MINISTRY OF HEALTH

Guidelines on Clinical care COVID-19

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Approach to strategy identification

This strategy is informed by the absence of definitive cure and vaccine, which are mainstay to case management and adopted from the WHO interim guidance document.

All care provided will be to improve patient outcomes through provision of supportive care to delay progression, management of severe disease and co-morbidities.

The Strategy focuses on 3 identified key areas.

1. Care for full spectrum of disease presentation
2. Geographical representativeness
3. Requirement for specialized care

Key Strategies for Case Management

1. Revitalise case management sub-committee of the district task force with clear ToR's.
2. Establish/strengthen case management working teams at health facility, communities and institutions.
3. Support the establishment/designation of isolation facilities for suspected and confirmed COVID-19 cases.
4. Strengthen triage and Infection Prevention and Control (IPC) at all health facilities, communities and institutions.
5. Support Regional Referral Hospitals to establish / strengthen high dependence unit (HDUs) with capability to deliver critical care
6. Support health facilities with service delivery approaches to decongest.

Suspect Case

A patient with acute respiratory illness (fever(37.5 C) and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset;

OR

A patient with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case (see definition of contact) in the last 14 days prior to symptom onset;

OR

A patient with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath; AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation.

Probable case

A suspect case for whom testing for the COVID-19 virus is inconclusive.

OR A suspect case for whom testing could not be performed for any reason.

Confirmed case

A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms.

Contact

A contact is a 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:

1. Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes;

2. Direct physical contact with a probable or confirmed case;

3. Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment;

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

Screening and Triage:

Screen and isolate all patients with suspected COVID-19 at first point of contact with health care system (such as the emergency department or outpatient department/clinic).

Triage patients using standardized triage tools .

Standard Precautions

These include hand hygiene and the use of personal protective equipment (PPE) when in indirect and 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.

Collection of Specimens for Laboratory Diagnosis

- Collect specimens from the upper respiratory tract (URT; nasopharyngeal and oropharyngeal) AND, where clinical suspicion remains and URT specimens are negative, collect specimens from the lower respiratory tract when readily available (LRT; expectorated sputum, endotracheal aspirate, or bronchoalveolar lavage in ventilated patient) for SARS-CoV-2 testing by RT-PCR and bacterial stains/cultures.
- In hospitalized patients with confirmed COVID-19, repeat URT and LRT samples can be collected to demonstrate viral clearance.
- The frequency of specimen collection will 24 hours apart .
- For hospital discharge, in a clinically recovered patient two negative tests, at least 24 hours apart, is recommended.
- **Please Refer to National Guidelines on collection of COVID specimen collection .**

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Observe IPC

1. Perform Hand Hygiene
2. Respiratory hygiene and cough etiquette
3. Environmental cleaning

Health Facility Entrance

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Screen and Triage as per case definition

A patient with acute respiratory illness (fever(37.5 C) and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath),
AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset.

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YES (suspect case)

1. Provide masks.
2. Isolate immediately to the designated room.
3. Assess severity , Respiratory Distress (Respiratory Rate , Use of accessory muscles and Difficult in Breathing)
4. Sample collection and Transportation
5. Do laboratory test (Malaria B/S and RDT)

NO (Low Risk)*

1. Health Education
2. Continue on IPC

* Note ; The patient may be Asymptomatic but can spread the Virus.

Ensure you adhere to IPC

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CLINICAL GUIDANCE ON COVID-19

SEVERE CASES

Severe(RR > 25bpm, Temp 38C, spO2 < 90 , systolic Bp < 90mmHg)

1. Admit patient to HDU if available
2. Large bore IV line
3. Give Oxygen, start at 10L / Minute Non Rebreather Face mask, target SpO2 91 %
4. Bolus of 250-500mls of Ringers Lactate
5. Reassess

NON SEVERE CASES

1. Monitor Disease progression (RR, Temp, SpO2, BP)
2. Manage symptoms as per Standard Guidelines
3. Remain in isolation

CONTINUE WITH IPC AND FOLLOW UP RESULTS FOR COVID -19

COVID-19 POSITIVE (Confirmed Cases)

Refer to the Designated sites

COVID-19 NEGATIVE

1. Continue Management of symptoms
2. Health Education
3. Continue on IPC

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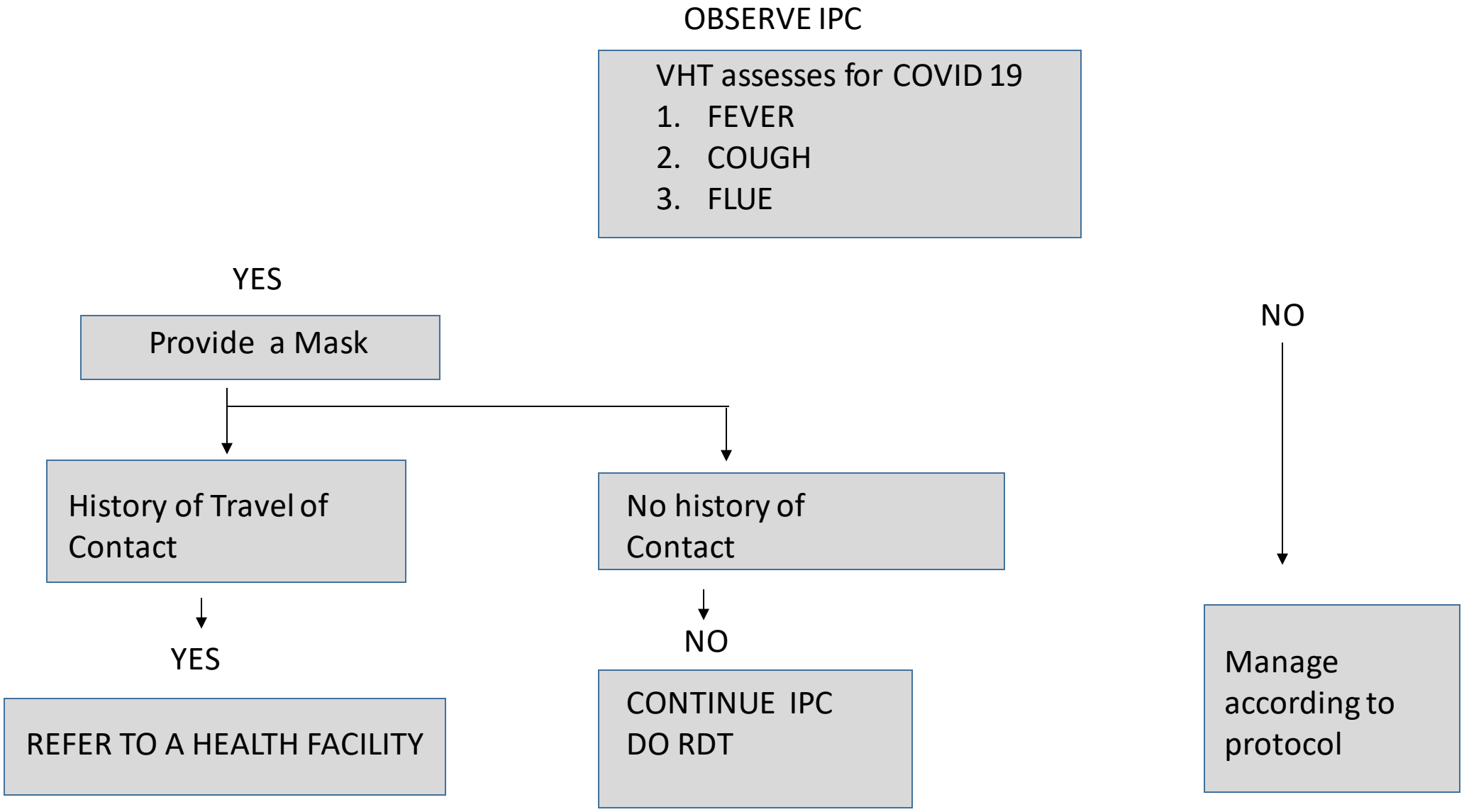
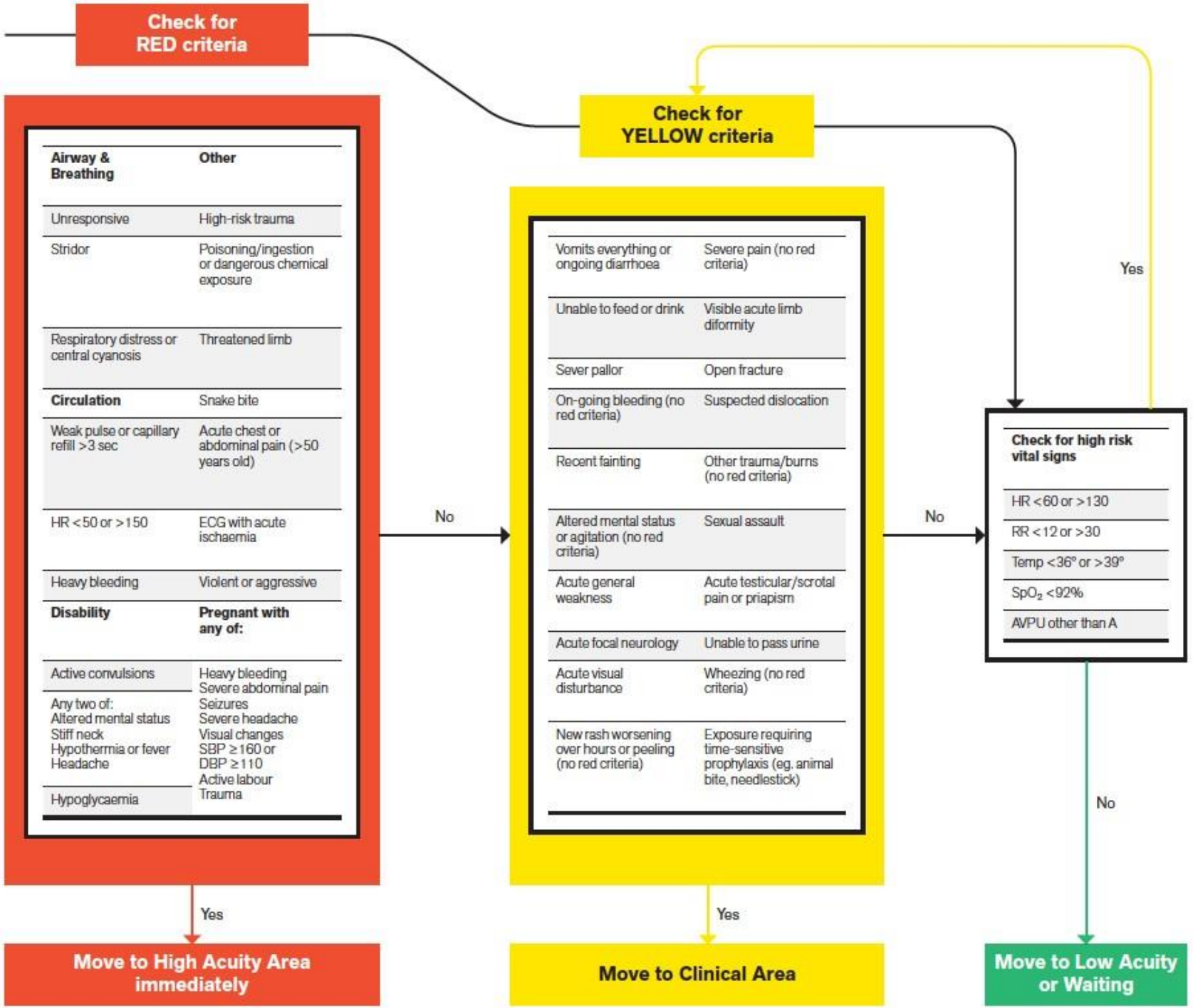
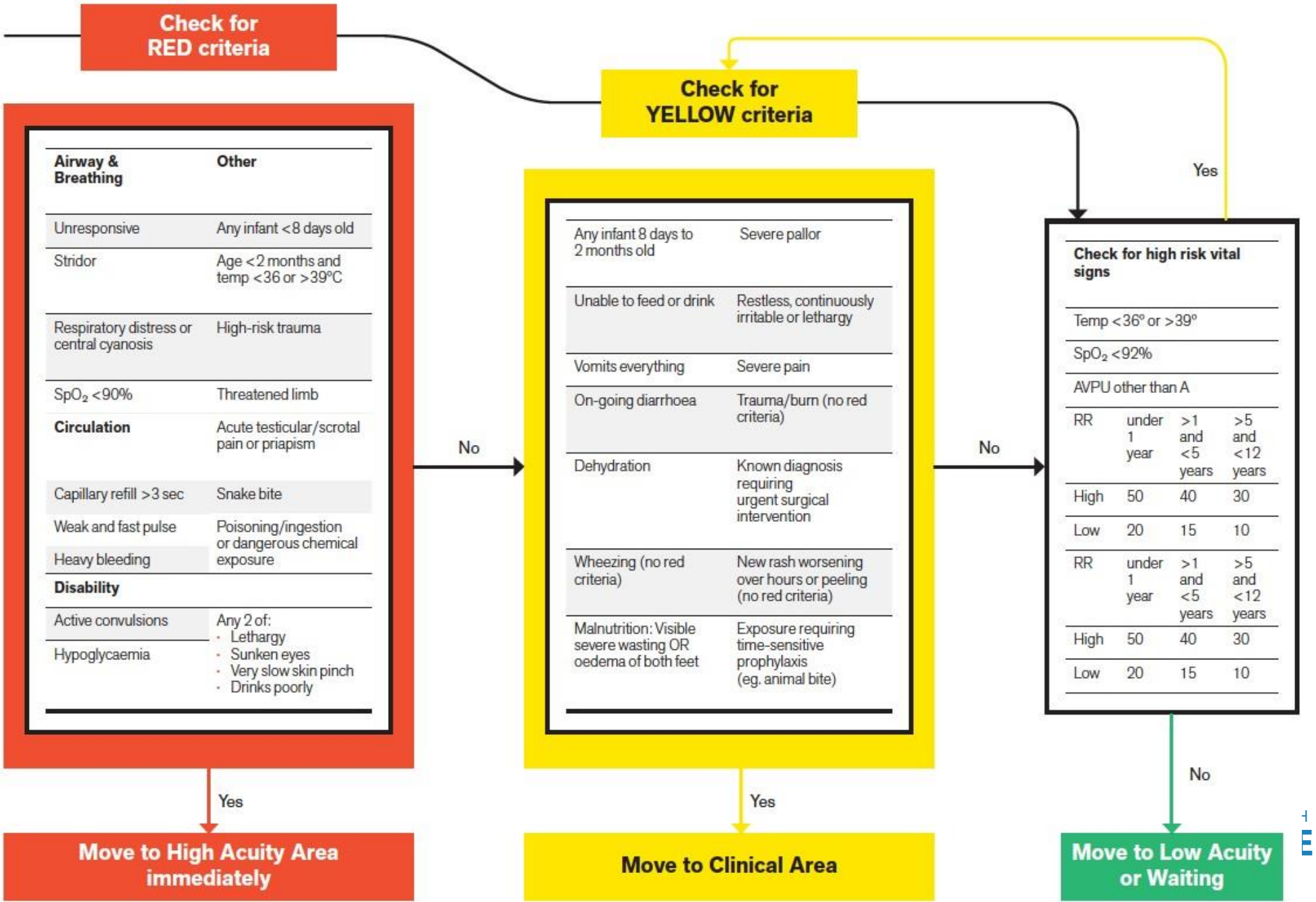
COVID-19 TRIAGE BY THE VHTs





WHO – ICRC Integrated Triage Tool >12 years



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EXPANDING ISOLATION SITES

- At a given time , the number of confirmed COVID-19 mild cases may overwhelm the health facilities isolation places .
- There is a need for a plan to identify and support secondary isolation sites .
- All these sites will be designated by the districts task force as guided by the National Task Force .

Escalation Plan for Isolation Sites .

- **Threshold 1**: Where the HF bed capacity is adequate .

All cases will be managed at Health Facilities and Designated sites such as Entebbe , Mulago , Naguru , Designated Private Facilities , RRH, DH and HCIV

- **Threshold 2**: The HF bed capacity is overwhelmed .

Threshold 1 + Designated isolation sites , should be included schools , churches and stadiums

- **Threshold 3**: The HF and Designated isolation sites are overwhelmed

Threshold 1 + 2+ Home care .

Table 2. Clinical syndromes associated with COVID-19

Mild illness	Patients with uncomplicated upper respiratory tract viral infection, may have non-specific symptoms such as fever, fatigue, cough (with or without sputum production), anorexia, malaise, muscle pain, sore throat, dyspnea, nasal congestion, or headache. Rarely, patients may also present with diarrhoea, nausea and vomiting *(3, 11-13)*. The elderly and immunosuppressed may present with atypical symptoms. Symptoms due to physiologic adaptations of pregnancy or adverse pregnancy events, such as e.g. dyspnea, fever, GI-symptoms or fatigue, may overlap with COVID-19 symptoms.
Pneumonia	**Adult** with pneumonia but no signs of severe pneumonia and no need for supplemental oxygen. **Child** with non-severe pneumonia who has cough or difficulty breathing + fast breathing: fast breathing (in breaths/min): < 2 months: ≥ 60; 2–11 months: ≥ 50; 1–5 years: ≥ 40, and no signs of severe pneumonia.
Severe pneumonia	**Adolescent or adult:** fever or suspected respiratory infection, plus one of: respiratory rate > 30 breaths/min; severe respiratory distress; or SpO_2 ≤ 93% on room air (adapted from *14*). **Child** with cough or difficulty in breathing, plus at least one of the following: central cyanosis or SpO_2 < 90%; severe respiratory distress (e.g. grunting, very severe chest indrawing); signs of pneumonia with a general danger sign: inability to breastfeed or drink, lethargy or unconsciousness, or convulsions *(15)*. Other signs of pneumonia may be present: chest indrawing, fast breathing (in breaths/min): < 2 months: ≥ 60; 2–11 months: ≥ 50; 1–5 years: ≥ 40 *(16)*. While the diagnosis is made on clinical grounds; chest imaging may identify or exclude some pulmonary complications.
Acute respiratory distress syndrome *(17-19)*	**Onset:** within 1 week of a known clinical insult or new or worsening respiratory symptoms. **Chest imaging** (radiograph, CT scan, or lung ultrasound): bilateral opacities, not fully explained by volume overload, lobar or lung collapse, or nodules. **Origin of pulmonary infiltrates**: respiratory failure not fully explained by cardiac failure or fluid overload. Need objective assessment (e.g. echocardiography) to exclude hydrostatic cause of infiltrates/oedema if no risk factor present. **Oxygenation impairment in adults** *(17, 19)*: • Mild ARDS: 200 mmHg < PaO_2/FiO_2[a] ≤ 300 mmHg (with PEEP or CPAP ≥ 5 cmH_2O, or non-ventilated) • Moderate ARDS: 100 mmHg < PaO_2/FiO_2 ≤ 200 mmHg (with PEEP ≥ 5 cmH_2O, or non-ventilated) • Severe ARDS: PaO_2/FiO_2 ≤ 100 mmHg (with PEEP ≥ 5 cmH_2O, or non-ventilated) • When PaO_2 is not available, SpO_2/FiO_2 ≤ 315 suggests ARDS (including in non-ventilated patients). **Oxygenation impairment in children:** note OI = Oxygenation Index and OSI = Oxygenation Index using SpO_2. Use PaO_2-based metric when available. If PaO_2 not available, wean FiO_2 to maintain SpO_2 ≤ 97% to calculate OSI or SpO_2/FiO_2 ratio: • Bilevel (NIV or CPAP) ≥ 5 cmH_2O via full face mask: PaO_2/FiO_2 ≤ 300 mmHg or SpO_2/FiO_2 ≤ 264 • Mild ARDS (invasively ventilated): 4 ≤ OI < 8 or 5 ≤ OSI < 7.5 • Moderate ARDS (invasively ventilated): 8 ≤ OI < 16 or 7.5 ≤ OSI < 12.3 • Severe ARDS (invasively ventilated): OI ≥ 16 or OSI ≥ 12.3.

Sepsis *(5, 6)*	**Adults:** life-threatening organ dysfunction caused by a dysregulated host response to suspected or proven infection.[b] Signs of organ dysfunction include: altered mental status, difficult or fast breathing, low oxygen saturation, reduced urine *(5, 20)* 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 ≥ 2 aged based systemic inflammatory response syndrome criteria, of which one must be abnormal temperature or white blood cell count.
Septic shock *(5, 6)*	**Adults:** persisting hypotension despite volume resuscitation, requiring vasopressors to maintain MAP ≥ 65 mmHg and serum lactate level > 2 mmol/L. **Children:** any hypotension (SBP < 5th centile or > 2 SD below normal for age) or two or three of the following: altered mental state; tachycardia or bradycardia (HR < 90 bpm or > 160 bpm in infants and HR < 70 bpm or > 150 bpm in children); prolonged capillary refill (> 2 sec) or feeble pulse; tachypnea; mottled or cool skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia *(21.)*.

High Risk Group

- Age above 60 years old
- Smoker
- Cardiovascular disease
- Diabetes
- Hypertension
- Immune deficiency states including HIV
- Pre-existing pulmonary disease
- Other chronic disease such as chronic kidney disease, Chronic Respiratory disease, Sickle

Management of Mild COVID-19

- Patients with mild disease do not require hospital interventions; but isolation is necessary to contain virus transmission and will depend on national strategy and resources.
- Appropriate IPC to contain and mitigate transmission. This will be done by the designated facilities .
- Provide patient with mild COVID-19 with symptomatic treatment such as antipyretics for fever.
- Counsel patients with mild COVID-19 about signs and symptoms of complicated disease. If they develop any of these symptoms, they should seek urgent care through national referral systems.

Management of Severe COVID-19

Oxygen therapy and monitoring

- Give supplemental oxygen therapy immediately to patients with SARI and respiratory distress, hypoxaemia or shock and target > 94% and ≥ 92–95% in pregnant patients .
- Closely monitor patients with COVID-19 for signs of clinical deterioration, such as rapidly progressive respiratory failure and sepsis and respond immediately with supportive care interventions.
- Application of timely, effective and safe supportive therapies is the cornerstone of therapy for patients that develop severe manifestations of COVID-19.
- Understand the patient's co-morbid condition(s) to tailor the management of critical illness.
- Monitor for drug-drug interactions.
- Use conservative fluid management in patients with SARI when there is no evidence of shock.

Management of Severe COVID-19

Treatment of co-infections

- Give empiric antimicrobials to treat all likely pathogens causing SARI and sepsis as soon as possible, within 1 hour of initial patient assessment for patients with sepsis.
- Empiric therapy should be de-escalated on the basis of microbiology results and clinical judgment.

Management of Critical COVID-19:

Acute Respiratory Distress Syndrome (ARDS)

- Recognize severe hypoxemic respiratory failure when a patient with respiratory distress is failing standard oxygen therapy and prepare to provide advanced oxygen/ventilatory support.
- Endotracheal intubation should be performed by a trained and experienced provider using airborne precautions.
- Rapid sequence intubation is appropriate after an airway assessment that identifies no signs of difficult intubation .

Prevention of Complications

Anticipated outcome	Interventions
Reduce days of invasive mechanical ventilation	• Use weaning protocols that include daily assessment for readiness to breathespontaneously • Minimize continuous or intermittent sedation, targeting specific titration endpoints (light sedation unless contraindicated) or with daily interruption of continuous sedative infusions.
Reduce incidence of ventilator-associated pneumonia	• Oral intubation is preferable to nasal intubation in adolescents and adults • Keep patient in semi-recumbent position (head of bed elevation 30–45º) • Use a closed suctioning system; periodically drain and discard condensate intubing • 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 venous thromboembolism	• Use pharmacological prophylaxis (low molecular-weight heparin [preferred if available] or heparin 5000 units subcutaneously twice daily) in adolescents and adults without contraindications. For those with contraindications, use mechanical prophylaxis (intermittent pneumatic compression devices).
Reduce incidence of catheter-related bloodstream infection.	• Use a checklist with completion verified by a real-time observer as reminder of each step needed for sterile insertion and as a daily reminder to remove catheter if no longer needed.
Reduce incidence of pressure ulcers.	• Turn patient every 2 hours
Reduce incidence of stress ulcers and gastrointestinal bleeding.	• Give early enteral nutrition (within 24–48 hours of admission) • Administer histamine-2 receptor blockers or proton-pump inhibitors in patients with risk factors for GI bleeding. Risk factors for gastrointestinal bleeding include mechanical ventilation for ≥ 48 hours, coagulopathy, renal replacement therapy, liver disease, multiple comorbidities, and higher organ failure score.
Reduce incidence of ICU-related weakness.	• Actively mobilize the patient early in the course of illness when safe to do so.

Septic Shock

- Recognize septic shock in adults when infection is suspected or confirmed AND vasopressors are needed to maintain mean arterial pressure (MAP) ≥ 65 mmHg AND lactate is ≥ 2 mmol/L, in absence of hypovolemia.
- Recognize septic shock in children with any hypotension (systolic blood pressure [SBP] < 5th centile or > 2 SD below normal for age) or two or more of the following: altered mental state; tachycardia or bradycardia (HR < 90 bpm or > 160 bpm in infants and HR < 70 bpm or > 150 bpm in children); prolonged capillary refill (> 2 sec) or feeble pulses; tachypnea; mottled or cold skin or petechial or purpuric rash; increased lactate; oliguria; hyperthermia or hypothermia.

Resuscitation strategies for Adult and Paediatric patients with septic shock.

- In resuscitation for septic shock in adults, give at 250–500 mL crystalloid fluid as rapid bolus in first 15–30 minutes and reassess for signs of fluid overload after each bolus.
- In resuscitation from septic shock in children, give 10–20 mL/kg crystalloid fluid as a bolus in the first 30–60 minutes and reassess for signs of fluid overload after each bolus.
- Monitor for overload

Caring for Pregnant women with COVID-19

- Considering asymptomatic transmission of COVID-19 may be possible in pregnant or recently pregnant women, as with the general population all women with epidemiologic history of contact should be carefully monitored.
- Pregnant women with a suspected, probable or confirmed COVID-19 infection, including women who may need to spend time in isolation with obstetric, foetal medicine and neonatal care, as well as mental health and psychosocial support, with readiness to care for maternal and neonatal complications.
- At this point, there is no evidence that pregnant women present with increased risk of severe illness or fetal compromise.
- Pregnant and recently pregnant women who have recovered from COVID-19 should be enabled and encouraged to attend routine antenatal, postpartum or post-abortion care as appropriate.

Caring for Infants and Mothers with COVID-19

- Infants born to mothers with suspected, probable or confirmed COVID-19 infection, should be fed according to standard infant feeding guidelines, while applying necessary precautions for IPC.
- As with all confirmed or suspected COVID-19 cases, symptomatic mothers who are breastfeeding or practicing skin-to-skin contact or kangaroo mother care should practise respiratory hygiene, including during feeding (for example, use of a medical mask when near a child if with respiratory symptoms), perform hand hygiene before and after contact with the child, and routinely clean and disinfect surfaces which the symptomatic mother has been in contact with.
- 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.
- In situations when severe illness in a mother due to COVID-19 or other complications prevent her from caring for her infant or prevent her from continuing direct breastfeeding, mothers should be encouraged and supported to express milk, and safely provide breastmilk to the infant, while applying appropriate IPC measures

Caring for Older Persons with COVID-19

- Ensure multidisciplinary collaboration among physicians, nurses, pharmacists, other health care professionals in the decision making process to address multi morbidity and functional decline.
- Early detection of inappropriate medication prescriptions is recommended to prevent adverse drug events and drug interactions for those being treated with COVID-19.
- Involve caregivers and family members in decision-making and goal-setting throughout the management of COVID-19

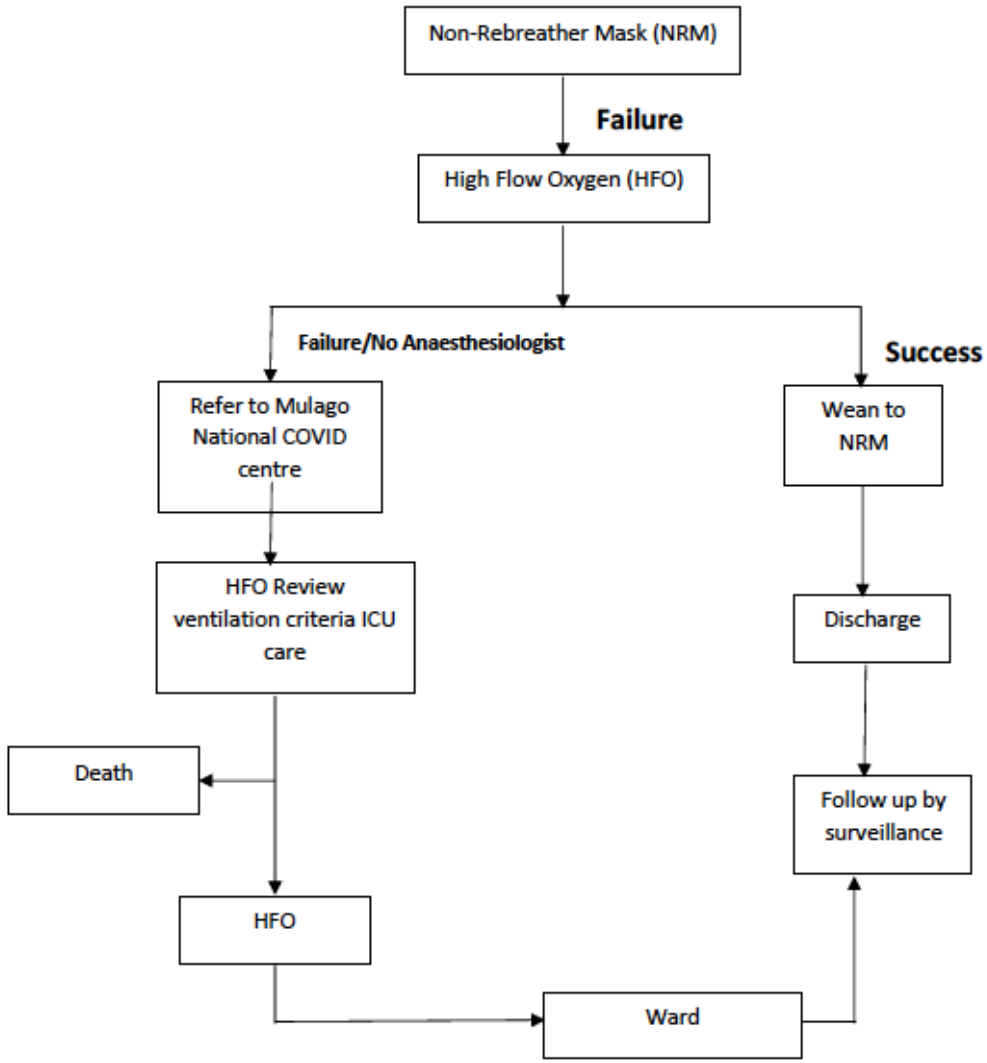
National Critical Care COVID Response Plan

Operational plan for escalation

- Mobilise anaesthesiologists from the association (60 available), currently only 12 employed by MoH
- Train nurses at RRHs on AHRF management
- Mobilise Uganda Critical Care Nurses association 100 ICU nurses from private practice for Mulago ICU response
- Currently no space in private/PNFP/Women's-Ongoing ICU care
- 2 per regional referral on call basis to
- 1 to escort intubated/ventilated patient in NP ambulance
- 20 to support at Mulago COVID ICU facility
- Anticipated/projected load= 70-100 ICU COVID patients (surge modelling)

Uganda Critical Care referral pathway for COVID-19

From Regional referral to National Isolation/ICU care



Contact persons

- Dr JB Waniaye- Commissioner EMS
- Dr Jane Nakibuuka- Head, Mulago ICU
- Dr Arthur Kwizera- ICU lead, Case management National Taskforce/MAKCHS/Mulago ICU