

# Covid-19

Clinical Pathway

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### Goals

The clinical goal of our COVID-19 guideline is to enable safe, high-quality management of patients with COVID-19 in their own homes, where previously an inpatient stay would have been warranted.



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This guide is meant to be a starting point for you to design your own infection and sepsis clinical pathway leveraging the Current Health platform. As a next step, our Clinical Solutions team is available to discuss how we would tailor this to your organization.

### Patient Acquisition & Enrollment

Patients may be recruited from primary and urgent care, testing centers, emergency department, medical or postsurgical floors or outpatient clinics. Example selection criteria have been included below.

### 1. Identification

Candidate patients should be identified through a variety of methods:

- 1. Education and close engagement of clinicians in admitting locations.
- 2. Best practice alerts within the EMR.
- 3. A Program Coordinator or Clinical Champion reviewing inpatients and recommending the program to clinicians.

#### 2. Admission

After identifying a candidate patient based on inclusion and exclusion criteria, admission to the program should begin with an eligibility screen using Current Health's screening tool, to determine whether a patient would generally make a good candidate for the program. Look for patients with:

- Enthusiasm to remain at home.
- A degree of social support.
- Technological fluency.
- Clinicians should be confident that the appropriate treatment has been initiated.

### 3. Onboarding

Onboarding is best accomplished in the setting where monitoring can be initiated face-to-face, and the importance of vital sign monitoring and treatment adherence in keeping the patient safely at home emphasized. For some, onboarding may be accomplished remotely but should be accompanied by a clear explanation of the benefits of adherence to monitoring and treatment.

### Inclusion Criteria

Patient selection characteristics can vary between providers based on local population needs. Current Health clinicians work closely with provider teams to design patient selection criteria that make sense for those local needs. Current Health provides a screening tool to assist with patient selection, and this can also be built into the EMR.

### Condition Specific Criteria

#### Inclusion

- Positive for COVID-19 using molecular testing (PCR or other NAAT) or antigen testing.
- Ability to isolate safely at home.
- Household members do not have high risk comorbidities and can practice safe personal protective measures.
- Resources and social support to maintain activities of daily living for duration of quarantine.
- Treatment initiated as required (for example, oral/IV steroids, remdesivir).
- Supplied with DME for supplementary oxygen if required.

#### Exclusion

- Hypoxia with oxygen requirement of >4L O2 via nasal cannula to maintain SpO2≥94% at rest or ≥92% with ambulation.
- Escalating O2 requirement (increase in >2L in less than 24 hours).
- Signs of impending critical care requirement including severe shortness of breath or increased work of breathing, bluish lips or face, unable to talk in complete sentences, hemoptysis, chest pain/pressure not associated with coughing, altered mental status (inability to protect airway or comply with oxygen therapies).
- Symptoms or signs of COVID-19 complications including DVT/PE, cardiac pathologies (myocarditis, acute coronary syndrome, arrythmias, or other acute cardiac injury), acute hyperglycemia, delirium, cytokine storm syndrome, or concern for bacterial superinfection.
- 4C Mortality Score for COVID-19  $\ge$  9.
- Uncorrected hypovolemia.
- Evidence of organ dysfunction, hemodynamic instability, vasopressor requirement, systemic sepsis or septic shock, qSOFA>1.
- Neutropenia or immunosuppression (relative contraindication).
- Acute kidney injury (relative contraindication).

### Inclusion Criteria

### General Criteria

#### Inclusion

- Fit for discharge home in the opinion of the treating physician.
- Age over 21 years.
- Provisioning of discharge medication and equipment.
- Able to ambulate, or complete activities of daily living appropriate to their social care setting.

#### Exclusion

- Acute delirium.
- Uncontrolled pain.
- Pending acute inpatient imaging or diagnostic tests.
- Bilateral axillary lymph node dissection.
- Heavy tattooing on upper arms.
- Persistent atrial fibrillation (relative contraindication).
- No access to home internet, cellular service or mobile telephone.
- At risk of domestic violence.
- Homeless or inadequate housing facility.

### Health Data Collection



### Monitoring Cadence

Current Health recommends collection of continuous vital signs, not to enable immediate intervention, but to collect data to establish trends and offer anticipatory care over time. In a COVID-19 program, it also allows a higher-risk group of patients to be safely managed in the home environment.

Higher risk COVID-19 patients include patients with age>60, COPD, hypertension, diabetes, cardiovascular disease, chronic kidney disease, liver disease, obesity, immune deficiency or immunosuppression.

#### Dashboard rounds

We recommend in the COVID-19 pathway that twice daily 'dashboard rounds' be completed. These establish the patient's trajectory, based on vital sign trends, allowing early escalation of care where appropriate. It also permits early identification of those who can be stepped down. Outside of dashboard rounds, management should be by exception, based on health alarms.

							te increi	nents			
	← Richard Gallagher COVID-19: Positive □ 15% - Until 5:00pm				=+ : More					Patient Information	Patient demographics, reported
	Table		Chart				© Va	alues every	/ 15 minutes	123456/01	symptoms, and care team notes
Continuous capture		Monday, Oct 12th								EMR 654321/02	
from Current Health wearable	WEARABLE	8:0	00 8:1	5 8:3	30 8:4	45 9:0	9:	15 5	9:30 9:45	AGE	
	Resp rpm	27	27	27	27	26	27	26	28	52	
							_			GENDER	Visual indicator
	Pulse bpm	67	67	67	47	47	68	55	102	Male	of missing data
	O2 SPO2 %	99	99	99	99	98	88	99	98	LOCATION St. Thomas Hospital	Alarms
Data from	L Temp ⑦	28	28	28		27	27	27	34 -	ETHNICITY	configurable at population or
	Novement	Med	Med	Low $^{\downarrow}$	Low $^{\psi}$	$High^{\uparrow}$	Med	Med	$Low^{\psi}$	Caucasian Phone number	individual level
peripheral	DEXCOM G6 CGM									+44(0) 7931 342 667	
devices	Glucose Max mg/dl	5.9	5.9	6.8	6.2	6.2	6.8	6.4	5.3	<b>ENROLMENT</b> Jan 7, 2020 at 23:00	
	Glucose Med	5.2	5.7	6.0	6.2	5.9	6.1	6.3	16.1	<b>primary care provider</b> Dr. Moodley	
	Glucose Min	5.1	4.9	5.5	5.5	5.0	5.7	4.5	3.9		

### \_ Mean value displayed in 15 minute increments

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### Health alarms

Health alarms should be used judiciously to reduce the disruption of falsepositive alarms, but must identify vital signs trends that are concerning and may not be appreciated by the patient (e.g., for example a slow and prolonged desaturation). Current Health's clinical team, informed by analysis of thousands of hours of data, provide disease-specific alarm settings recommendations.

### Alarm settings

Alarm Name	Settings	Window
Hypertension	SBP≥180 AND DBP≥110	1 reading
Hypotension	SBP≤90 AND DBP≤60	1 reading
Нурохіа	Median SpO2 ≤92	60 min
Tachycardia	Median Pulse≥ 120	60 min
Bradycardia	Median Pulse ≤50	60 min
Tachypnea	Median Resp Rate ≥30 AND SpO2 ≤94	60 min
Bradypnea	Median Resp Rate ≤8 AND SpO2 ≤94	60 min
Tachypnea_Tachycardia	Median Resp Rate ≥30 AND Median Pulse ≥100	60 min
Skin_Temp	Median Temp≥100.4 F	60 min

Patient Reported Outcomes	Settings					
Symptom_Survey	COVID symptoms					

### Physical & Virtual Visits

It should be possible to fully manage the patient virtually. These can be completed via network service provider - either via Current Health, or existing partners - or an existing team from the health system.

Virtual visits can be delivered by the health system team, or by the Current Health Command Center.



#### Virtual Visits

Telehealth check in

#### In-Person Visits

- Homecare
- DME delivery

### Clinical Command Center

Current Health's team of physicians, APPs, and nurses licensed in all 50 US states who serve as a 24/7/365 first-line of:



Triaging of patient alarms



Managing patient care



Escalating based on clinical protocols



### In-Home Services

We recommend that the following services be available for delivery in the home as part of this pathway:



Home food delivery

If these services are already operating in the health system, Current Health can integrate with their existing workflows. Current Health also has a network of service providers who can provide all of these services and are integrated into Current Health, and thus the EMR record.

Current Health works with the health system to plan for service deployment through existing resources as well as CH's network of service providers. This includes full systems and clinical integration of these services to ensure a seamless patient experience and operational workflow.

## Patient Assessment & Escalation

The following are suggested steps to take should you need to escalate patient care.

#### **Review Patient Data**

Patient data should be flagged for review if:

- There is a health alarm or
- There is trending health data noticed during a dashboard round

#### **Assess Patient Virtually**

Once a patient is flagged, conduct an assessment and triage the patient in order to determine the need for escalation or treatment. Assessment should be by virtual visit or telephone call.

#### Escalate Care or Refer to Care Team

Depending on the outcome of your assessment, referrals may include primary care provider, regular hospital care team or visiting practitioner for escalation of therapy, or management of comorbid disease; or an emergency first responder (911) in the case of acute deterioration or other emergency.

#### Key Escalation Criteria

- Hypoxia with SpO2≤94% despite maximum supplemental O2 via nasal cannula OR escalating O2 requirement (increase in >2L in less than 24 hours)
- Worsening dehydration, systemic sepsis or septic shock:
  - Persistent elevation of respiratory rate, heart rate, or skin temperature
  - Hypotension
  - Dehydration or reduced urine output (via PRO)
- Development of symptoms or signs of COVID-19 complications including DVT/PE, cardiac pathologies (myocarditis, acute coronary syndrome, arrythmias, or other acute cardiac injury), stroke, acute hyperglycemia, acute kidney injury, delirium, cytokine storm syndrome, or concern for bacterial superinfection
- Non-adherence to therapy course
- Worsening of comorbid disease
- Inability to complete ADLs

Step-Down

Step-down should be initiated when the provider and patient are comfortable that the patient has returned to a stable baseline without requirement of supplemental oxygen. In the context of acute infection on a background of chronic disease, step down to an alternative patient journey (for example, COPD) may be appropriate.

# **EMR** Documentation & Metrics

### **EMR** Documentation

Documentation should be consistent with existing hospital policies for inpatient admissions. At a minimum, the following should be documented:

- History and physical examination by admitting MD or APP.
- Notes from any virtual or physical visit to the patient.

Additional documentation if using the Current Health platform:

- Health data from Current Health, from the Current Health network of service providers, other network service providers and the Current Health Command Center should be linked to the EMR.
- It is usually more practical for Current Health service providers and Current Health Command Center clinicians to document in Current Health, which is then integrated to the EMR. This includes notes from any virtual or physical visit to the patient.

### **Measuring Success**

In order to measure success, a panel of metrics should be tracked. Current Health can provide the health system with a full list of suggested metrics and collaborate to ensure these are successfully tracked.

#### At a minimum, we suggest the following:

- Number of readmissions within 30-days.
- Length of hospital stay of newly admitted patient.
- Length of stay in the COVID-19 program.
- Escalation rate.
- Number of virtual visits and length of time in virtual visits.
- Patient net promoter score.



#### **Best Practice Alerts**

Best Practice Alerts should also be created in the EMR to prompt your clinicians that the patient they are managing may be a candidate for the hospital at home program. This is important to drive volume into the program.

## Revenue Cycle Management

RCM requirements will vary by payer. Current Health's RCM team will collaborate closely with your RCM team to analyze requirements for each payer, as per your local payer contracts, as well engage those payers as appropriate.

This collaboration will also identify the necessary reporting needs to drive your RCM workflows and billing, as well as integration into your RCM systems. This work will closely link to EMR integration.

In a CMS fee-for-service population, there are opportunities for reimbursement through the remote patient monitoring CPT codes (see below). Medicare also provides coverage for home infusion services. Other commercial payers provide differing coverage and may have prior authorization requirements. This can be discovered through Current Health-supported review of payer contracts and engagement with payers. Alternative payment model populations offer the opportunity for total cost of care reduction through hospitalization avoidance, shorter hospital stays and reduced

### **CPT** Codes



# 99457: Patient Communication (Monthly)

HCP performs 20+ minutes of interactive communication with patient.



# 99454: Operational Costs (Monthly)

Supply of devices monitoring physiologic data at least 06 out of 30 days.



### 99458: Additional Patient Communication (Monthly)

For severe cases, HCP poerforms another 20+ minutes with the patient.

### Example Workflow

Current Health's clinical team will collaborate closely with you to design workflows based on individual population selection criteria. This is an example workflow. Patient with COVID-19 infection requiring supplemental oxygen on a background of type II diabetes and obesity.

Patient attends the Emergency Department with fever and shortness of breath, and tests positive for COVID-19.

- Patient is started on supplemental oxygen and admitted overnight, given antipyretics, dexamethasone, DVT prophylaxis, and remdesivir.
- Current Health Champion admits patients to CH, alerting CH Command Center.
- Patient's hypoxia remains stable and symptoms begin to settle.
- Patient is given CH kit and education and discharged home.
- Current Health Patient Support team calls to establish contact and check connectivity.
- Home care team visits patient to conduct a check and administer DVT prophylaxis.

#### \*Oxygen Weaning Pathway

- 1. Wean oxygen to off while monitoring with pulse oximetry for at least 5 minutes.
  - If during weaning, oxygen saturation falls below SpO2 target (92% if none specified), restart the oxygen at the lowest flow rate necessary to meet the target.
- If a patient maintains saturation above the SpO2 target without oxygen, oxygen therapy may be discontinued.
- 2. Check oxygen saturation 30 minutes later and then again at 1 hour to ensure saturation remains adequate without oxygen therapy.
- \*\*20 days after symptoms onset if severely immunocompromised, severe illness or prolonged symptoms.

#### Day

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Telehealth visit to attempt oxygen weaning\* and administer DVT prophylaxis, encourage self-proning if tolerated by patient.

- Patient continues oral dexamethasone treatment.
- Laboratory monitoring including daily CBC with differential, BMP, Mg and every other day LFTs, D-Dimer, ferritin (can be discontinued if stable/improving).
- Close monitoring for complications of COVID-19 requiring escalation.
- Telehealth visit from diabetes team adjust medication - delivered by scriptdrop.

### COVID-19 infection resolving and patient no longer requires supplemental oxygen.

- If patient continues to require supplemental oxygen, continue home visits, laboratory testing, and monitoring for COVID-19 complications.
- Appointment with rehab physiotherapist, who prescribes ongoing exercises to help with obesity and poor mobility.
- Patient no longer considered infectious 10 days after symptom onset\*\*.
- Equipment collected by Current Health partner, reprocessed, and returned to the facility for reuse.

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- Infection and Sepsis
- Acute Kidney Injury

COPD CHF

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- Frailty Asthma
- Hypertension
- Syncope

To request another Clinical Pathway, or learn more about how we can help you care for more patients at home, contact us. <u>currenthealth.com</u>

