
- If a pregnant woman is a confirmed case, the health worker will refer her to the isolation unit for further management. The patient needs to continue receiving obstetric care when in isolation.
- Maternity departments with direct entry for patients and the public should have in place a system for identification of potential cases as soon as possible to prevent potential transmission to other patients and staff. This should be at first point of contact (either near the entrance or at reception) to ensure early recognition and infection control. This should be employed before a patient sits in the maternity waiting area.
- In the event of a pregnant woman attending with an obstetric emergency and being suspected or confirmed to have COVID-19, maternity staff must first follow IPC guidance. This includes transferring the woman to an isolation room and wearing appropriate PPE. Once IPC measures are in place, the obstetric emergency should be dealt with as the priority.
- Do not delay emergency obstetric and newborn care (EMONC) service delivery in order to test for COVID-19.
- Health workers should continue providing care for a woman with COVID-19, until a negative test result is obtained.
- If ultrasound equipment is used, this should be decontaminated after use in line with IPC guidance
- All pregnant women with or recovering from COVID-19 should be provided with psychosocial counselling and information related to the potential risk of adverse pregnancy outcomes.

## Advice for health workers while giving caring to pregnant women during delivery

• Health workers should encourage pregnant women to deliver from health facilities for their safety and that of their newborns.

- Once settled in an isolation room, a full maternal and fetal assessment should be conducted to include: Assessment of the severity of COVID-19 symptoms should follow a multi-disciplinary team approach including an infectious diseases or medical specialist, Maternal observations including temperature, respiratory rate and oxygen saturations; Confirmation of the onset of labor, as per standard care and electronic fetal monitoring.
- If labor is confirmed, then care in labor should continue in the same isolation room, ensuring privacy, respect and dignity for the mother.
- Maternal observations and assessment should be continued as per standard practice has been 'topped-up' for an emergency caesarean birth or a woman with a newly sited spinal anaesthetic that was inserted without difficulty and became effective in the expected timeframe.
- Where women with suspected or confirmed symptoms of COVID-19, or confirmed COVID-19 have scheduled appointments for pre-operative care and elective caesarean birth, an individual assessment should be made to determine whether it is safe to delay the appointment to minimize the risk of infectious transmission to other women, healthcare workers and, post-nataly, to her infant.
- If a pregnant woman is diagnosed with COVID-19, without respiratory distress and requires delivery by cesarean section, the health worker should **<u>administer spinal anesthesia</u>**.
- If the pregnant woman is diagnosed with COVID-19, and is critically ill, with features of respiratory distress, and requires ventilation, the mother should be delivered by Caesarean section under general anesthesia with ventilation.

#### Advice for health workers while giving care to breast feeding mothers and their infants

- Health workers should encourage women who are COVID-19 positive to breastfeed and take necessary precautions to limit viral spread to the baby. Hand washing before touching the baby, breast pump or bottles; avoiding coughing or sneezing on the baby while feeding at the breast; considering wearing a face mask while breastfeeding, if available; following recommendations for pump cleaning after each use. Where mothers are expressing breast milk in hospital, a dedicated breast pump should be used.
- In cases where a breastfeeding baby is COVID-19 positive and the mother is negative it recommended that the mother continues to breastfeed, and it is preferable to isolate the baby and mother away from other COVID patients on the ward; if possible in a side room. In case a side room is not available, a designated section of the ward should be reserved for only mothers and their children. The mother should be given full PPE (medical **mask**, eye **protection, gown and gloves**) to wear to avoid contracting COVID-19 infection from other positive patients on the ward.
- In cases where a non-breastfeeding child (or child greater than 2 years of age) is COVID-19 positive and the mother is negative, priority should be given to nursing the child in a side room.

Two options can be considered:

• The children can be separated from the mother and the child nursed and taken care of by the nursing staff on the ward.

- The mother can be taught and given clear instructions and provided with full PPE (medical mask, eye protection, gown and gloves) to protect her from getting infected by the baby other positive patients on the word BUT allowed to take care of her child on the ward. Regular enforcing of the message on proper PPE use to her is important. The mother should be encouraged to undertake regular hand hygiene with soap and water or alcohol-based hand rub after handling the child.
- All post-natal mothers who were confirmed cases of COVID-19 should be managed according to the standard management guidelines.
- All postnatal women with or recovering from COVID-19 should be provided with psychosocial counselling and information related to the potential risk of adverse pregnancy outcomes.
- Women's choices and rights to sexual and reproductive health care should be respected regardless of COVID-19 status, including access to contraception.
- Infants born to mothers with suspected, probable, or confirmed COVID-19 should be fed according to standard infant feeding guidelines, while applying necessary precautions for IPC.
- Breastfeeding counselling, basic psychosocial support, and practical feeding support should be provided to all pregnant women and mothers with infants and young children, whether they or their infants and young children have suspected or confirmed COVID-19.
- Breastfeeding women should not be separated from their newborns, as there is no evidence to show that respiratory viruses can be transmitted through breast milk. The mother can continue breastfeeding, as long as the necessary IPC precautions are applied:
- Symptomatic mothers well enough to breastfeed should wear a mask when near a child (including during feeding), wash hands before and after contact with the child (including feeding), and clean/disinfect contaminated surfaces, avoid touching the baby's eyes, mouth or nose.
- If a mother is too ill to breastfeed, she should be encouraged to express milk that can be given to the child via a clean cup and/or spoon while wearing a mask, washing hands before and after contact with the child, and cleaning/disinfecting contaminated surfaces.
- All recently pregnant women with COVID-19 or who have recovered from COVID-19 should be provided with information and counselling on safe infant feeding and appropriate IPC measures to prevent COVID-19 virus transmission.

# Annex 9.0 Uganda Ministry Of Health Covid-19 Infection Prevention And Control Guidance For HIV/TB Services Delivery

This guidance will continue to be updated as new guidance on COVID-19 evolves globally. The Ministry of Health emphasizes the importance of maintaining critical HIV/TB prevention, care and treatment services during COVID-19 to reduce vulnerability of PLHIV and TB infected people to COVID-19, ensure continuity of ART therapy and accelerated decongestion of health facilities to minimize transmission of COVID-19.

#### **A. General Considerations**

#### **District Teams (Supported by the Regional Implementing Partner)**

The district will maintain its role in leading the implementation of all comprehensive HIV services.

The regional Implementation Partners will work with the districts to ensure that critical HIV services are not interrupted during the COVID-19 response period. They will provide the necessary technical and financial support.

District health officers and ART clinic in charges will ensure that skeletal staff is available at facilities to: attend to the clients seeking HIV and TB services in the ART clinics; record details of clients served; quantify ARVs and other drug supplies; and place emergency orders.

The districts with support from the IP should adopt the use of telephones, and internet platforms to communicate to facilities and other stakeholders, including conduct trainings and mentorships.

The districts with support from the IP will work with the existing Networks of People living with HIV to ensure the uninterrupted supply of ART to all recipients of care.

#### Networks of PLHIV and Civil society

The PLHIV networks at national level will continue working with MoH, through the national taskforce, to coordinate the national HIV response to ensure safety of clients and uninterrupted supply of ARVs.

The PLHIV networks at the district level will work with districts, through district taskforce, to monitor coordination and provide timely feedback on the quality of services during the response.

The Peer support staff at HIV service points (such as YAPs, Linkage facilitators, peer/mentor mother) should have their services at the facility suspended until the COVID 19 pandemic is under control. The PLHIV peers may work from home using phones to follow-up clients: remind them of appointments, drug pickups and linkage to nearest community ART services points.

#### **Health Facilities**

- The facilities will display toll free and other telephone numbers for COVID-19 response teams in visible places so that Clients can save them in their phones or write them down.
- All ART, TB and other HIV related clinics should have functional safe thermometers.
- All clients who come to the clinic must have their temperature taken.
- Use telephone calls, SMS, social media platforms for communication to clients and other stakeholders on services availability, follow up, adherence support and clinic attendance among others.

- Health Providers will use the appropriate Personal Protective Equipment (PPE) for all staff. If a Client is suspected to have COVID-19, a gown and goggles should be used in addition to gloves and medical face mask (where feasible). Face mask and gloves are most important PPE.
- ART Providers and Clients should practice frequent hand hygiene, including before and after patient care, when coming into contact with secretions, before eating and after using the toilet.
- Maintain infection prevention standards in the ART clinic by sanitizing all surfaces e.g. with hypochlorite per MOH guidelines.
- Inform MOH, relevant authorities of any suspected COVID-19 case among the ART patients. Documenting the clinical course of COVID-19 in PLHIV is important to inform optimal care.
- Monitor the number of HIV and TB service providers that are tasked to work on COVID-19.
- Ensure continuous antiretroviral therapy (ART) provision to current recipients of care based on the available stocks of ARVs at the site in order to maintain virologic suppression.
- Health facilities should accurately document the contact details of the clients who come to seek health services for easier follow up in case of COVID-19 exposure.
- Conduct on a regular basis on going activities of Information, education and communication (IEC) for the recipients of care to learn about the signs and symptoms of COVID-19 using the hand out messages, telephone calls/SMS, social media platforms and mass media.

#### **Triage:**

- Facilities must take temperature measurements for all PLHIV clients on arrival at the clinic.
- Patients presenting with fever, cough, and flu like/ respiratory symptoms) should be isolated immediately and infection prevention and control observed.
- Screen for TB using the ICF guide at all entry points

#### **Community activities**

The general community health services including HIV testing, HIV Prevention services and TB activities are temporarily stopped as per the Presidential directive on community gatherings.

#### **Supply Chain Considerations**

Facilities with inadequate stocks, should place emergency orders for ARVS. However, all facilities must ensure that sufficient stocks of drugs regimens are available during this time. Districts and partners should support inter facility and inter-district commodity transfers, where applicable.

#### **B. HIV prevention services**

For HIV prevention, most services are community based and require mobilization using community gatherings, and or interaction with several community members. This poses a risk of exposure and transmission of the virus to the community and services providers who are mostly lay persons. It's therefore recommended that all community activities including mobilization, outreaches, meetings and workshops are temporarily put on hold.

#### HIV testing services

- During this interim period, all community activities including HTS outreaches are suspended.
- Facility-based HTS should continue in: Testing in ANC, labor/maternity, early infant diagnosis (EID), in patient department for diagnostic testing, people with TB, STIs, and malnutrition, Assisted Partner Notification, and index client testing.
- Use of self-testing outside of the clinic setting should be encouraged.
- Safe male circumcision
- The community camps including community mobilization are suspended. The SMC services shall be offered as a routine service in facility on appointment to avoid crowding.
- The health workers offering SMC must ensure that waiting time for clients is reduced and at any one time, not more than ten (10) clients should be waiting for the service.
- The Post-operative follow-up for clients already circumcised should continue using telephone calls and clinic visit for clients with adverse events

### Community activities in Drop-in Centers (DICs), AGYW and KP/PP social interactions safe spaces

- AGYW safe spaces are temporally closed as per the presidential directive.
- The facility should focus on, line listing clients.
- The AGYW should continue accessing the non-curriculum-based services at the health facilities.
- At DICs walk in services will be provided but no more than 10 individuals should be served at any one time.
- Social gathering at DIC must stop in line with the Presidential directive on social distancing
- KPs, AGYWs and services providers are encouraged to use social media platforms for communication.

### **Continuity of PrEP services**

- Facilities should evaluate the stock medicines available at their sites
- Where stocks allow, individuals already on PrEP, should be given a 3-month drug supply.
- When possible, follow up and adherence support of clients on PrEP should be done using telephone, SMS, social media platforms.

### C. HIV treatment services including PMTCT services

These guidelines are aimed at reducing crowding of clients at ART delivery points as well as ensuring continued access to ART during the COVID-19 pandemic. ART delivery is majorly facility based which may potentially increase risk of the spread of the virus within the facility, therefore, focus should be placed on decongesting the facilities.

#### Multi-month dispensing (MMD)

- Multi-month dispensing (MMD) of three to six months is recommended for all clients regardless of age and viral load. This however should be based on availability of adequate ARV stock across the different drug regimens at the facility.
- The Facility should systematically call all clients with scheduled clinic visit in the next month for their ART refills and viral load testing if due.
- The facility should deliver ARVs to the nearest community point for clients who are not able to come to the facility. This can be through quick establishment of CDDPs.

### Community drug distribution

• Clients receiving their care and refills through Community Drug Distribution Points (CDDPs) and Community Client Led ART Delivery (CCLADs) should continue receiving their care and refills through the same approaches. Infection Prevention and Control (IPC) measures should be emphasized at all times.

- Facilities should support clients to form CCLADs as a measure of decongesting the facilitybased ART service delivery points.
- The following categories of clients should be maintained on monthly appointments and refills at the facility however IPC measures should be adhered to.
- ✓ Virally no suppressed
- ✓ Newly initiated on ART
- ✓ The very sick e.g. clients co-infected with TB and are in intensive phase of TB treatment
- ✓ Pregnant mothers
- ✓ Lactating mothers with babies below 6 months of age

Facilities should suspend all Facility Based Groups (FBGs) such as the Family support groups, Adolescent groups, teen clubs etc. until further notice. Members of such groups should be given multi-month refills if they qualify or else monthly appointments and refills with proper scheduling to avoid congestion at the ART service delivery points.

# **TB/HIV Services**

With PPE in place, the usual recommended screening for TB should continue and in addition take off recommended the majority of clients in the HIV and TB clinic present with cough and other symptoms that may simulate the presenting signs and symptoms of COVID-19. This presents a challenge of screening for COVID-19. Clients who have COVID-19 maybe mis-diagnosed.

- Samples for COVID-19 testing from suspects (see MOH leaflet for samples to be taken).
- ART refills and anti-TB/TPT refills should be aligned for all PLHIV co-infected with TB or on TB preventive treatment.
- Not all cough is COVID-19, TB screening should be conducted but IPC measures should be adhered to.
- Ensure that all presumptive cases receive TB diagnostic test, Initiate TB treatment for positive ones.
- Coughing patients should be advised to practice home based self-isolation and referral of "suspects" should continue while being investigated for both diseases while waiting for result.
- Meanwhile if TB is confirmed, TB treatment should not be delayed while waiting for the corona test result, having two comorbidities can worsen the client's outcome more especially now that there is no treatment for COVID.
- Supportive treatment should continue for those who are negative for TB and negative for COVID-19 as outlined in the Uganda guidelines for management of upper or lower respiratory disease.

TPT (IPT) drugs should be provided for 6 months and patients monitored through phone calls (a) TB treatment

- Ensure alignment to HIV DSDM models for patients with TB/HIV co-infection.
- Dispense TB medicines for 2 months for newly diagnosed patients.
- Dispense amount of TB medicines to complete the remaining period of the intensive phase for TB patients who are already in care.
- Dispense up to 2 months of drug refill for patients in the continuation phase.
- Drugs may be dispensed to patients at any nearby TB diagnostic and treatment facility.

### MDR-TB

- Inpatients should stay on the ward for their DOT
- For patients under care at follow up facilities, health workers shall deliver medicine/treatment support at follow up facilities.

- Treatment support should be identified to observe DOT at home and report any issues to the health worker promptly.
- A supply of MDR-TB drugs of up to 2months should be offered to the patient and treatment supporter where it is available.
- Patients will access monthly reviews as soon as the situation allows.
- Patients who require hospital admission and close monitoring should be admitted and managed accordingly per national guidelines.

# **PLHIV** with Co-morbidities

Those with conditions such as diabetes mellitus should ensure good glycemic control by taking their medications well to avoid severe COVID-19. Similarly, the hypertensive should ensure blood pressure control and have enough drug refills during this uncertain period.

# **Pregnant WLHIV**

- Currently, there is limited information about pregnancy and maternal outcomes in individuals who have COVID-19. Immunologic and physiologic changes during pregnancy generally increase a pregnant individual's susceptibility to viral respiratory infections, possibly including COVID-19.
- For all Pregnant and breast-feeding women living with HIV, routine care should be followed as per recommendation in the consolidated HIV prevention and care and treatment guidelines.

# **Children with HIV**

- From the limited available data, children appear less likely to become severely ill with COVID-19 infection than older adults. However, there may be subpopulations of children at increased risk of more severe COVID-19 illness; in studies of infection with non-COVID-19 coronaviruses in children, younger age, underlying pulmonary pathology, and immune compromising conditions were associated with more severe outcomes.
- Infants and children with HIV should be up to date on all immunizations, including influenza and pneumococcal vaccines.

# Annex 10: Standard Operating Procedures for Nutrition Care for Hospitalized COVID-19 Patients. INTRODUCTION

Majority of people who get infected with Corona virus develop mild or uncomplicated illness. However, approximately 14% develop severe disease that requires hospitalization while 5% will require Intensive care management.

Good supportive care remains the cornerstone in managing ill patients with COVID-19. Adequate nutrition support can slow catabolism in critically ill patients and can improve patient outcome, reduce duration of recovery and length of hospital stay. Hospitals in Uganda should aim at including nutrition in the care of inpatients admitted with COVID-19.

**PURPOSE:** To provide guidance on the nutrition care of hospitalized COVID-19 patients including the critically ill receiving ICU management.

**Targeted Users:** Physicians, Nutritionists, Clinicians, Nurses, Pharmacists, intern students directly involved in management of COVID-19 patients.

### Objectives

- To support the nutrition management of hospitalized COVID-19 patients to enhance recovery
- To help health care providers to correctly identify the most appropriate and timely nutrition care support for all COVID-19 patients admitted in health facilities
- To define recommendations for the provision of enteral/parenteral nutrition by healthcare providers **Target Population:** All patients hospitalized with COVID-19 disease.

### **Key Organizational Priorities**

A multidisciplinary nutrition support team working within the clinical guidelines and members drawn from senior representation from medical staff, Specialists, Clinicians, Nutritionists, nursing, pharmacy, medical Social worker, catering and other healthcare professionals as appropriate, for example, speech and language therapists.

All health workers who are directly involved in patient care should receive education and training on the importance of providing adequate nutrition to admitted patients.

Health workers should ensure that all people who need nutrition support receive coordinated care from a multidisciplinary team.

Key Recommen	ndations
Nutritional Assessment	<ul> <li>The assessment should consider: Anthropometry and dietary history of the patient; level of disease severity; co-morbid conditions; functioning of gastro intestinal tract or recent weight loss.</li> <li>Nutrition screening and assessment should be done as soon as possible to identify the patient's nutrition status before feeding.</li> <li>The use of Mid Upper Arm Circumference (MUAC) using color coded tapes is recommended for all patients 6 months of age and above</li> <li>MUAC tapes MUST be cleaned with disinfectants after each measurement</li> <li>The elderly and polymorbid, patients are at greatest risk of poor nutrition outcomes and higher mortality following infection with COVID-19</li> <li>Assessment findings should be documented and the Nutritionist should collaborate and coordinate with the medical teams to develop a safe nutrition care plan for the patient</li> <li>All Health Care Providers involved in the nutrition assessment should be provided with PPE and adhere to MOH IPC recommendations.</li> </ul>
Nutritional car	re for hospitalized COVID-19 patients
Mild or moderate cases	<ul> <li>Feeding should start immediately following admission</li> <li>Patients should be fed on a variety of locally available foods to give balanced diets including foods with added nutrients (fortified foods) such as porridges made from fortified flours.</li> <li>A balanced diet includes energy giving foods, body building and protective foods)</li> <li>Provide more Vitamin C rich fruits and vegies (e.g. Lemon, orange juice, limes, tomatoes, pineapples, water melons, tangerines, mangoes, sweet bananas etc)</li> <li>Feed the patients at least 3 meals (breakfast, lunch supper) and 2 snacks (mid-morning and evening)</li> <li>Provide patients with adequate intake of fluids; at least 8 glasses of clean safe water spread through the day</li> <li>Ensure that drinks and snacks are left within easy reach</li> <li>Patients with no appetite should be fed small portions but more frequently</li> <li>Food can be mashed/blended depending on the patient's condition and age</li> <li>Supplementation with micronutrients is encouraged according to recommended daily allowances (RDA) and depending on individual needs.</li> <li>Individualized diets, meal planning and common dietary modifications needed to address COVID-19 symptoms and patients with comorbidities (e.g. diabetes, kidney diseases, liver disease, allergy, intolerances) guided and supervised by the Nutrition Expert- Annex 1</li> <li>Nutritional treatment should continue after hospital discharge with provision of food package of dry rations (for 1 month) and individualized nutritional meal plans.</li> </ul>

Severe or critically ill	Patients who present with history/symptoms or complications that can affect oral food intake e.g. dysphagia, severe anorexia, nausea or vomiting should be reviewed by a clinician							
patients	Determine the nutritional adequacy of a patient's dietary intake and make the decision on the alternative ways to ensure patient receives adequate nutrition either through oral nutrition support, enteral or parenteral nutrition							
	<b>Timing of Delivery of Nutrition Therapy</b> Nutrition Therapy should start early within 24-36 hours of admission to the ICU or within 12 hours of intubation and placement on mechanical ventilation							
	In patients unable to maintain volitional oral intake, early enteral nutrition is recommended							
	Oral Nutrition Support							
	<ul> <li>It is indicated for patients who are able to swallow safely</li> <li>Home-made and/or commercially available products can be used to improve nutritional outcomes of critically ill patients</li> <li>Should be high energy, diverse nutrient dense fresh foods/mashed or blended; specialized nutritious foods (fortified/bio fortified legumes, cereals/flours and medium quantity Lipid-based Nutrient Supplements can be used.</li> </ul>							
	Enteral Nutrition							
	Consider <b>enteral tube feeding</b> in people who are malnourished or at risk of malnutrition with 1) inadequate or unsafe oral intake, and 2) a functional, accessible gastrointestinal tract.							
	<ul> <li>Home-made and/or commercially available products can be used for EN</li> <li>Producing feeds locally should be done under supervision by a Nutritionist to ensure reduced infective risks and potential poor nutritional quality (especially the micronutrients).</li> <li>Sole-source nutrition should be used under medical supervision by a Nutritionist expert and should consider patient's condition and presence of comorbidity</li> <li>Selection criteria for commercial formula products for enteral nutrition (Annex 2)</li> </ul>							
	Monitoring Enteral feeding Patients receiving ETF should be closely monitored, particularly early after instigation. Monitoring allows:							
	<ul> <li>Quantification of losses to enable daily estimation of replacement requirements</li> <li>Maintenance of metabolic balance</li> <li>Detection of toxicity/deficiency states and early detection of complications.</li> <li>Recording the volume and type of feed administered</li> <li>Early monitoring requires blood glucose to be checked at 4–6 hour intervals and plasma sodium, potassium, magnesium, and phosphate to be checked daily.</li> </ul> Stopping enteral tube feeding (ETF)							

	<ul> <li>Wean the patient off enteral nutrition once the patient has recovered, can swallow and the GIT or general function permits adequate oral intake. Review and closely observe the patient during the transition to oral feeding</li> <li>Parenteral Nutrition is indicated for critically ill patients when there is;</li> <li>Inadequate or unsafe oral and/or enteral nutritional intake</li> </ul>						
	<ul> <li>A non-functional, inaccessible or perforated gastrointestinal tract</li> <li>High risk of aspiration; and Paralytic ileus</li> </ul>						
	• Feeding should be introduced progressively and closely monitored; start with 50% of estimated needs for the first 24–48 hours.						
	• Before using parenteral nutrition products, ensure that the product meets the dietary requirements of the patient						
	• Any adjustments should be made under appropriate pharmaceutically controlled conditions						
	• Once adequate oral or enteral nutrition is tolerated and nutritional status is stable, plan a stepwise withdrawal with a daily review of the patient's progress.						
	• Stop parenteral feeding once the patient is fully established on adequate oral and/or enteral support.						
	• Daily dosages in parenteral nutrition given in Annex 3						
Critically Ill patients with comorbidities (Diabetes, Hypertension, Heart Disease etc)	<ul> <li>Special feeding recommendation for patients with comorbid conditions (Annex 4)</li> <li>These patients may be at-risk of refeeding syndrome and the first 72 hours of feeding is the period of highest risk</li> <li>Start slow feeding; give 25% of energy goal (≤10 kcal/kg/day, increase levels slowly to meet or exceed full requirements by day 4 to 7.</li> <li>Consider 5 kcal/kg/day in extreme cases, such as anorexia nervosa patients</li> <li>In the first week of critical illness, aim at energy goal of 15-20 kcal/kg body weight (BW)/day; 70-80% of energy requirements and protein goal of 1.2-2.0 gm/kg BW/day</li> <li>Consider hypocaloric feeding in critically ill obese (BMI &gt;30kg/m2), e.g. 60-70% of target energy requirements</li> </ul>						
	• Molifior electrolytes (Afflex 5)						
	factors for GIT bleeding, coagulopathy, renal replacement therapy, liver disease, multiple comorbidities and higher organ failure score.						

<ul> <li>malnourished be isolated from other SAM children</li> <li>Conduct the Emergency Triage, Assessment and Treatment (ETAT) procedures for the seriously ill patient with COVID-19</li> <li>Therapeutic Feeding         <ul> <li>Feeding in severely malnourished patients with COVID-19 must be started cautiously, in frequent, small amounts</li> <li>The diet used in the stabilization-phase of treatment is F-75 (milk-based formula containing 75 kcal/100 ml and 0.9 g protein/100 ml)</li> <li>Patients should NOT gain weight on F-75. The diet allows their biochemical, physiological and immunological function to start to recover before they have the</li> </ul> </li> </ul>	ld							
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physiological and minimulological failed of the start to recover before and								
additional stress of making new tissues.								
Give 130ml per kg per day for both oedematous and non-oedematous children.								
Children should not be given any other food apart from prescribed F-75								
F75 is replaced by Ready to Use Therapeutic Food, (or if the RUTF is not accepted) by F- 100 once the patient has stabilized and moved to transition phase The recommended milk based E 100 contains 100 keel and 2.0 g protain/100 ml								
The recommended mink-based 1-100 contains 100 Kear and 2.9 g protein/100 mi	The recommended milk-based F-100 contains 100 kcal and 2.9 g protein/100 ml							
<b>Refer to the Integrated Management of Acute Malnutrition guidelines (2019) for m</b> details on the nutrition care for malnourished patients	ore							
<b>IPC measures</b> Nutrition personnel reviewing patients' feeding should be provided with protective cloth and practice safety measures as provided for all healthcare providers	ning							
Before preparing, serving or eating food, hospital kitchen staff should wash their has thoroughly with clean water and soap for a minimum of 20 seconds	nds							
Safe handling of food packaging materials; COVID-19 can remain on materials ( cardboard packages for up to 24 hours; polythene bags, sacks or boxes)	e.g.							

# Annex 1: Sample meal Plans

# Sample meal plan (6-23 months)

PLAN 1			
	6-8 months	9-11 months	12-23 months
Foods (cooked food)	Serving size (g)	Serving size	Serving size (g)
Boiled cows milk	318	3 37	4 500
cooked dry beans	43	3 7	8 117
cooking oil	10	) 1	0 6
maize flour/porridge/posho	50	) 10	0 100
salt	1	1	1 1
	Vitamin A, iron, zinc,	Vitamin C, Zinc,	Vitamin C, Zinc, iron,
Limiting nutrients	vitamin C	iron, vitamin A	vitamin A
PLAN 2			
	6-8 months	9-11 months	12-23 months
Foods	Serving size (g)	Serving size	Serving size (g)
ground nut cooked	60	) 5	9 66
salt	1	1	1 1
cows milk boiled	250	) 30	0 427
maize flour/porridge	61	1 9	8 100
cooking oil	(	5	3 5
	Vitamin A, calcium,	Vitamin C, Zinc,	Vitamin C, Zinc, iron,
Limitng nutrients	iron, zinc, vitamin C	iron, vitamin A	vitamin A

PLAN 1	3-6 YRS BOYS	7-9 YRS-GIRLS	10-12 YRS-BOYS	10-12 YRS-GIRLS
Foods	Servingsize (g)	Servingsize (g)	Servingsize (g)	Serving size (g)
Boiled cows milk	500	600	750	700
cooked cabbage	80	100		
Cooked dry beans	220	220	200	230
cooking oil	20	15	10	10
maize flour	300	300	300	300
safe drinking water (ml)	1000	1000	1200	1200
salt	4		4	4
sugar	20	20	20	20
	vit C, iron, potassium,	Vitamin C, Zinc, iron,	Vitamin C, Potassium, folate,	Vitamin C, folate, Zinc, iron, vitamin
Limitng nutrients	Vitamin A, folate	vitamin A	iron, vitamin A	A
PLAN 2				
	3-6 YRS BOY	7-9 YRS GIRLS	10-12 YRS-BOYS	10-12 YRS-GIRLS
Foods	Servingsize (g)	Servingsize (g)	Servingsize (g)	Servingsize (g)
Cooked ground nut sauce	150	130	150	130
Boiled cows milk	400	550	700	700
cooked cabbage	100	100		
cooking oil	6	5	5	6
maize flour	300	300	300	300
safe drinking water (ml)	1000	1000	1200	1000
salt	4		4	. 4
sugar	20	20	20	20
	vit C, iron, potassium, Vitamin A.	Vitamin C, Zinc, iron, vitamin A, VITAMIN	Vitamin C, Potassium, folate,	Vitamin C, folate, Zinc, iron, vitamin
Limitng nutrients	folate, vitamin E	E	iron, vitamin A	A
Add foulte funnete blan	fout float brood	Mitemin A sumplex	antation (uE)	

Add fruits-oranges/passion fruit and GLV, fortified bread, egg/meat Vitamin A supplementation for all children

SAMPLE MEAL PLAN 1		
	13-18 YEARS BOYS	13-18 YEARS GIRLS
Foods	Servingsize (g)	Serving size (g)
Boiled cows milk	800	800
cooked cabbage	150	180
Cooked dry beans	250	220
cooking oil	20	20
maize flour	350	320
safe drinking water (ml)	2000	2000
salt	4	4
sugar	20	20
Limitng nutrients	vit C, iron, potassium, Vitamin A, folate	Vitamin C, folate, potassium, iron, vitamin A

Limitng nutrients SAMPLE MEAL PLAN 2

and the second s		
	13-18 YEARS BOYS	13-18 YEARS GIRLS
Foods	Servingsize (g)	Servingsize (g)
Cooked ground nut sauce	200	150
Boiled cows milk	800	800
cooked cabbage	100	100
cooking oil	5	5
maize flour	350	320
safe drinking water (ml)	2000	2000
salt	4	4
sugar	20	20
Limitna nutrients	vit C, iron, potassium, Vitamin A. folate, vitamin E	Vitamin C, Zinc, iron, vitamin A, VITAMIN E

Add fruits/vegetables, fortified bread, Vitamin A supplementation (u5)

SAMPLE MEAL PLAN 1				
	19-24 MALES	19-24 FEMALES	25-50 MALES	25-50 FEMALES
Foods	Serving size (g)	Serving size (g)	Serving size (g)	Serving size (g)
Cooked dry beans	220	200	500	400
cooking oil	15	15	15	1
salt	4		4	1
maize flour	350	330	300	280
sugar	20	20	20	20
Boiled cows milk	500	600	500	650
cooked cabbage	80	100	80	50
safe drinking water (ml)	1900	1000	2000	1700
Limitng nutrients SAMPLE MEAL PLAN 2	vit C, iron, potassium, Vitamin A, folate, CA, MG	Vitamin C, Zinc, iron, vitamin A	Vitamin C, Potassium, folate, iron, vitamin A	Vitamin C, folate, Zinc, iron, vitamin A
	19-24 MALES	19-24 FEMALES	25-50 MALES	25-50 FEMALES
Foods	Serving size (g)	Serving size (g)	Serving size (g)	Serving size (g)
Cooked ground nut sauce	200	190	260	25/
cooking oil	5	5	5	i t
salt	4	4	4	1
maize flour	350	330	420	400
sugar	20	20	20	20
Boiled cows milk	700	550	500	600
cooked cabbage	20	20	150	15(
safe drinking water (ml)	1900	1900	1900	1800
Limitng nutrients	vit C, iron, potassium, Vitamin A, folate, vitamin E	Vitamin C, Zinc, iron, vitamin A, VITAMIN E	Vitamin C, Potassium, folate, iron, Mg, vitamin A, VITAMIN E	Vitamin C, vitamin E, folate, Zinc, iron, vitamin A

SAMPLE MEAL PLAN	1			
	51-65 MALES	51-65 FEMALES	ABOVE 65 MALES	ABOVE 65 FEMALES
Foods	Serving size (g)	Serving size (g)	Serving size (g)	Serving size (g)
Cooked dry beans	220	20	0 500	400
cooking oil	15	1	5 15	5 15
salt	4		4	4 4
maize flour	350	33	0 300	280
sugar	20	2	0 20	) 20
Boiled cows milk	500	60	0 500	) 650
cooked cabbage	80	11	0 120	) 125
safe drinking water (ml)	1900	100	0 2000	) 1700
Limiting nutrients	vit C, iron, potassium, Vitamin A folate vitamin F	Vitamin C, Zinc, iron, vitami A. VITAMIN F	Vitamin C, Potassium, folate, n Mg, vitamin A, VITAMIN E	Vitamin C, Potassium, folate, iron, Mg, vitamin A, VITAMIN F, ca
SAMPLE MEAL PLAN	2			
	51-65 MALES	51-65 FEMALES	ABOVE 65 MALES	ABOVE 65 FEMALES
Foods	Serving size (g)	Serving size (g)	Serving size (g)	Serving size (g)
Cooked around nut				
sauce	200	18	0 260	250
cooking oil	5		5 5	5 5
salt	4		4 4	1 4
maize flour	270	25	0 420	400
sugar	20	2	0 20	) 20
Boiled cows milk	250	60	0 500	) 600
cooked cabbage	140	14	0 150	) 150
safe drinking water (ml)	1600	160	0 1900	) 1800
	vit C, iron,	Vitamin C. Zinn iron ultami	Vitamin C, Potassium, folate,	Mamin C vitamin E falata
Limitng nutrients	A, folate, vitamin E	A, VITAMIN E	VITAMIN E	Zinc, iron, vitamin A

Note: These menus were modelled based on bare minimum diet

Annex 2: Guide on selection of commercial enteral feeding solution

Condition	Yes	No
Normal GIT function	Choose whole protein feed	Consider semi-element /elemental product
Restricted fluid volume/higher energy containing feed needed	Choose high energy feed Consider when a disease specific formula will be needed	Choose a standard formula
Patient constipated	Choose standard feed containing insoluble fibre	Consider standard feed containing soluble fibre/ Soluble fibre could be given instead of standard feed as additional benefit included glycaemic content.
Specific diet restriction/special nutritional need	Consider a disease specific or paced formulation	Choose a standard feed

**Source:** Pat Howard, Basics in clinical nutrition: Enteral nutrition e-SPEN, the European e-Journal of Clinical Nutrition and Metabolism 4 (2009) e223–e225; <u>http://www.elsevier.com/locate/clnu</u>

# Annex 3: Daily dosages of substrates and characteristics of some systems for parenteral nutrition

Condition	Nitroge n	Glucos e,	Fat,	Energy	Na	к	Ca	Mg	Р	Trace elements	Vitamins	Volume,
	g	Kcal	g	kcal	mmol	mmol	mmo I	mmo I	mmol			МІ
Peripheral	8–10	200–250	50–70	1300–1700	80	50	5	8	10–12	Basal	B1	2500–3000
Standard	10–14	250–400	50–100	1500–2200	100	60–80	5	8	12–16	Basal	Basal + B1	2250–3000
Moderate stress	12–16	250–400	50–100	1500–2200	100–120	75–100	5	10	10–20	Basal	Basal + B1	2500–3000
Severe stress	12–18	250–350	50–100	1500–2200	100–120	80–100	6	10	10–20	Basal <sub>+</sub> Zn,Se	Basal+ B1	2500–3500
Renal failure	6–8	250–400	50–70	1500–2200	individua lized	individua lized	6	individ ualize d	individua lized	individualized	Basal+B1	individualiz ed
Liver failure	4–8	200–350	25–60	1200–2000	80	40–60	6	ind.	10–16	Basal+ Se, Zn	B1	2000–3000
Sepsis	10–16	200–400	50–70	1300–2200	100	60–100	5	6–8	10–20	Basal+ Zn, Se	Basal+ B1	2500–3000
Severe malnutrition	8–12	150–400	50–80	1200–2400	50–70	80–100	6	10–16	20–40	Basal+ Zn,Se,Cu	Basal +B1	2000–2500
Cardiac failure	10–12	150–400	50–70	1200–2200	50–70	80–100	6	10–12	15–25	Basal +Zn,Se	Basal +B1	2000–2250
Diabetes	10–14	200–350	50–70	1300–2200	100	80	6	8–10	15–40	Basal	B1	2500–3000

Fat intolerance	10–14	300–450	0–20	1500–1600	100	80	6	8–10	10–20	Basal	Basal +B1	2500–3000
Short bowel	7–14	200–400	20–100	1000–2400	50–250	50	9	10	10	Basal+ Zn,Cu	Basal + B1	1500–2500

(Source: M. Pertkiewicz et al. / e-SPEN, the European e-Journal of Clinical Nutrition and Metabolism 4 (2009) e161-e163;

http://intl.elsevierhealth.com/journals/espen)

Annex 4. Special Considerations for Nutrition Support for Patients with Medical Comorbid
Conditions

Ailment	Prescription	Caution
Diabetes	<ul> <li>Maintain glucose levels between 100 <ul> <li>220 mg/dL</li> </ul> </li> <li>Give 30% of total kcal as fat</li> <li>Gastric atony and delayed emptying is typical in type 1 diabetes</li> </ul>	<ul> <li>Neither relative nor absolute contraindication         <ul> <li>Careful monitoring to avoid hyperglycaemia</li> <li>Establish immediate metabolic needs</li> <li>Insulin may be added to TP admixture &amp; combined with sliding-scale insulin administration</li> <li>Glucose control to ensure blood glucose level of &gt; 100 mg/dl &lt; 220 mg/dL</li> </ul> </li> </ul>
Acute Renal Failure	<ul> <li>Fluid restriction (2 kcal/ml formula)</li> <li>Pre-dialysis= low protein (0.6 - 0.8 g/kg/day)</li> <li>Dialysis= standard protein (1 - 1.2 g/kg/day)</li> <li>Patients usually hypercatabolic, hypermetabolic, often with multiple organ subsystem failure</li> </ul>	<ul> <li>Nutrition substrates administered cautiously in accordance with metabolic needs: <ul> <li>No arbitrary limitation of proteins</li> <li>Patient may not have reduced daily need for protein.</li> <li>Underfeeding may worsen catabolism &amp; exacerbate the unstable condition</li> <li>MUST be assessed carefully for signs of fluid overload, electrolyte imbalance, hyperkalaemia, hyper phosphataemia, hypermagnesaemia</li> <li>Specialized amino acids formulations may be needed</li> </ul> </li> </ul>
Pulmonary Disease	<ul> <li>Calories: 20 - 30 kcal/kg</li> <li>Give 30% - 50% of total kcal as fat</li> <li>Protein: 1 - 2 g/kg</li> </ul>	<ul> <li>Underfeeding may pose threats to pulmonary musculature</li> <li>Overfeeding increases CO2 production &amp; lead to hypercapnia &amp; further degradation of respiratory function</li> <li>Provide adequate carbohydrate calories to meet energy needs using fats</li> </ul>
Hepatic disease	<ul> <li>High calorie intake (35 kcal/kg/day)</li> <li>If no encephalopathy, standard protein</li> <li>(1 - 1.2 g/kg/day)</li> <li>If encephalopathy, protein restriction</li> <li>(0.6 g/kg/day)</li> <li>Sodium restriction if ascites or edema</li> </ul>	<ul> <li>The condition poses profound consequences on nutritional status, exacerbated by illnesses, surgery &amp; stressors.</li> <li>Lipid clearance is defective.</li> <li>Fluid overload may require restriction of TPN volume.</li> <li>Protein need in mild or no encephalopathy should be calculated at 1.5g/kg/day.</li> <li>They can tolerate conventional amino acid formula, especially essential amino acids</li> <li>In state of severe encephalopathy, modified amino acid formula containing high % of BCAAs</li> </ul>
Cardiac disease	<ul> <li>Avoid overfeeding</li> <li>Fluid restriction (2 kcal/ml formula)</li> </ul>	<ul> <li>Long standing cardiac disease predispose to wasting (Cardiac cachexia)</li> </ul>

Source: Gomes F, et al., ESPEN guidelines on nutritional support for polymorbid internal medicine patients, Clinical Nutrition (2017), <u>http://dx.doi.org/10.1016/j.clnu.2017.06.025</u>

# Annex 5: Protocol for laboratory monitoring of nutrition support

Parameter	Frequency	Rationale	Interpretation
Sodium, potassium, urea, creatinine	Baseline Daily until stable Then 1 or 2 times a week	Assessment of renal function, fluid status, and Na and K status	Interpret with knowledge of fluid balance and medication Urinary sodium may be helpful in complex cases with gastrointestinal fluid loss
Glucose	Baseline 1 or 2 times a day (or more if needed) until stable (Then weekly)	Glucose intolerance is common	Good glycaemic control is necessary
Magnesium, phosphate	Baseline, Daily if risk of refeeding syndrome Three times a week until stable (Then weekly)	Depletion is common and under recognized	Low concentrations indicate poor status
Liver function tests including International Normalized Ratio (INR)	Baseline Twice weekly until stable (Then weekly)	Abnormalities common during parenteral nutrition	Complex. May be due to sepsis, other disease or nutritional intake
Calcium, albumin	Baseline, Then weekly	Hypocalcaemia or hypercalcaemia may occur	Correct measured serum calcium concentration for albumin Hypocalcaemia may be secondary to Mg deficiency Low albumin reflects disease not protein status
C-reactive protein	Baseline Then 2 or 3 times a week until stable	Assists interpretation of protein, trace element and vitamin results	To assess the presence of an acute phase reaction (APR). The trend of results is important
Zinc, copper	Baseline, then every 2–4 weeks, depending on results	Deficiency common, especially when increased losses	People most at risk when anabolic APR causes Zn decrease and Cu increase
Selenium <sup>a</sup>	Baseline if risk of depletion Further testing dependent on baseline	Se deficiency likely in severe illness and sepsis, or long-term nutrition support	APR causes Se decrease Long-term status better assessed by glutathione peroxidase
Full blood count and MCV	Baseline 1 - 2 times a week until stable (then weekly)	Anaemia due to iron or folate deficiency is common	Effects of sepsis may be important
Iron, ferritin	Baseline, then every 3–6 months	Iron deficiency common in long-term parenteral nutrition	Iron status difficult if APR (Fe decrease, ferritin increase)

Folate, B12	Baseline, then every 2–4 weeks	Iron deficiency is common	Serum folate/B12 sufficient, with full blood count
Manganese <sup>b</sup>	Every 3–6 months if on home parenteral nutrition	Excess provision to be avoided, more likely if liver disease	Red blood cell or whole blood better measure of excess than plasma
25-OH Vit D <sup>b</sup>	6 monthly if on long-term support	Low if housebound	Requires normal kidney function for effect
Bone densitometry <sup>b</sup>	On starting home parenteral nutrition (then every 2 years)	Metabolic bone disease diagnosis	Together with lab tests for metabolic bone disease

<sup>a</sup> These tests are needed primarily for people having parenteral nutrition in the community.

<sup>b</sup> These tests are rarely needed for people having enteral tube feeding (in hospital or in the community), unless there is cause for concern.

Source: Alan Shenkin, Biochemical monitoring of nutrition support. Ann Clin Biochem 2006; 43: 269–272. https://doi.org/10.1258%2F000456306777695609

# Annex 11. Guidelines On Providing Mental Health And Psychosocial During Covid-19 Pandemic Response

Uganda registered her first case of COVID-19 on March 21<sup>st</sup>, 2020; and since then the cases of COVID-19 have continued to slowly increase. The government has put in place strict measures to contain the COVID-19 outbreak at the population level. However, the unprecedented measures undertaken to break the chain of transmission are causing public panic and unrest and generating psychological stress in the population.

Adequate provision of psychological support and access to services contributes to a sense of normalcy, foster the healing process and enhances resilience of the affected populations. This therefore means that the population should be supported to manage the stress, to prevent the negative psychological outcomes including anxiety, depression, panic attacks, and sleep disturbances.

The mental health professionals have put down some guidance and messages for the different sub-populations to support their mental and psychosocial well-being during this COVID-19 outbreak.

# HEALTH CARE WORKERS

- 1. Feeling pressured is a likely experience during management of epidemics and is not a reflection that you cannot do your job or that you are weak. Some optimum level of stress is necessary to maintain vigilance and for maximum functioning.
- 2. Understand the sources of stress during this time including risk of contracting the disease and contaminating others and the strict bio security measures to be taken; conflicting personal and professional demands and stigma.
- 3. Prepare yourself through training or widely reading about the basic specific details about COVID-19 and the available Uganda MoH protocols and guidelines for screening, PPE, quarantine, isolation and case management.
- 4. Manage your mental health and psychosocial wellbeing during this time as well as your physical health.
- 5. Be honest with yourself and sure you are ready to be a responder. This is important because it helps you reduce on the fear and anxiety.
- 6. Take care of yourself. Use helpful coping strategies such as ensuring sufficient rest and respite during work or between shifts, eat sufficient and healthy food, and engage in physical activity.
- 7. Avoid using tobacco, alcohol or other drugs as a coping strategy. In the long term, these can worsen your mental and physical wellbeing. Use appropriate and helpful strategies that have worked for you in the past to manage times of stress.
- 8. Staying connected with your loved ones, with family and friends through digital methods and explain to them if possible about COVID -19 so as to reduce on the stigma.
- 9. Turn to your colleagues, your manager or other trusted persons for social support but be mindful that your colleagues may also turn to you for help in case they are having problems.
- 10. Use understandable ways to share messages with people with intellectual, cognitive and psychosocial disabilities.

- 11. Know how to provide support to people who are affected with COVID-19 and know how to link them with available resources.
- 12. At the end of the pandemic, follow up with a mental health professional if you experience problems with; sleeping, eating and getting integrated back into your family, community and workplace.

# HEALTH FACILITY MANAGERS OR TEAM LEADERS

- 1. Keeping all staff protected from chronic stress and poor mental health during this response means that they will have a better capacity to fulfill their roles. Be sure to keep in mind that the current situation will not go away overnight and you should focus on longer term occupational capacity rather than repeated short-term crisis responses.
- 2. Ensure good quality communication and accurate information updates are provided to all staff. Use different forms of communication other than written information.
- 3. Rotate workers from higher-stress to lower-stress functions. Partner inexperienced workers with their more experienced colleagues.
- 4. Create and facilitate the buddy system which helps to provide support, reduce stress and reinforce safety procedures.
- 5. Ensure there is time for colleagues to provide social support to each other.
- 6. Ensure that outreach personnel enter the community in pairs.
- 7. Initiate, encourage and monitor work breaks.
- 8. Implement flexible schedules for workers who are directly impacted or have a family member impacted by a stressful event.
- 9. Facilitate access to, and ensure that both workers and managers are aware of where they can access mental health and psychosocial support services.
- 10. Orient responders, including nurses, ambulance drivers, volunteers, case identifiers, teachers and community leaders and workers in quarantine sites, on how to provide basic emotional and practical support to affected people using psychological first aid
- 11. Manage urgent mental health and neurological complaints (e.g. delirium, psychosis, severe anxiety or depression) within emergency or general health care facilities.
- 12. Deploy appropriate trained and qualified staff and ensure that general health care staff can provide basic mental health and psychosocial support.
- 13. Ensure availability of essential, basic psychotropic medications at all levels of health care. People living with long-term mental health conditions or epileptic seizures will need uninterrupted access to their medication, and sudden discontinuation should be avoided.

# **CARE PROVIDERS FOR CHILDREN**

- 1. As a Care provider for children, learn to manage your anxiety and tolerate uncertainties by being mindful of the present. This will help you stay grounded and calm in the present and not the past or the future.
- 2. Help children find positive ways to express feelings such as fear and sadness. Every child has their own way to express emotions including: seeking reassurance, tantrums and meltdowns, trouble sleeping and complaints of headaches and stomachaches. Sometimes engaging in a creative activity, such as playing, and drawing can facilitate this process. Children feel relieved if they can express and communicate their feelings in a safe and supportive environment.
- 3. Keep children close to their parents and family, if considered safe for the child, and avoid separating children and their caregivers as much as possible.
- 4. If a child needs to be separated from their primary caregiver, ensure that appropriate alternative care is provided and that a social worker, or equivalent, will regularly follow up on the child.
- 5. During periods of separation, regular contact with parents and caregivers is maintained, such as twice-daily scheduled phone or video calls or other age-appropriate communication (e.g., social media depending on the age of the child).
- 6. Maintain familiar routines in daily life as much as possible, or create new routines, especially if children must stay at home.
- 7. Engage children into age appropriate activities, including activities for their learning. Encourage children to play and socialize with others, or within the family when advised to restrict social contact.
- 8. Avoid giving too much reassurance because this is not sustainable and it makes anxiety worse when caregivers are not able to provide reassurance. Instead reinforce and remind them of the precautions they are taking to stay safe e.g frequent hand washing and physical distancing. Support them to stay in the moment by practicing mindfulness
- 9. Discuss COVID-19 with children using honest and age- appropriate ways. Address their concerns, to ease anxiety. Children will observe adults' behaviors and emotions for cues on how to manage their own emotions during difficult times.

# OLDER ADULTS, AND PEOPLE WITH UNDERLYING HEALTH CONDITIONS

- 1. Older adults, especially in isolation and those with cognitive decline/dementia may become more anxious, angry, stressed, agitated, and withdrawn during the outbreak/while in quarantine.
- 2. Health professionals and care takers should provide practical and emotional support through sharing simple facts about what is going on and giving clear information about how to reduce risk of infection that older people with/without memory disturbances can understand.
- 3. Instructions need to be communicated in a clear, concise, respectful and patient ways. Repeat the information whenever necessary.
- 4. Engage their family and other support networks in providing information and helping them practice prevention measures (e.g. handwashing etc.)
- 5. If you have an underlying health condition, make sure to have access to any medications that you are currently using. Activate your social contacts to provide you with assistance, if needed.

- 6. Be prepared and know in advance where and how to get practical help if needed, like calling a friend/ family member, having access to near-by food stores and requesting medical care. Make sure you have up to 2 weeks of all your regular medicines that you may require.
- 7. Learn simple daily physical exercises to perform at home, in quarantine or isolation to maintain mobility and reduce boredom.
- 8. Keep regular routines and schedules as much as possible or help create new ones in a new environment, including regular exercising, cleaning, daily chores, singing, reading, maintaining the compound etc. Keep regular contact with loved ones (e.g. via phone or other accesses).

# PEOPLE IN ISOLATION

- 1. Stay connected with family and friends and maintain your social networks via e-mail, social media, video conference, telephone, etc
- 2. Keep your personal daily routines or where possible create new routines.
- 3. During times of stress, pay attention to your own needs and feelings.
- 4. Engage in healthy activities that you enjoy and find relaxing.
- 5. Exercise regularly in appropriate ways that suit your age and situation
- 6. Keep regular sleep routines and eat healthy food.
- 7. Keep things in perspective it may not be possible to be provided with everything as you want it.
- 8. Seek information updates and practical guidance from trusted health professionals and WHO website and avoid listening to or following rumors that make you feel uncomfortable.

## ANNEX 11 : AMBULANCE TRANSPORT & PATIENT CARE FORM

PATIENT DETAILS						
Name:	_ Age: Sex:					
Contact (phone number):						
Address: Village: Parish: Sub-county: District:						
PATIENT ORIGIN: Tick Applicable Option (If Health facility, give details)						
Health Facility	Residence:					
Name of facility: Other (give details)						
Referring Health worker (Designation):						
Time of arrival to pick patient:						

PATIENT CARE:				
Patient counselled (Yes or No)				
Patient residence decontaminated (Yes or No)				
Initial Clinical evaluation	BP:	O <sub>2</sub> saturation:		
	HR:	GCS:		
	RR:			
Treatment given during transport				

HANDOVER DETAILS					
Facility Name:		Time of arrival:			
Patient status at handover	BP:	O <sub>2</sub> saturation:			
	HR:	GCS:			
	RR:				
Incidents during transport		·			

POST	HANDOVER
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Ambulance decontaminated? (Yes or No)	
Dispatch informed of handover & instruction received to return to base (Yes or No)	
Time of return to base	

Name of ECP: \_\_\_\_\_

Ambulance/Vehicle Ref: \_\_\_\_\_\_

Signature:

Date



### **ANNEX 11.1 : AFEM COVID-19 SEVERITY SCORING TOOL**

# EMERGENCY CARE OF COVID-19 IN ADULTS IN LOW RESOURCE SETTINGS





### ANNEX 11.2: AMBULANCE DECONTAMINATION PROTOCOL

### Before Decontamination and Disinfection:

Following patient transfer, the back doors of the ambulance should be left open so that sufficient air exchange may occur. Appropriate supplies must be available.

- 1. Yellow caution tape, string or alternative system for marking off decontamination area
- 2. PPE
- 3. Leak proof biohazard bags
- 4. Garbage bags
- 5. Spray bottles
- 6. Disposable rags
- 7. Alcohol based hand sanitizer
- 8. Absorbent towels
- 9. Bleach or alcohol-based cleaning solution or disinfectant wipes

Decontamination team: Can be either Driver plus ECPs or separate team.

Start with pre-cleaning using soap and water then apply high-grade disinfectant to any potentially contaminated surfaces or objects. Start from the ceiling of the vehicle to the floor systematically cleaning all surfaces that may have had contact with the patient or materials that were contaminated during patient care (e.g. Control panels, walls etc) including the underneath and base of the stretcher.

### Disinfectant solution options include:

- 1. Regular household disinfectant containing 0.5% sodium hypochlorite (that is, equivalent to 5000 ppm or 1-part bleach to 9 parts water).
- 2. Chlorine-based compounds (bleach, calcium hypochlorite, NADCC tablets) must be at least 0.1% (1000ppm) for 10 minutes on a clean surface.
- 3. Alcohol-based compounds with at least 60-70% alcohol by weight or by volume.

Follow contact times on labels of the products used and clean reusable equipment according to the manufacturer's instructions.

**Decontamination of spills and disinfection**: Disinfect the outside of any bags containing unused medical equipment as well as the stretcher. Supervised doffing of PPE can occur into a final biohazard bag, which is closed and disinfected.

### After disinfection/decontamination:

• All waste, including PPE and wipes, should be considered Category A infectious substances, and should be packaged appropriately for disposal.

• Linen should not be shaken. It should be contained and laundered according to standard operating procedures.

### Waste:

• All waste must be disposed of according to organization protocols as well as local and national regulations for Category A infectious substance. (Best practice may be to transfer waste to the hospital for disposition).

• Ambulance can then be returned to service.