Integrated Triage, Testing and Treatment for Ambulatory Settings in the Context of COVID-19: A novel decision support algorithm

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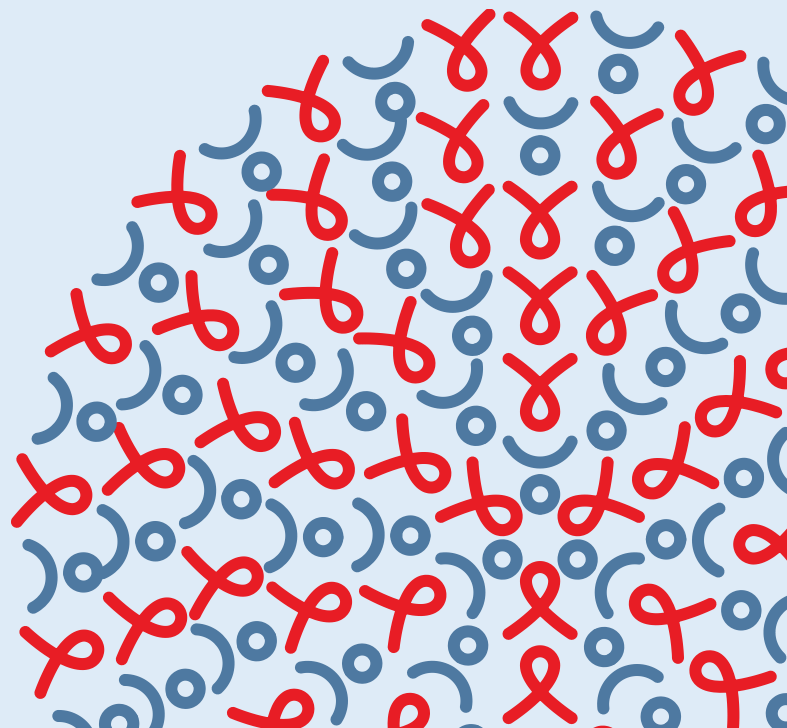
Introduction

Triage is an essential element of a health care environment dedicated to prioritizing clinical care for the sickest patients. Effective triage systems are proven to save lives. With the COVID-19 pandemic, there have been necessary changes to triage planning to incorporate screening and cohorting mechanisms for maximal safety for health care workers and patients. The original version of the tool has been updated in the context of more widely available rapid diagnostic tests and available treatment options, including the use of oral antiviral therapies.

How to use this tool

"Integrated Triage, Testing and Treatment for Ambulatory Settings in the Context of COVID-19" is a novel decision support tool designed to safely and effectively direct all patients who present to the clinical setting to appropriate care in the context of the COVID-19 pandemic. This tool presents an algorithm that integrates screening, physical triage and cohorting, and infection prevention and control (IPC) with clinical triage principles to prioritize and manage patients based on acuity and risk factors.

This flow diagram is an innovative contribution to the evolving COVID-19 pandemic response in that it:

- Merges physical and clinical triage decision points into one flow diagram.
- Includes all patients presenting for care (with or without COVID-19 concerns) and includes decision support based on the patient's reason for seeking care so that no patient is denied necessary medical attention.
- Incorporates IPC considerations into every decision point, emphasizing the principle that health care workers can safely render medical care to any patient when appropriate personal protective equipment (PPE) is available.
- Includes updated recommendations related to early diagnostic testing and initiation of oral antiviral treatment for patients meeting eligibility criteria.

Users of this tool should be mindful of the following recommendations:

1. This tool is meant to be adapted to the local context and applied within local frameworks.
2. While most patients will enter the pathway with universal screening, any patient presenting with severe/critical signs of illness (red triage category) should move directly to a resuscitation area for immediate stabilization.
3. This diagram provides an initial approach to categorizing patient acuity. Additional medical and diagnostic evaluation is required for initiation of specific medical treatment and final disposition decisions.
4. This tool strives to reinforce all clinical decision points with clear recommendations for IPC/PPE requirements. Remember, even patients who are not presenting with typical symptoms of COVID-19 may test positive for COVID-19, particularly during surges. Concurrently, patients with mild COVID-19 symptoms should not be denied medical

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5. attention for non-COVID-19 concerns if appropriate PPE is available and all members of the health care team are familiar with the principles of IPC.
5. Digital versions of this tool have links to key resources that expand upon the material presented here. These can be adapted or updated as new recommendations emerge.

The goal of this tool is to provide a framework for health care workers to connect patients who are both infected with and affected by COVID-19 to comprehensive, high quality, equitable care.

Target Audience

Health care workers (physicians, non-physician providers, nurses, midwives, allied health workers, social workers, community health workers) and non-clinical support staff working in ambulatory health care settings. With this tool, any staff member in a clinical setting should be able to safely direct a patient to the right care in the right place at the right time.
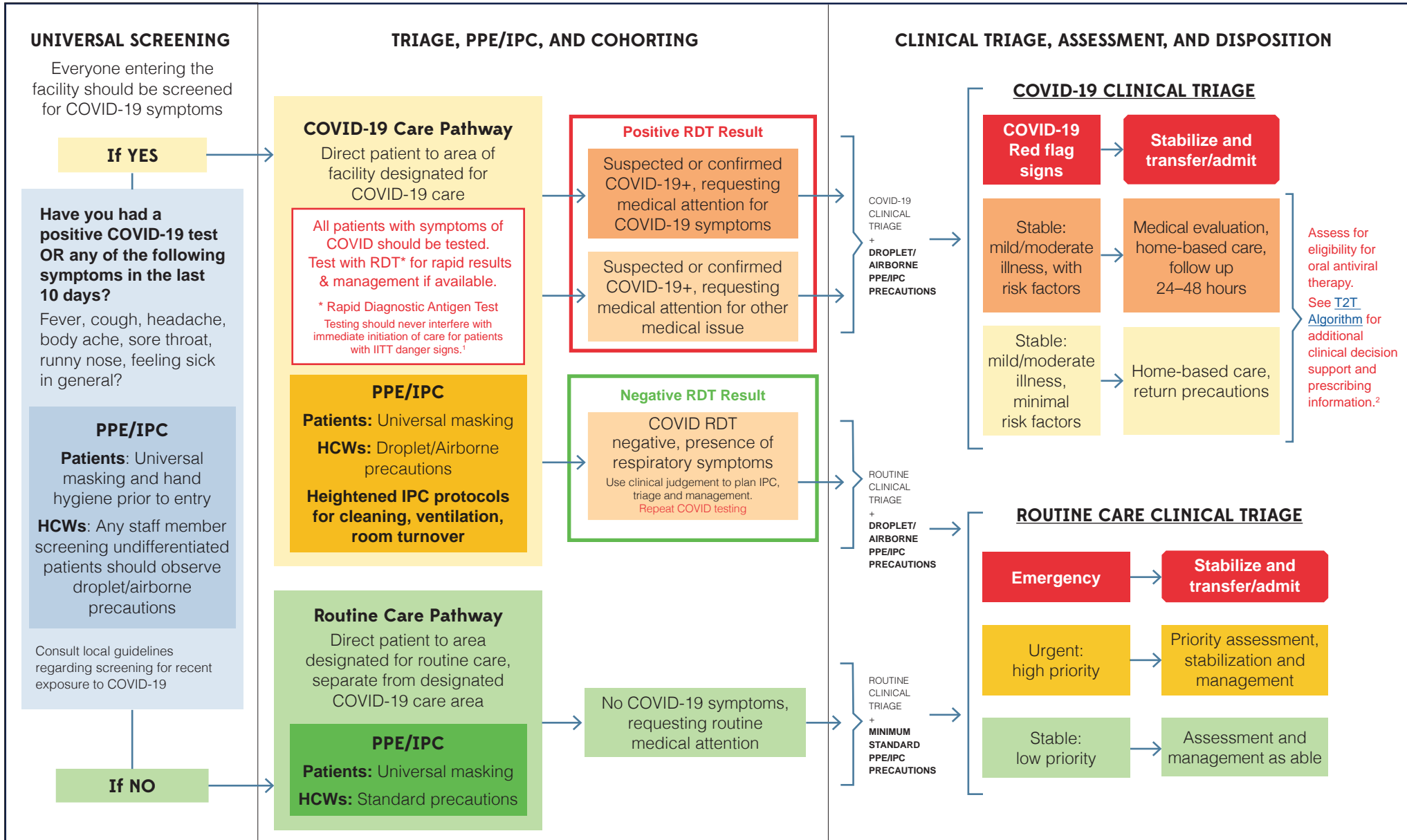
LINKED RESOURCES:

1. EpiC project. Navigating COVID-19 Clinical Care Pathways Across the Health Care System: a practical guide for primary health care workers. 2022 Mar. Available from: https://www.fhi360.org/sites/default/files/media/documents/resource-covid-care-pathways-guide.pdf
2. Health Policy Plus [Internet]. COVID-19 home-based care: a practical guide for healthcare workers. Open Critical Care [Cited 2022 Mar 11]. Available from: https://opencriticalcare.org/wp-content/uploads/2021/05/HBC-Guide-Presentation_ENG-Post-COMMS-ha9cwb.pdf.
3. WHO Tools for strengthening emergency care systems. [Cited 2023 Jan 10]. Available from: https://www.who.int/health-topics/emergency-care.
4. Open Critical Care [Internet]. Tools for interfacility transfer. [Cited 2022 Mar 11]. Available from: https://opencriticalcare.org/resources/tools-for-interfacility-transfer/.
5. USAID Global Goods: COVID-19 Test-to-Treat Algorithm & Implementation Guide. [Cited 2023 Jan 10]. Available from: https://opencriticalcare.org/resources/usaid-global-goods-covid-19-test-to-treat-algorithm/.

Integrated Triage, Testing and Treatment for Ambulatory Settings in the Context of COVID-19

UNIVERSAL SCREENING

Everyone entering the facility should be screened for COVID-19 symptoms

If YES

Have you had a positive COVID-19 test OR any of the following symptoms in the last 10 days?
Fever, cough, headache, body ache, sore throat, runny nose, feeling sick in general?

PPE/IPC

Patients: Universal masking and hand hygiene prior to entry

HCWs: Any staff member screening undifferentiated patients should observe droplet/airborne precautions

Consult local guidelines regarding screening for recent exposure to COVID-19

If NO

TRIAGE, PPE/IPC, AND COHORTING

COVID-19 Care Pathway
Direct patient to area of facility designated for COVID-19 care

All patients with symptoms of COVID should be tested.
Test with RDT* for rapid results & management if available.

* Rapid Diagnostic Antigen Test
Testing should never interfere with immediate initiation of care for patients with IITT danger signs.[1]

PPE/IPC
Patients: Universal masking
HCWs: Droplet/Airborne precautions
Heightened IPC protocols for cleaning, ventilation, room turnover

Routine Care Pathway
Direct patient to area designated for routine care, separate from designated COVID-19 care area

PPE/IPC
Patients: Universal masking
HCWs: Standard precautions

Positive RDT Result

Suspected or confirmed COVID-19+, requesting medical attention for COVID-19 symptoms

Suspected or confirmed COVID-19+, requesting medical attention for other medical issue

Negative RDT Result

COVID RDT negative, presence of respiratory symptoms
Use clinical judgement to plan IPC, triage and management.
Repeat COVID testing

No COVID-19 symptoms, requesting routine medical attention

COVID-19 CLINICAL TRIAGE + DROPLET/AIRBORNE PPE/IPC PRECAUTIONS

ROUTINE CLINICAL TRIAGE + DROPLET/AIRBORNE PPE/IPC PRECAUTIONS

ROUTINE CLINICAL TRIAGE + MINIMUM STANDARD PPE/IPC PRECAUTIONS

CLINICAL TRIAGE, ASSESSMENT, AND DISPOSITION

COVID-19 CLINICAL TRIAGE

COVID-19 Red flag signs → Stabilize and transfer/admit

Stable: mild/moderate illness, with risk factors → Medical evaluation, home-based care, follow up 24–48 hours

Stable: mild/moderate illness, minimal risk factors → Home-based care, return precautions

Assess for eligibility for oral antiviral therapy. See T2T Algorithm for additional clinical decision support and prescribing information.[2]

ROUTINE CARE CLINICAL TRIAGE

Emergency → Stabilize and transfer/admit

Urgent: high priority → Priority assessment, stabilization and management

Stable: low priority → Assessment and management as able

Notes:
a. **The referral and triage pathways are intended to be adapted to the local context and to comply with local clinical and ethical guidelines.**
b. Rapid Diagnostic Antigen Testing (RDT) should be offered if not previously tested or if prior test was negative but COVID-19 is clinically suspected. If testing is not available, approach a patient with signs or symptoms of COVID-19 as presumed positive.
c. All recommendations should take into account judgment of clinicians and local capacity. For example, if patient requires higher level of care than can be provided at facility. Any patient assessed as critically ill at any point in this process should proceed to immediate care for stabilization. Red flag signs for COVID-19 include SpO2 <94% at rest or other clinical signs of severe respiratory distress, severe chest pain, altered mental status, severe weakness, inability to tolerate food or liquids by mouth, or clinical judgment of emergency. Risk factors for developing severe or critical COVID-19 include age>=50, obesity, comorbid diabetes or hypertension, immunosuppression, pregnancy, and the presence of chronic cardiovascular, pulmonary, liver, neurologic, or psychiatric disease.
d. Infection prevention and control (IPC) and personal protective equipment (PPE): Minimum PPE/standard precautions are recommended for all health care workers (HCWs), though heightened PPE precautions can be used per local guidelines and HCW preference. Guidance may change to reflect evolving contexts (e.g., variants).

Links to Key Resources:
1. WHO Interagency Integrated Triage Tool
2. OpenCriticalCare Test To Treat Resources
3. Navigating COVID-19 Clinical Care Pathways Across the Health Care System: a practical guide for primary health care workers
4. OpenCriticalCare.org: COVID-19 Home-based care
5. NIH COVID-19 Treatment Guidelines