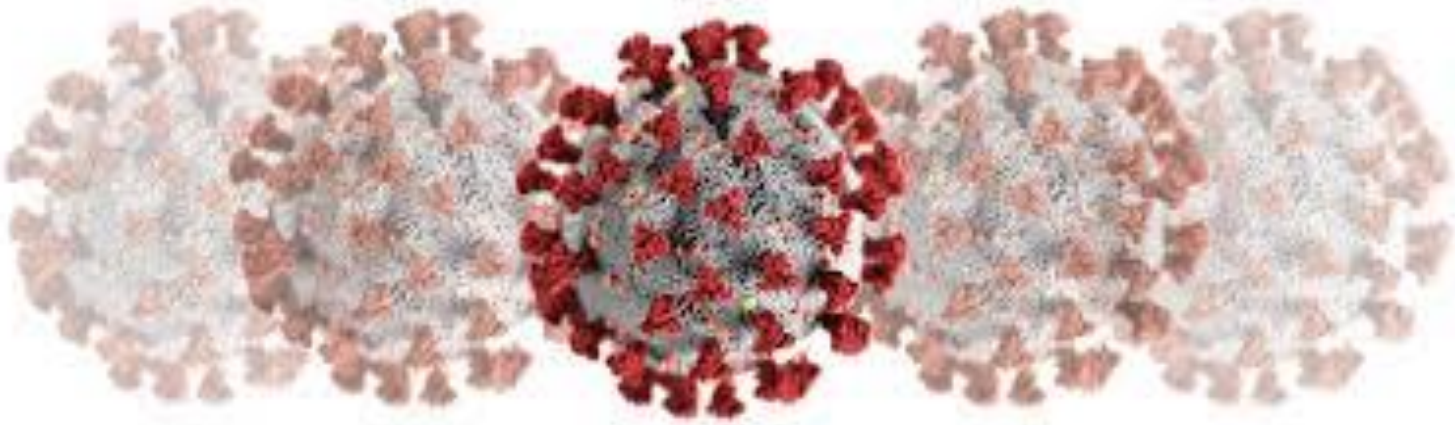
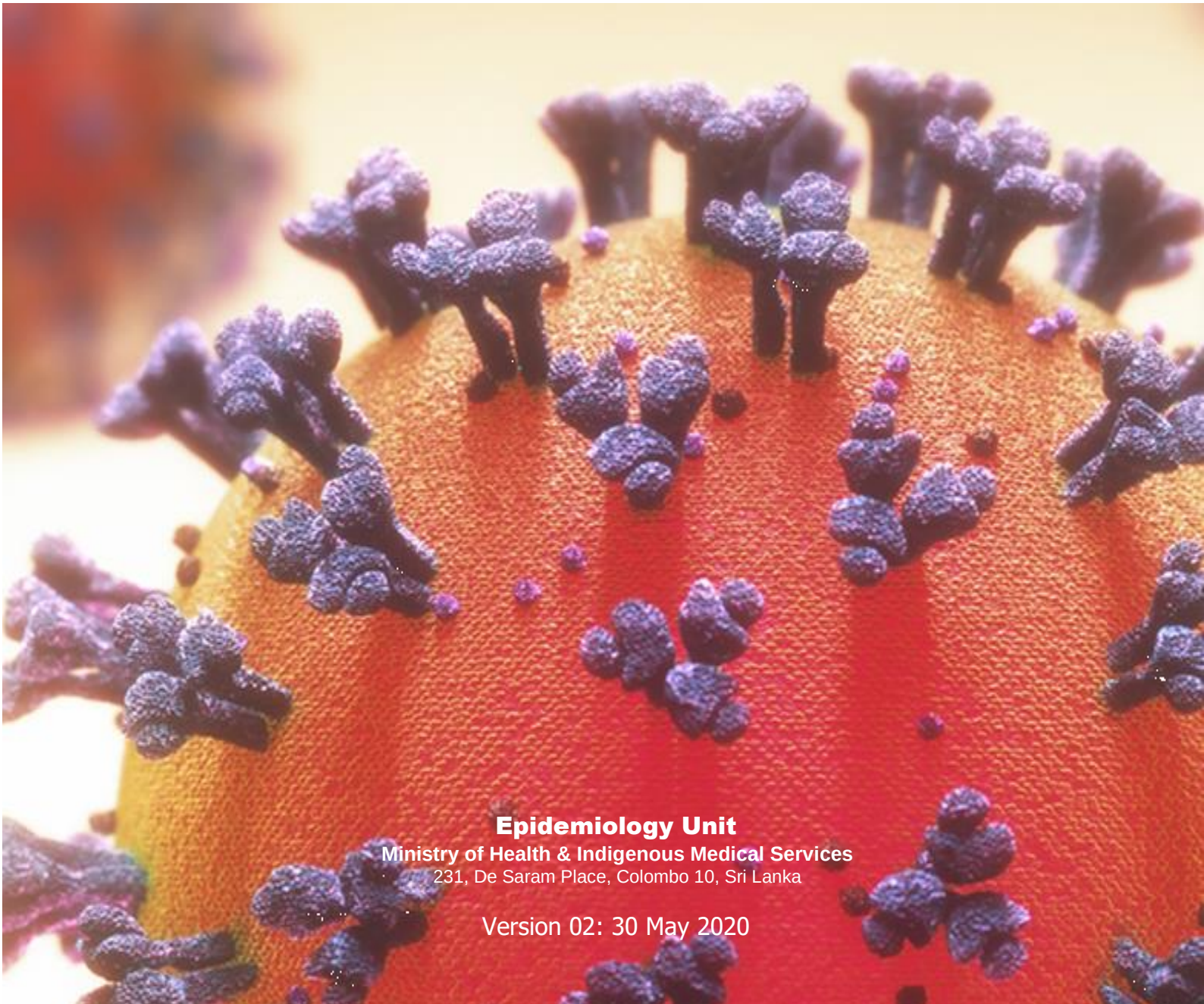


# COVID-19 LABORATORY TEST STRATEGY IN SRI LANKA



**Epidemiology Unit**
**Ministry of Health & Indigenous Medical Services**
231, De Saram Place, Colombo 10, Sri Lanka

Version 02: 30 May 2020

# COVID-19 LABORATORY TEST STRATEGY IN SRI LANKA

## VERSION 02

**WHAT ARE THE CHANGES IN THIS VERSION?**

The algorithm for overseas returnees (Annex 6) revised splitting into two algorithms as overseas returnees from low-risk countries (Annex 6a) and overseas returnees from high-risk countries (Annex 6b). The timing of tests also changed accordingly.


**PREPARED BY THE EPIDEMIOLOGY UNIT OF THE MINISTRY OF HEALTH AND INDIGENOUS MEDICAL SERVICES**

**WITH THE CONTRIBUTION OF CONSULTANT VIROLOGISTS**



**VERSION 01: 09 MAY 2020**

**VERSION 02: 30 MAY 2020**

## Introduction

In managing the pandemic caused by SARS CoV-2, early diagnosis of acute infection in both symptomatic and asymptomatic patients plays a major role in containing the transmission of this infection in the community. Early diagnosis in combination with contact tracing and quarantining of exposed contacts remains the main strategy in preventing wide community spread of the SARS CoV-2 infection.

## Laboratory diagnosis of COVID-19

SARS CoV-2 RT-PCR (on respiratory specimens) is the mainly available diagnostic method at present to diagnose acute infection to fulfill above strategic need of infection control and prevention. Being a laborious testing method consuming several resources, SARS CoV-2 RT-PCR needs to be used in a rational approach for its optimum usage to achieve best outcome in this crisis situation. Introduction of automated laboratory procedures is also a need to further expand the SARS CoV-2 RT PCR testing capacity in the laboratories.

Point-of-care molecular assays and immunochromatographic antigen assays are also being developed in the world with limited accessibility due to the issues in global supply chain. Once such methods are available in the country they can be used for acute diagnosis after a local laboratory verification process to evaluate their sensitivity and specificity compared to RT-PCR method. Some rapid antigen assays were already available but their performance were not adequate for the use according to the results of local verification process.

Antibody assays are not appropriate for acute diagnosis of the infection, but can be used to assess the exposures to the virus in surveillance purposes if satisfactory assays are available. All rapid antibody assays which were locally validated so far haven't shown good performance for their routine use. Serosurveillance studies would be more feasible when validated serology ELISAs are available in the country.

COVID-19 testing strategy mentioned here is based on RT-PCR assay and designed to cater the needs of infection control and prevention of the outbreak in the prevailing epidemiological circumstances. In addition, it focuses on individual patient management, as well. As the situation of the pandemic is evolving globally and locally, this testing strategy may need regular review and change according to the new developments in relation to the SARS CoV-2 infection and associated factors in the country and the world.

# COVID-19 LABORATORY TEST STRATEGY

For the overall RT-PCR test algorithm please refer to the Annex 1.

The current COVID-19 laboratory test strategy in Sri Lanka can be categorized as follows:

1. Case finding
    1.1. Passive Case Finding
    1.2. Active Case Finding
2. Epidemiological investigation
    2.1. Sentinel surveillance
    2.2. Random sampling of selected communities/ settings
    2.3. Sero-prevalance studies

## 1. CASE FINDING

### 1.1. PASSIVE CASE FINDING

1.1.1. All suspected patients that fit into the COVID-19 case definition (Admitted to isolation centers in designated hospitals) [Refer Annex 2]

### 1.2. ACTIVE CASE FINDING

1.2.1. All close contacts of COVID-19 patients [Refer Annex 3]

1.2.2. Second level contacts of COVID-19 patients identified from environments that has higher risk of transmission [patients from highly overcrowded areas/ patients who had very high mobility with large number of contacts/ people living in congregate settings like hostels/ camps/ institutional care facilities] (large clusters) - 'Hot Spots' [Refer Annex 4]

1.2.3. Random sampling of neighbourhood of confirmed COVID-19 cases [Refer Annex 5]

1.2.4. Overseas returnees [Refer Annex 6]

1.2.5. Healthcare workers and other frontline workers dealing with COVID-19 patients/ communities with high risk exposures [Refer Annex 7]

1.2.6. All patients admitted to hospitals (both Govt. and Private) with severe acute respiratory infection (SARI) not explainable by any other aetiology [Refer Annex 8]

1.2.7. Inward patients (for management of other problems) that treating consultant decides need of exclusion of COVID-19 [Refer Annex 9]

1.2.8. Deaths suspected due to COVID-19 pneumonia that may occur inward, on admission or in the community [Refer Annex 10]

## 2. Epidemiological Investigation

**2.1. SENTINEL SURVEILLANCE -** Patients presenting to OPD of the COVID-19 sentinel sites (~35 Hospitals island wide) with COVID-19 like symptoms (fever with respiratory symptoms). Test a random sample of 10 patients per day

**2.2. RANDOM SAMPLING FROM COMMUNITIES** in high-risk areas/ settings as determined by the Epidemiology Unit (including urban slum areas, estates, schools, pre-schools, healthcare workers, people living in hostels/ camps, market places etc.)

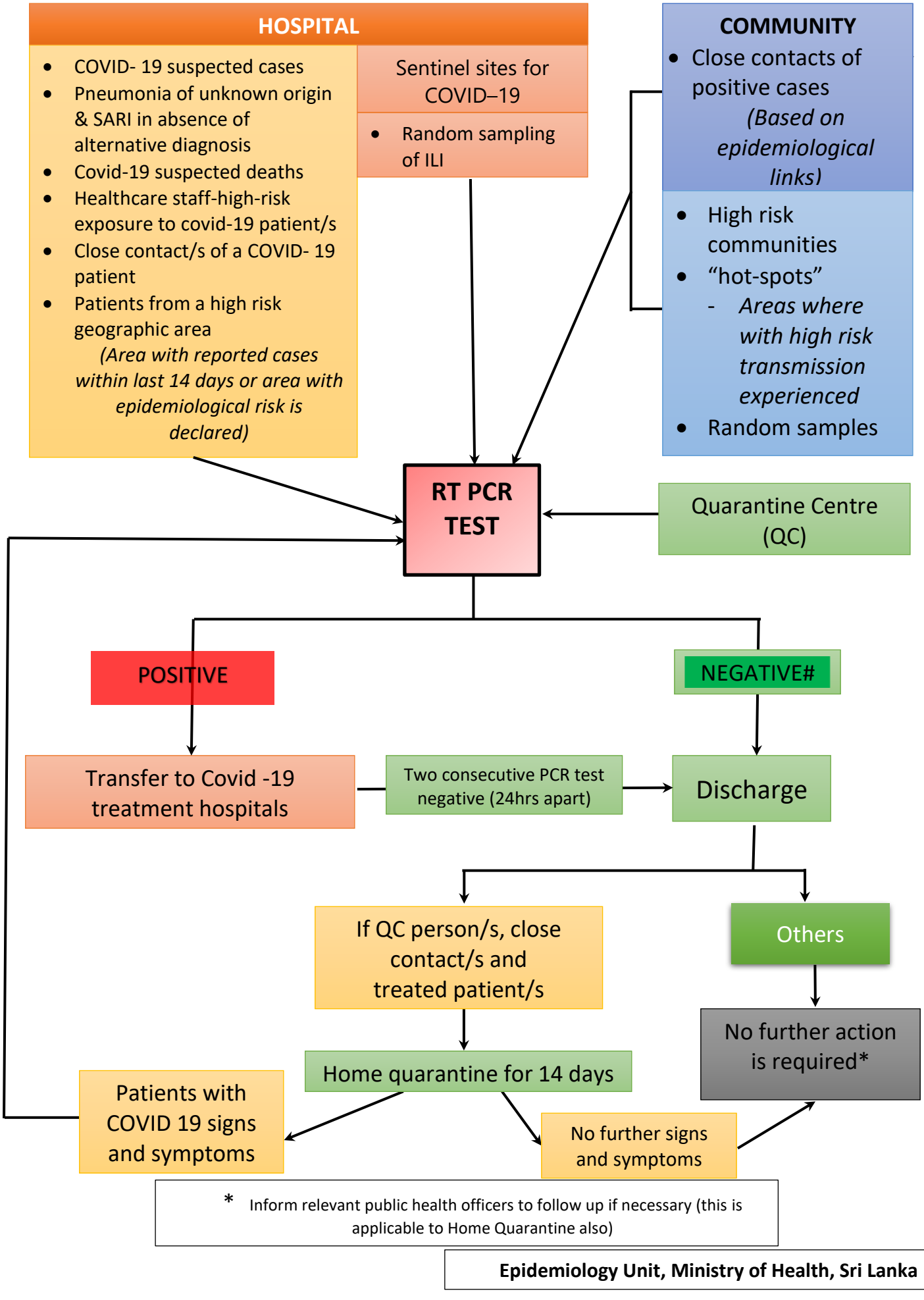
**2.3. SERO-PREVALENCE STUDIES** [Antibody testing based on the availability of validated test]. Study populations to be selected based on the epidemiological pattern of the disease at the time of testing

**Special notes: -**

1. All samples for screening of asymptomatic cases should be collected according to the indications in annexures 3-7 and the request should be made in the format demonstrated in annexure 11. It should be completely filled with all requested information and clear identification and contact details of the requesting officer. Otherwise testing laboratory may not accept the samples for screening
2. Samples for screening of asymptomatic cases and surveillance purposes may be considered for pooled sample analysis according to a validated laboratory protocol in future. But such practice will not be used for the samples tested for clinical diagnostic purposes.

ANNEX 1

# COVID-19 PCR TESTING ALGORITHM

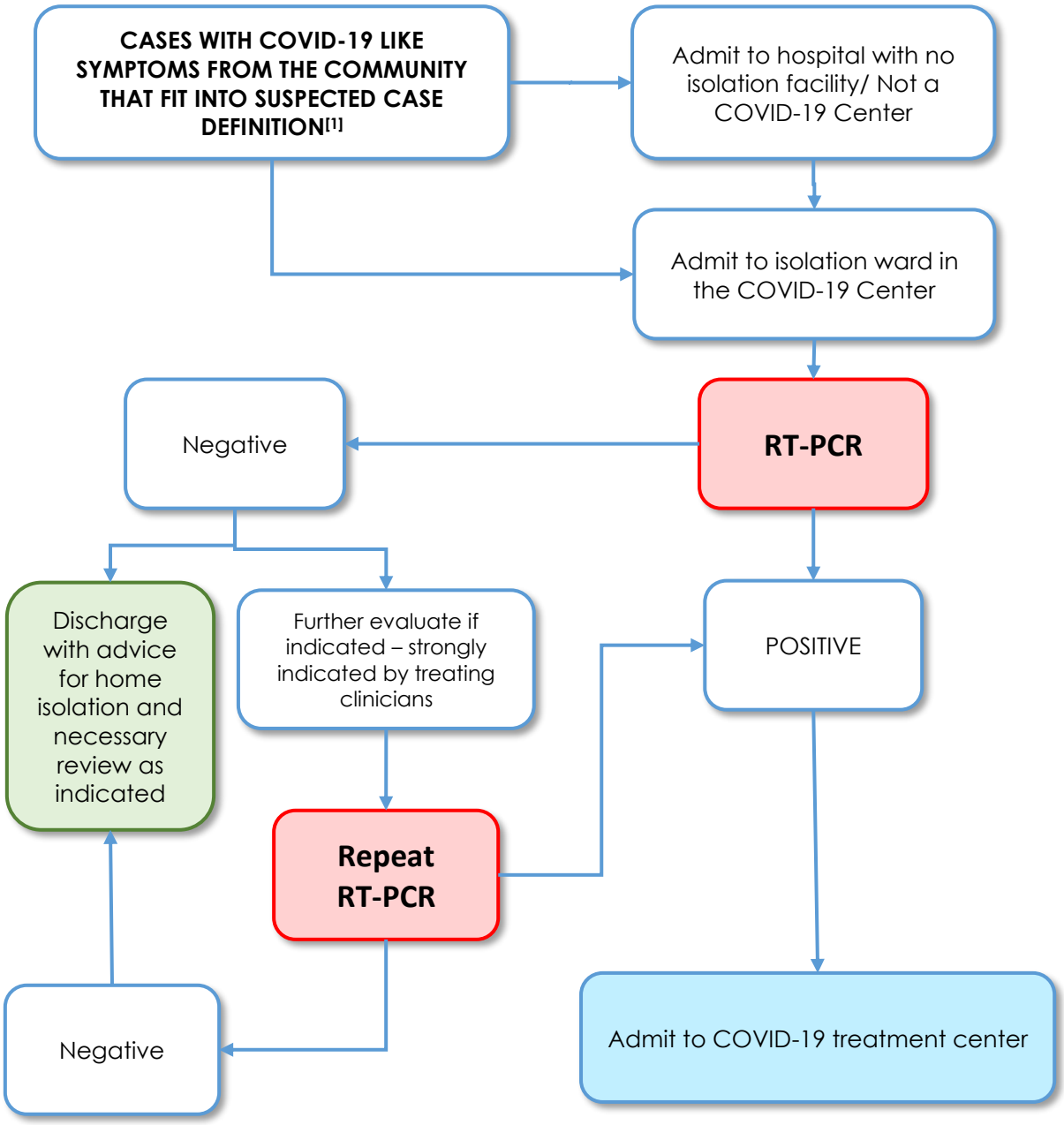



* Inform relevant public health officers to follow up if necessary (this is applicable to Home Quarantine also)

**Epidemiology Unit, Ministry of Health, Sri Lanka**

**ANNEX 2**

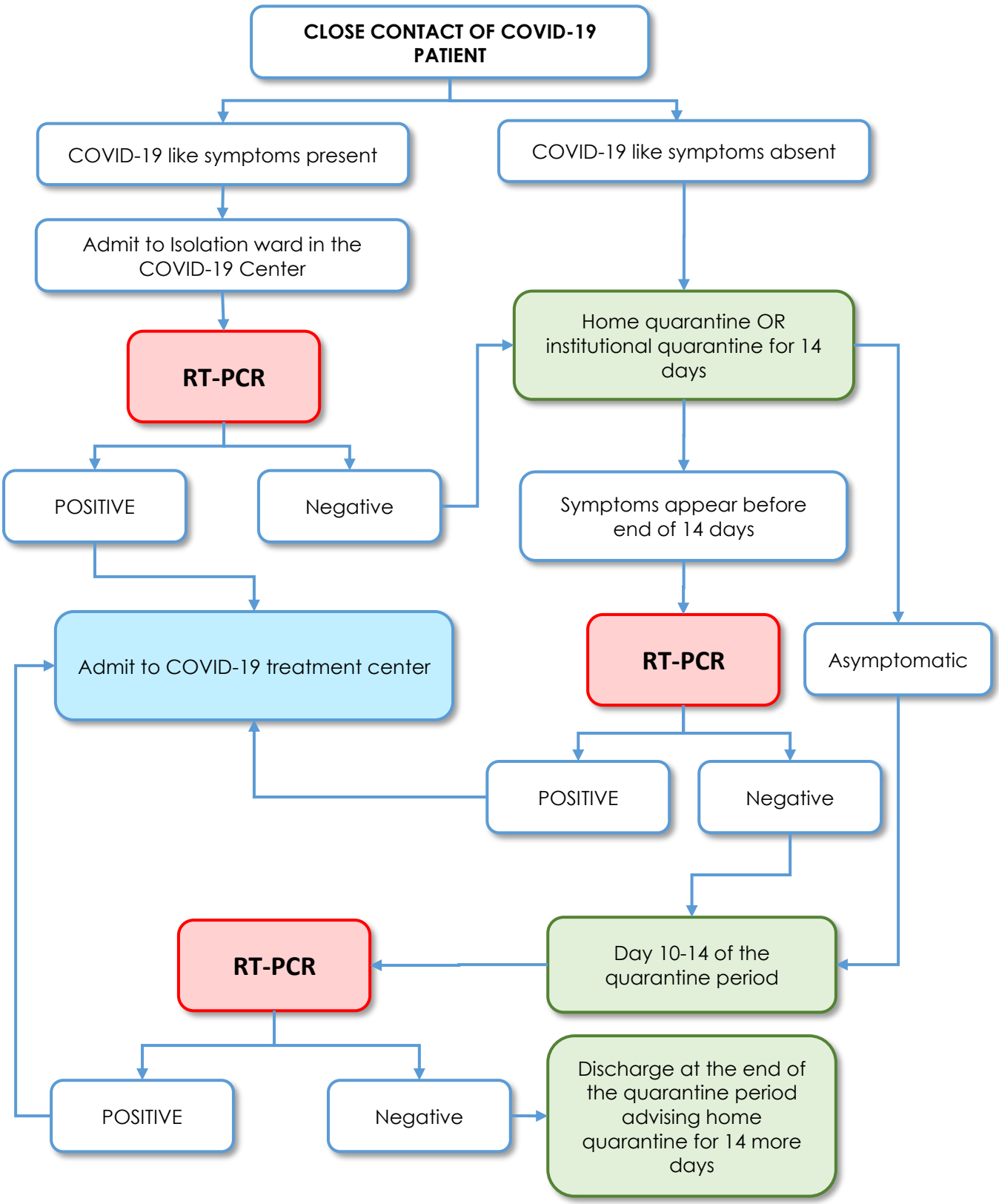
# PASSIVE CASE FINDING




[1] Refer **Updated interim case definitions on COVID-19 and advice on initial management of patients (version dated 04. 04. 2020)** [Available at: www.epid.gov.lk]

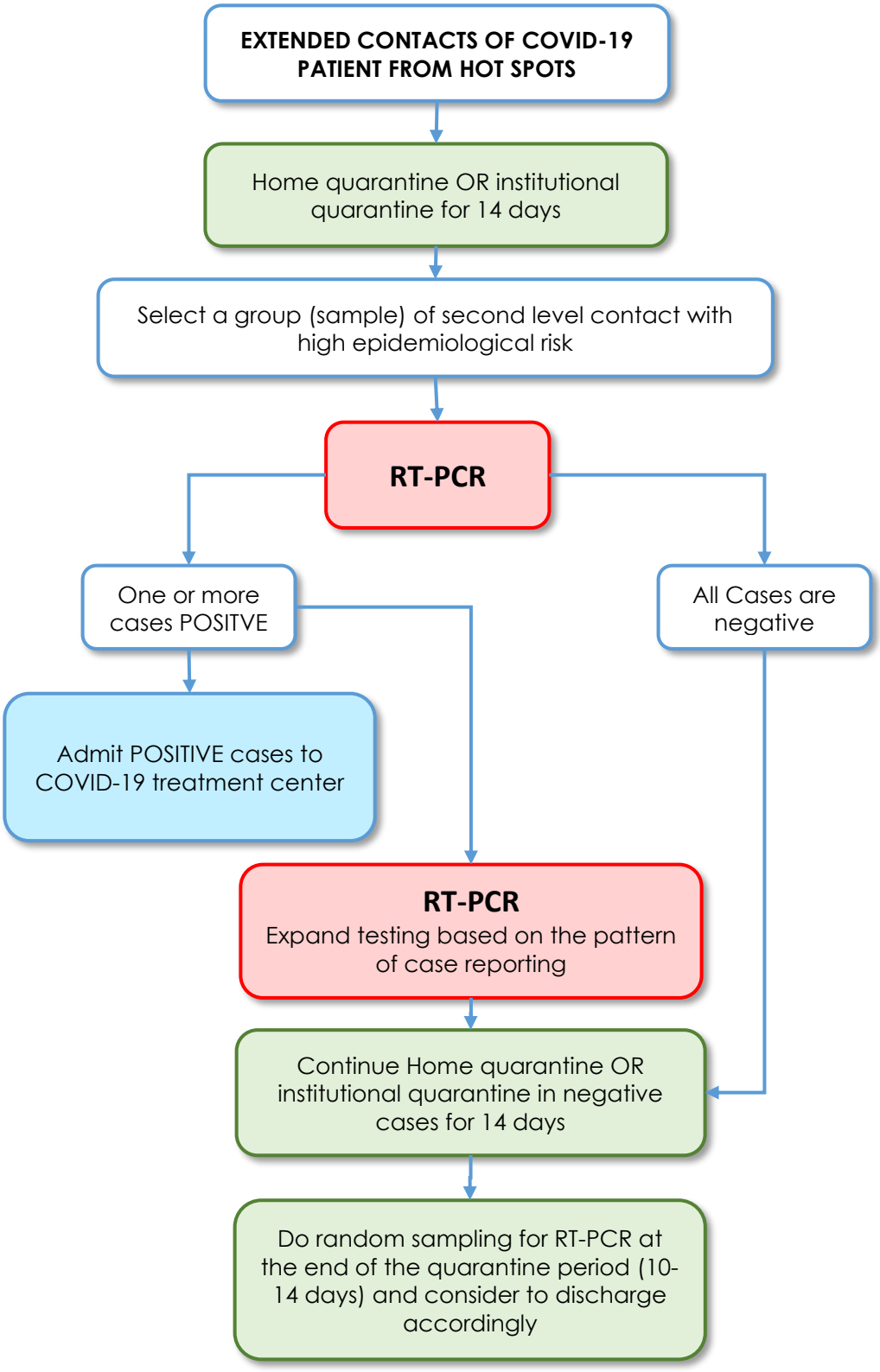
**ANNEX 3**

# CLOSE CONTACTS OF COVID-19 PATIENT



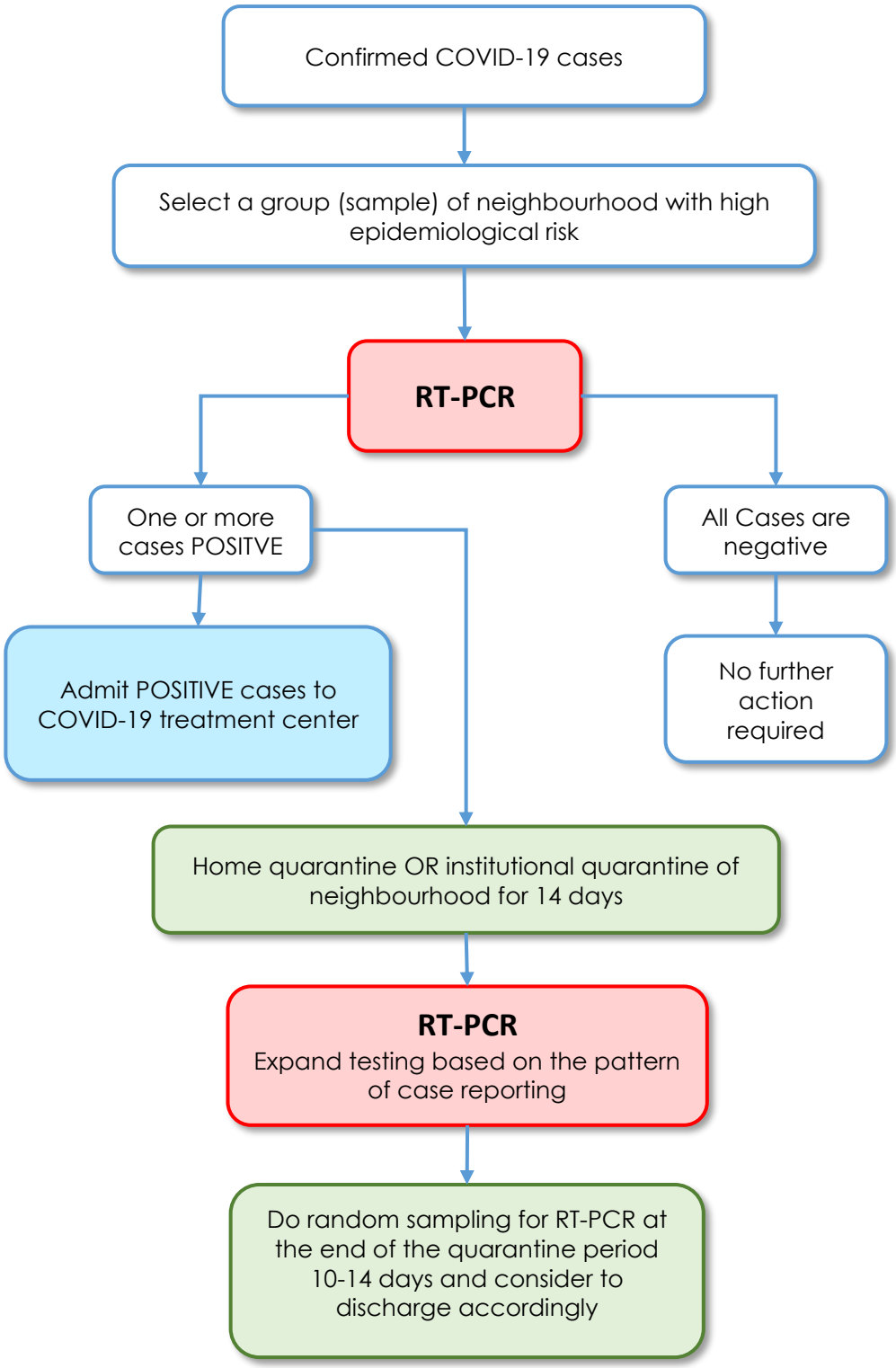
**ANNEX 4**

# EXTENDED CONTACTS OF COVID-19 PATIENTS FROM HOT SPOTS



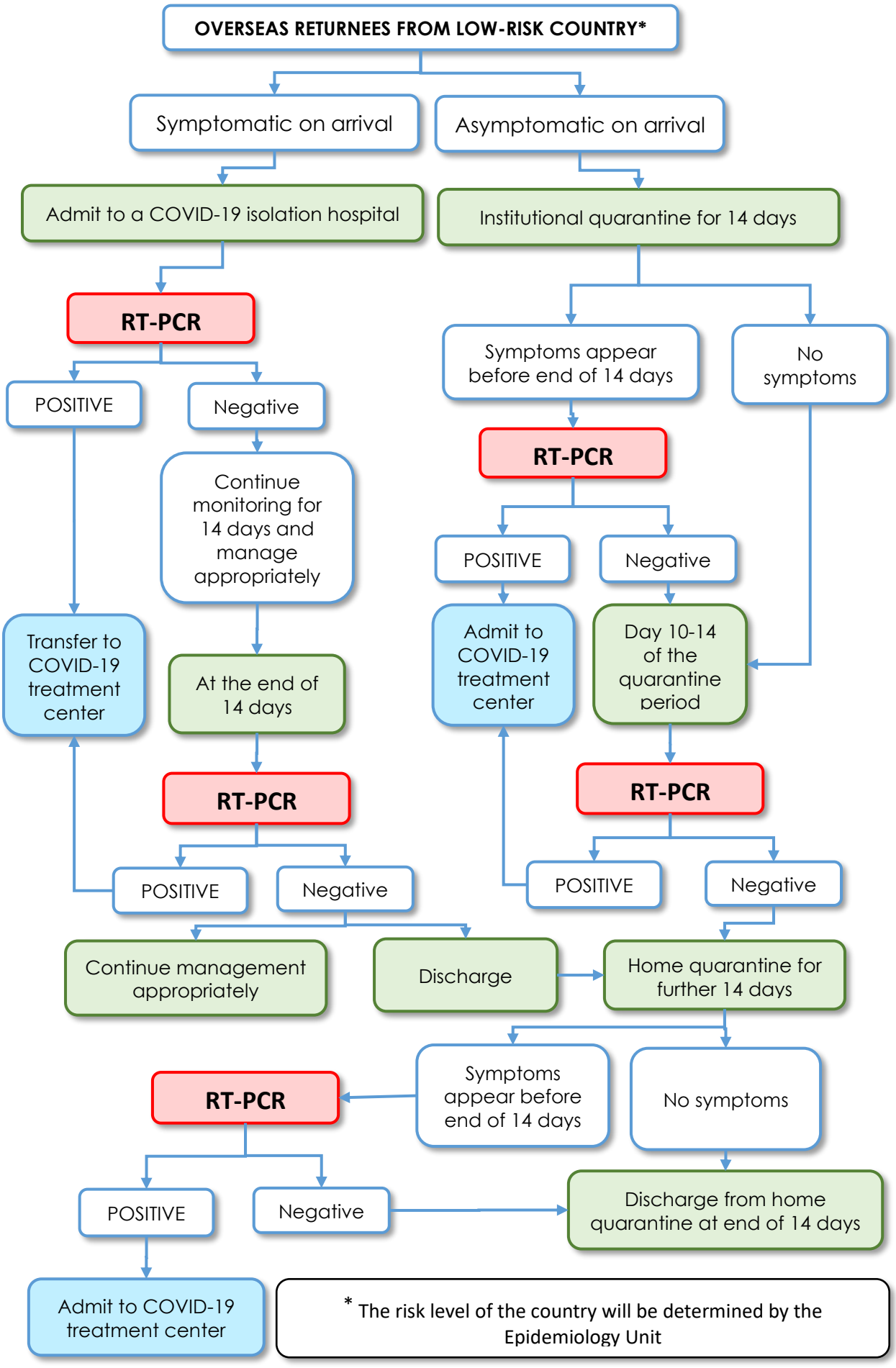
**ANNEX 5**

# RANDOM SAMPLING OF NEIGHBOURHOOD OF CONFIRMED COVID-19 CASES



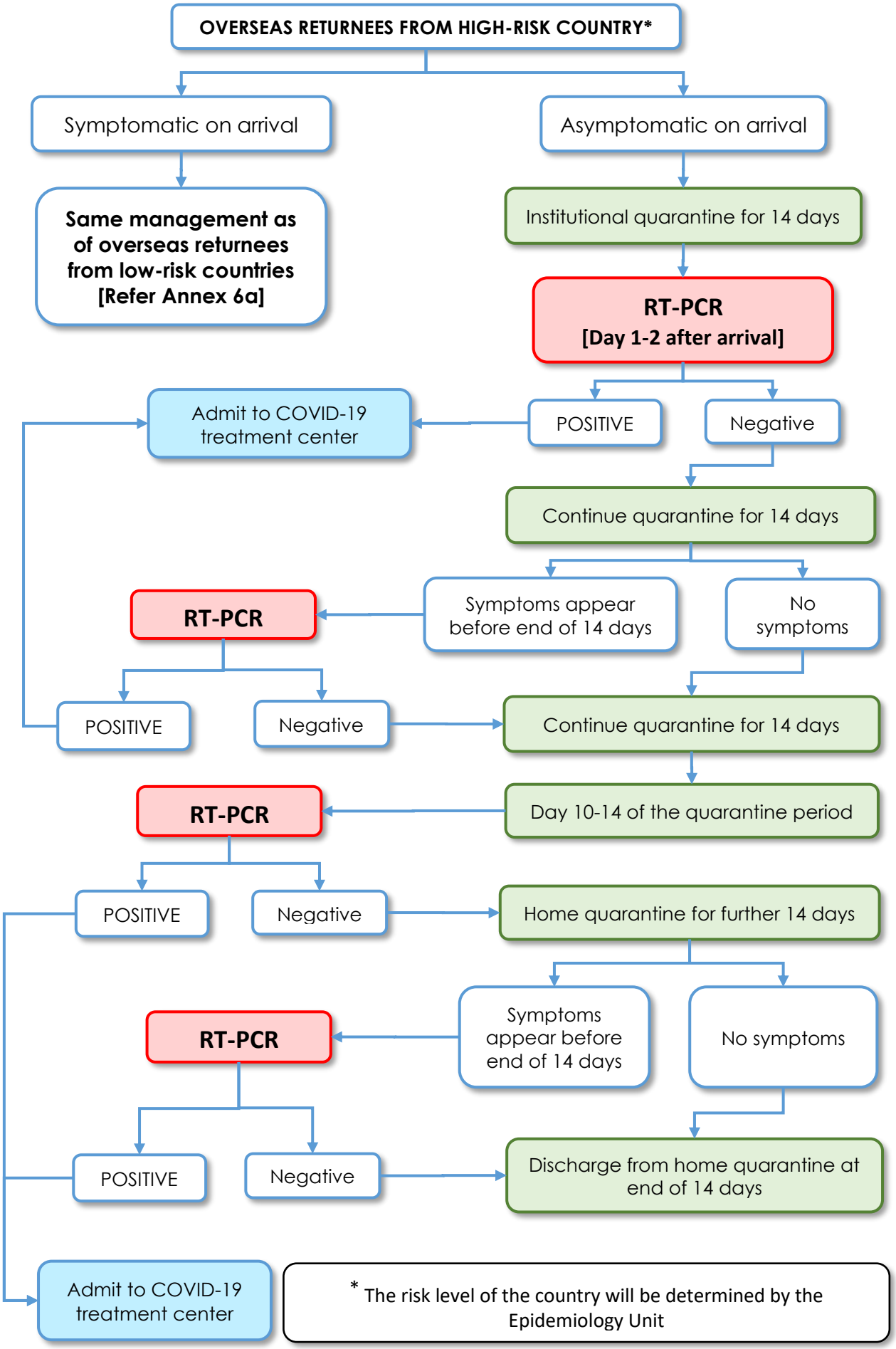
**ANNEX 6a**

# OVERSEAS RETURNEES: LOW-RISK COUNTRIES



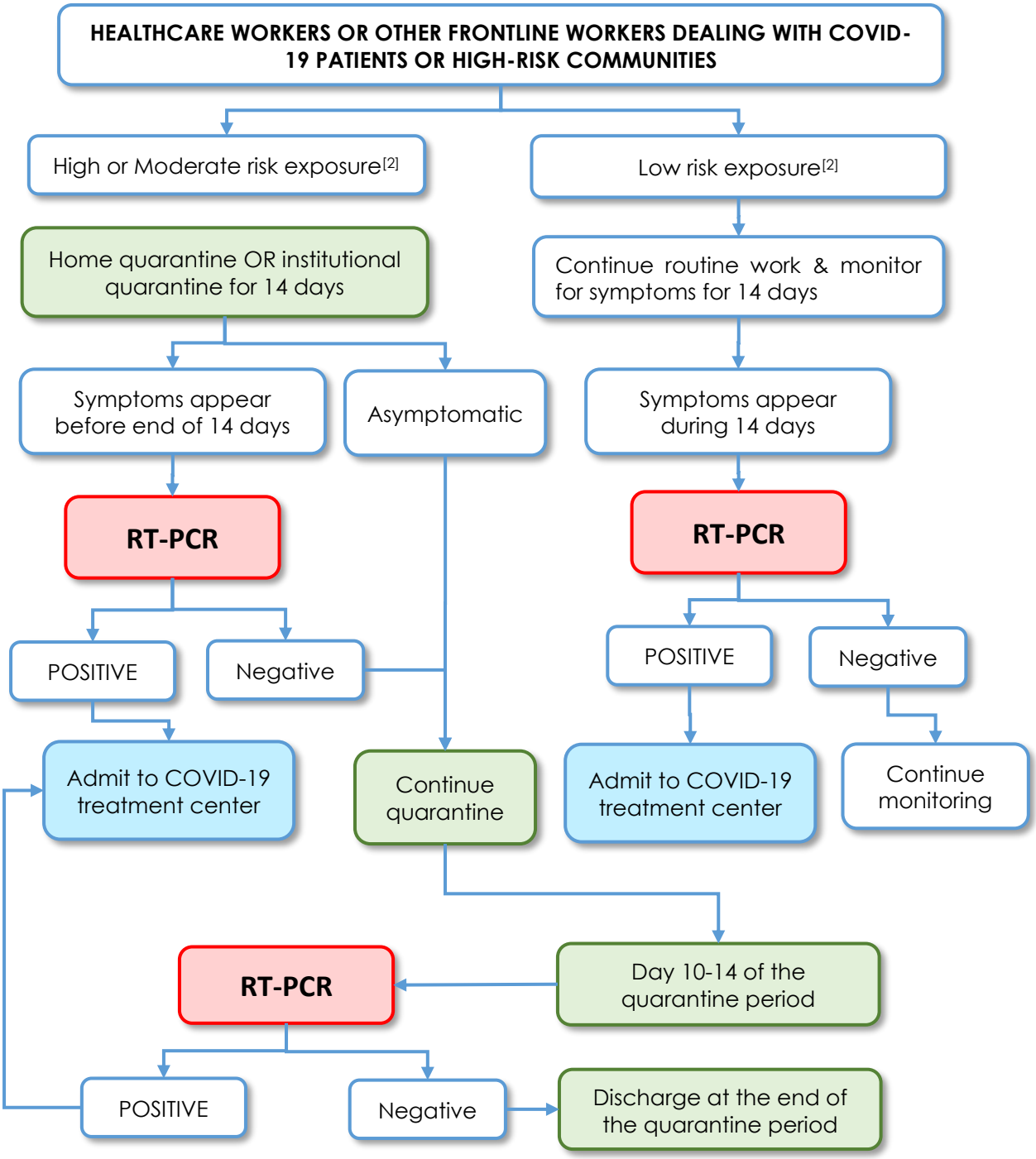
**ANNEX 6b**

# OVERSEAS RETURNEES: HIGH-RISK COUNTRIES



**ANNEX 7**

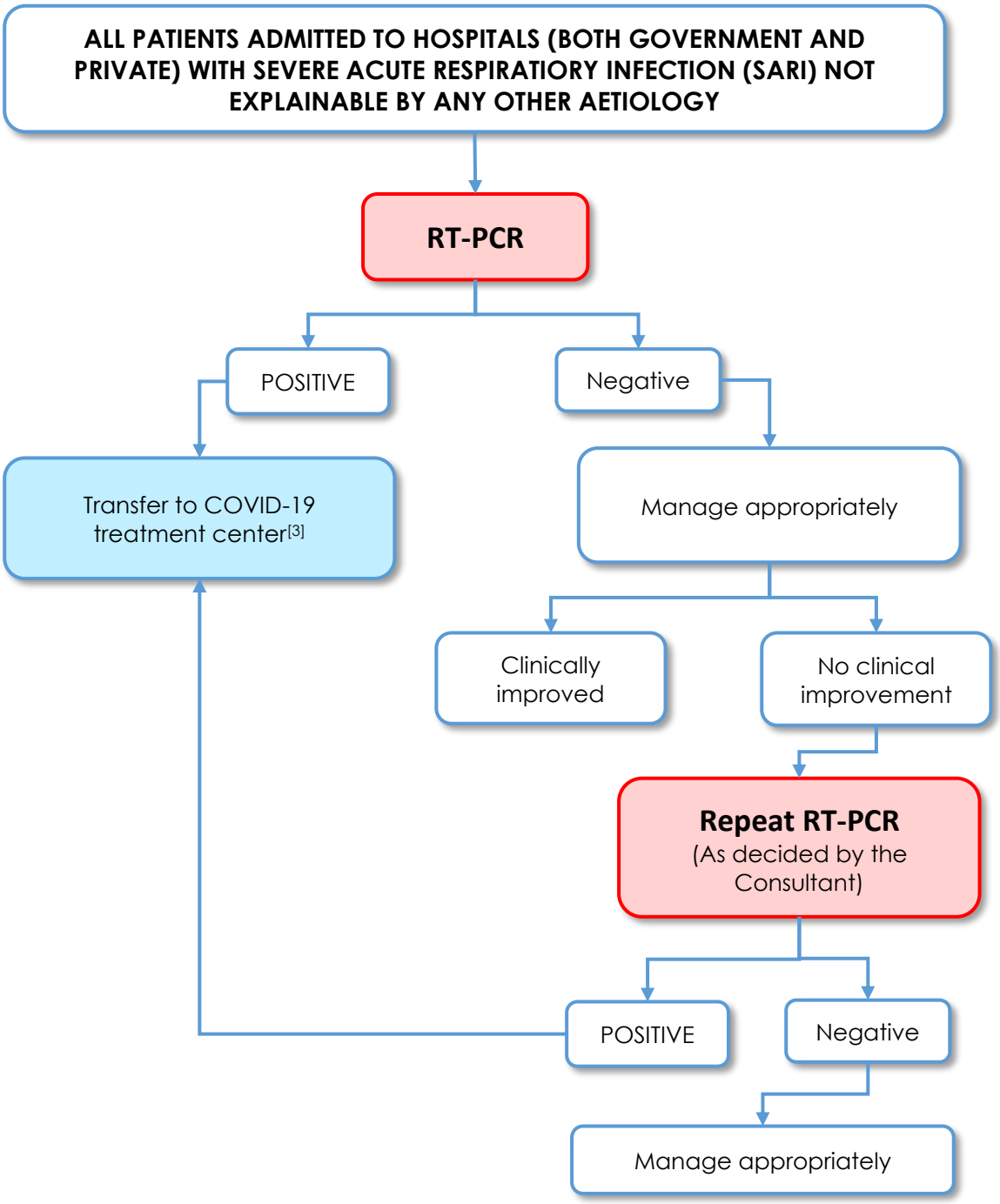
# TESTING AFTER RISK EXPOSURE




[2] For assessment of level of exposure refer **'Screening and management of healthcare workers following exposure to a confirmed/ suspected case of COVID-19 (V2 dated 01. 04. 2020)'** [Available at: www.epid.gov.lk]

**ANNEX 8**

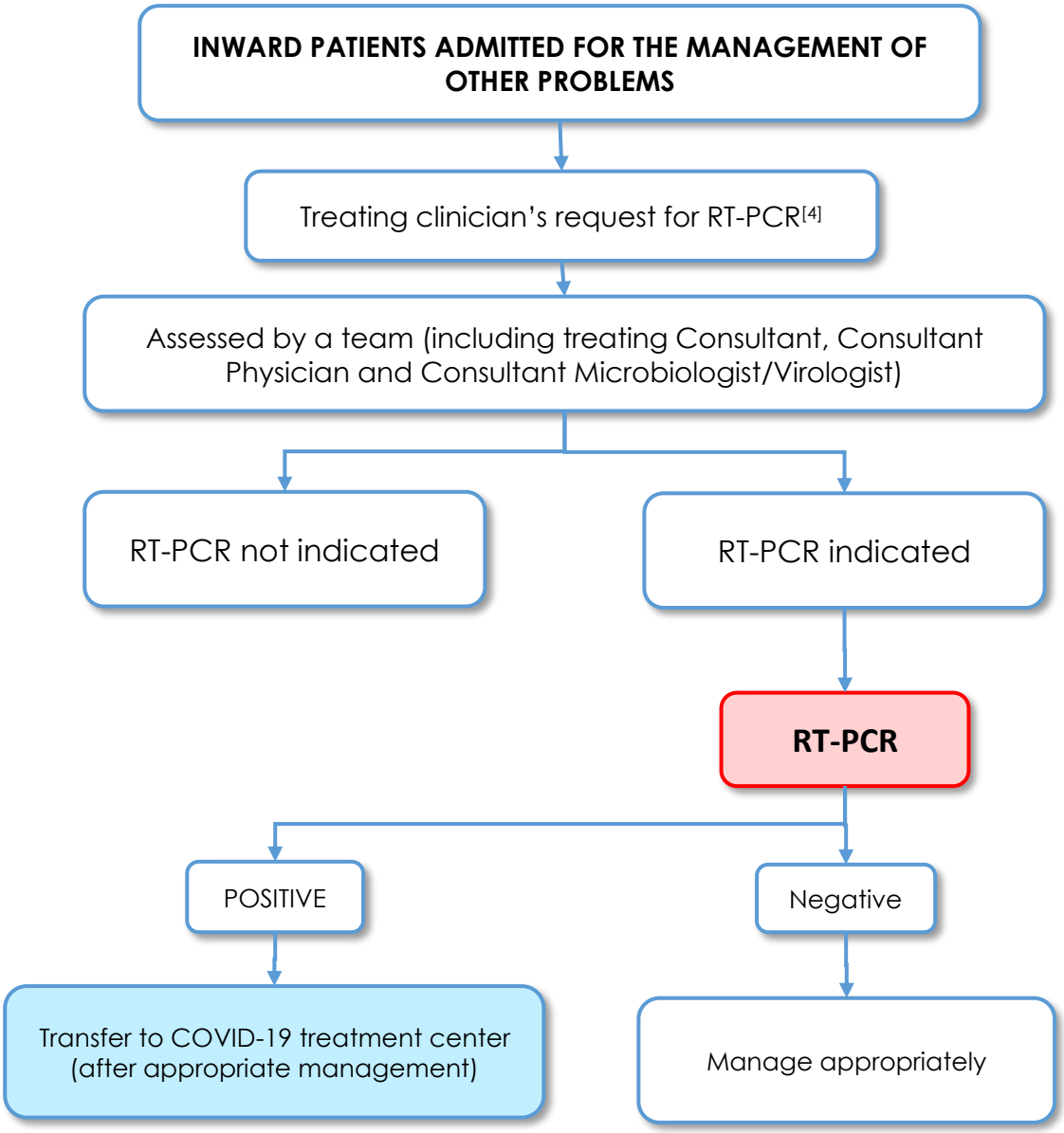
# SARI PATIENTS NOT EXPLAINED BY ANY OTHE AETIOLOGY




[3] Patient should be resuscitated and stabilized before transferring. Receiving end consultant should be contacted and discussed about the patient before transferring

**ANNEX 9**

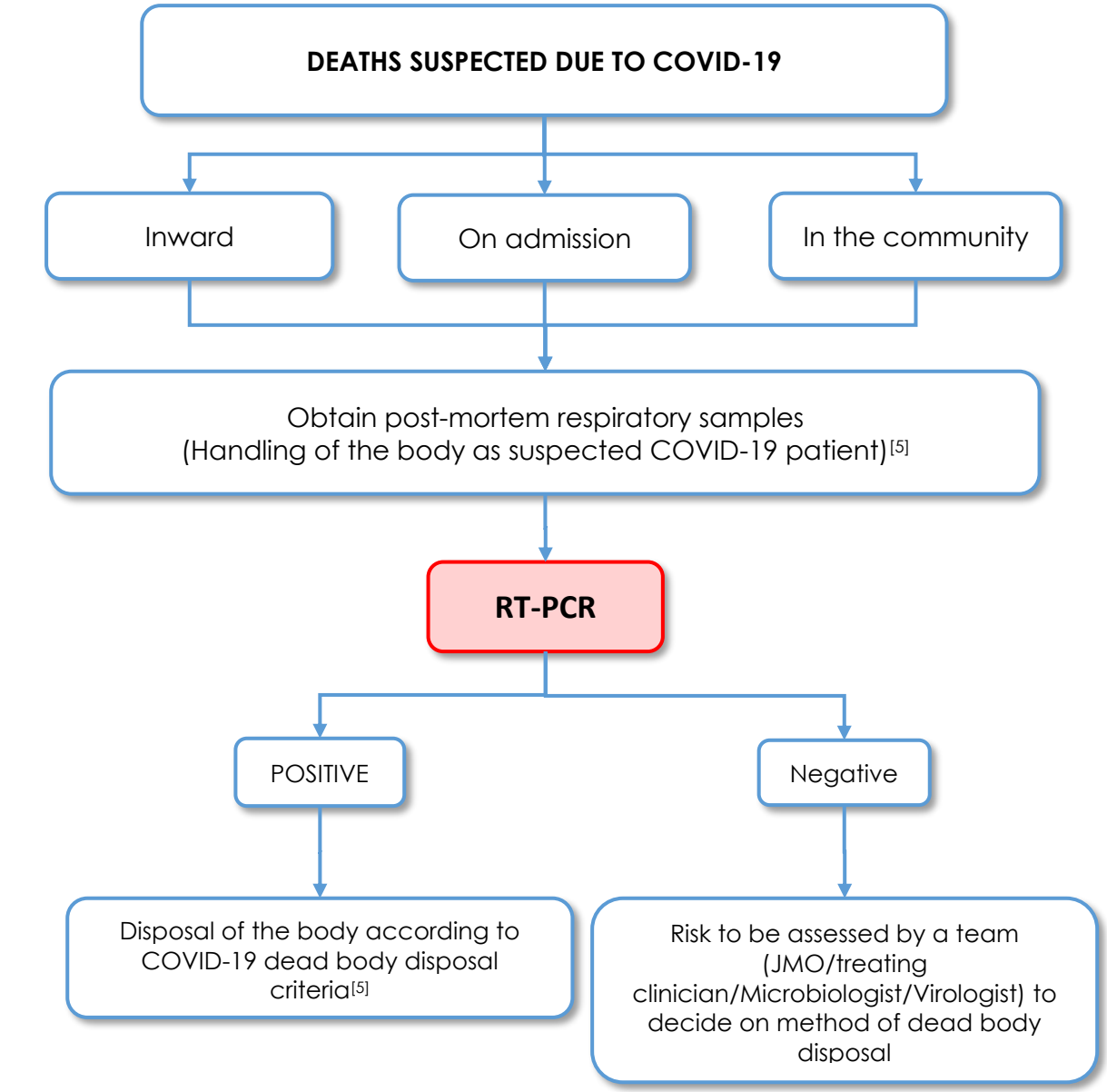
# OTHER INWARD PATIENTS




[4] Patient's routine management should never be compromised due to not doing RT-PCR test or non-availability of RT-PCR test results. Proper patient care should be ensured, if necessary, wearing appropriate Personal Protective Equipment (PPE)

**ANNEX 10**

# DEATHS




[5] For handling and disposal of dead bodies of confirmed/ suspected COVID-19 patients - Refer **Provisional Clinical Practice Guidelines on COVID-19 suspected and confirmed patients. 31st March 2020 (Version 4)** [Available at: www.epid.gov.lk]

**ANNEX 11**

## NOVEL CORONAVIRUS (COVID-19) PCR REQUEST FOR SCREENING OF ASYMPTOMATIC CASES Community and quarantined samples

| | | | | | |
|---|---|---|---|---|---|
| Testing after high risk exposures | | | | Name of requesting officer | |
| Extended contacts from Hot spots | | Area | | Designation | |
| Samples from neighbourhood of a case | | | | Contact No | |
| Quarantined patient samples | | Home | yes / no | Email | |
| | | | | Signature | |

| Serial No | Name | Age | Gender | Nationality | Occupation | Address and contact No | Date of quarantine | Reason for quarantine | | Date of sample collection | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Overseas returnee or returnee from high risk area | | Close contact with diagnosed or suspected case | | |
| | | | | | | | | Arrival/ returned date | Country/ High risk area | Date/period of contact | Index case symtomatic/asymtomatic (or cluster exposure) | Nature of exposure (Family contact/ work place/ neighbourhood etc..) |
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| Serial No | Name | Age | Gender | Nationality | Occupation | Address and contact No | Date of quarantine | Reason for quarantine | | | | Date of sample collection |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Overseas returnee or returnee from high risk area | | Close contact with diagnosed or suspected case | | |
| | | | | | | | | Arrival/ returned date | Country/ High risk area | Date/period of contact | Index case symtomatic/asymtomatic (or cluster exposure) | Nature of exposure (Family contact/ work place/ neighbourhood etc..) |
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