Appendix 1: Case report form

COVID-19

1) **Hospitalized patients with acute COVID-19 (i.e., microbiologically confirmed SARS-CoV-2)**

2) **Hospitalized patients with paediatric inflammatory multisystem syndrome/Kawasaki disease temporally associated with COVID-19**

3) **Non-hospitalized patients with acute COVID-19 (i.e., microbiologically confirmed SARS-CoV-2) AND chronic comorbid conditions**

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REPORTING INFORMATION

Report number:	
Month of reporting:	
Province:	
Today's date:	

Please complete the following sections for the case identified above. If the information asked below is not readily available, please leave it blank. Strict confidentiality of information will be assured.

Appendix 1, as supplied by the authors. Appendix to: Drouin O, Moore Hepburn C, Farrar DS, et al. Characteristics of children admitted to hospital with acute SARS-CoV-2 infection in Canada. *CMAJ* 2021. doi: 10.1503/cmaj.210053.

CASE DEFINITION FOR COVID-19 STUDY:

Report any new patient less than 18 years of age (up to the 18th birthday) who meets one of the following three case definitions:

(1) HOSPITALIZED with acute COVID-19 (i.e., microbiologically confirmed SARS-CoV-2)

(2) HOSPITALIZED with paediatric inflammatory multisystem syndrome (PIMS)/Kawasaki disease temporally associated with COVID-19, defined as:

- Persistent fever (>38 degrees Celsius for 3 or more days) and elevated inflammatory markers (C-reactive protein [CRP], erythrocyte sedimentation rate [ESR], or ferritin)

AND one or both of the following:

- Features of Kawasaki disease (complete or incomplete)
- Toxic shock syndrome (typical or atypical)

AND

- No alternative etiology to explain the clinical presentation

IMPORTANT NOTE: Patients should be reported regardless of SARS-CoV-2 status

(3) NON-HOSPITALIZED with acute COVID-19 (i.e., microbiologically confirmed SARS-CoV-2) AND at least one of the following chronic comorbid conditions:

< 12 months of age	Asthma
Obesity	Chronic lung disease
Congenital heart disease	Chronic renal disease
Immunocompromising medications (high-dose steroids,* chemotherapy, biologics, immunomodulators)	Solid tumor or hematologic malignancy
Solid organ transplant	Bone marrow transplant
Primary or secondary immunodeficiency	Chronic neurologic or neurodevelopmental condition
Sickle cell disease or other chronic hematologic condition	Diabetes
Tracheostomy	Chronic rheumatologic or autoimmune disease
Inflammatory bowel disease or other chronic gastrointestinal or liver disease	Genetic/metabolic disease

* Equivalent to at least 2 mg/kg or 20 mg/day of prednisone for at least two weeks

PLEASE INDICATE CASE DEFINITION(S) BEING REPORTED (select all that apply):

❑ Patient hospitalized with acute COVID-19

❑ Patient hospitalized with paediatric inflammatory multisystem syndrome (PIMS)/Kawasaki disease temporally associated with COVID-19

❑ Non-hospitalized patient with acute COVID-19 AND at least one chronic comorbid condition or < 12 months of age

SECTION 1 – PATIENT INFORMATION

1.1 Date of birth: _____ /_____ /_____
DD MM YYYY

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1.2 Sex: ❍ Male ❍ Female ❍ Intersex

1.3 First 3 digits of patient's postal code: ____ ____ ____

1.4 Population groups **(select all that apply)**:

❑ Arab	❑ Black	❑ Chinese	❑ Filipino
❑ Japanese	❑ Korean	❑ Latin American	❑ White
❑ First Nations	❑ Inuit	❑ Métis	❑ Unknown
❑ Southeast Asian (e.g., Vietnamese, Cambodian, Laotian)	❑ South Asian (e.g., East Indian, Pakistani, Sri Lankan)	❑ West Asian (e.g., Iranian, Afghan)	❑ Other, specify: _____

ASSOCIATION WITH COVID-19

1.5 Has the patient tested positive for SARS-CoV-2? ❍ Yes ❍ No ❍ Pending

If yes, specify date: ____ /_____ /_____
DD MM YYYY

***If no or pending,* proceed to question 1.6.**

1.5.1 *If yes,* what was the method of microbiologic diagnosis **(select all that apply)**:
❑ Polymerase chain reaction (PCR) or nucleic acid amplification ❑ Serology ❑ Rapid point-of-care test
❑ Other, specify: _____
❑ Unknown

1.5.2 *If yes*, what type(s) of samples tested positive for SARS-CoV-2 **(select all that apply)**:
❑ Nasal-pharyngeal swab ❑ Nose swab ❑ Throat swab ❑ Endotracheal tube (ETT) aspirate
❑ Blood (PCR) ❑ Blood (serology- prior to any IVIG) ❑ Blood (serology- following IVIG) ❑ Stool
❑ Other, specify: _____
❑ Unknown

1.6 Has the patient travelled (outside of the province, or internationally) in the 12 weeks prior to symptom onset?
❍ Yes ❍ No ❍ Unknown
1.6.1 *If yes*, where? _____
1.6.2 Date of return (if known): ____ /_____ /_____
DD MM YYYY

1.7 Did the patient have any **known close contact** (household or non-household) with a microbiologically **confirmed** case of COVID-19 in the 8 weeks prior to symptom onset? ❍ Yes ❍ No ❍ Unknown
1.7.1 *If yes*, state relationship to patient (e.g., parent, teacher, friend): _____

1.8 Did **any members in the household** become unwell with symptoms consistent with COVID-19 (**NOT** microbiologically confirmed) in the 8 weeks before the onset of symptoms in the patient?
❍ Yes ❍ No ❍ Unknown
1.8.1 *If yes*, state who (e.g., sibling, parent): _____

1.9 Is it suspected that the patient contracted COVID-19 while in hospital or long-term care facility (nosocomial infection)?
❍ Yes, in hospital ❍ Yes, in long-term care ❍ No ❍ Unknown

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SECTION 2 – POTENTIAL RISK FACTORS

2.1 Was the patient born prematurely? ❍ Yes ❍ No ❍ Unknown
2.1.1 *If yes*, gestational age at birth: _____weeks _____days

2.2 Does this patient vape? ❍ Yes ❍ No ❍ Unknown

2.3 Does this patient smoke? ❍ Yes ❍ No ❍ Unknown
2.3.1 *If yes*, specify (e.g., cigarettes, cannabis, other): _____

2.4 Has the patient experienced housing insecurity in last 4 weeks? ❍ Yes ❍ No ❍ Unknown

2.5 Are this patient's routine immunizations up to date for age? ❍ Yes ❍ No ❍ Unknown
2.5.1 *If no*, list vaccines that are not up to date for age: _____

2.6 Did this patient receive the current year's influenza vaccine? ❍ Yes ❍ No ❍ Unknown

2.7 Did this patient have any other epidemiologic risk factors for acquiring SARS-CoV-2? ❍ Yes ❍ No ❍ Unknown
2.7.1 *If yes,* specify: _____

SECTION 3 – MEDICAL COMORBIDITIES AND TREATMENT

3.1 Does this patient have any chronic comorbid conditions? ❍ Yes ❍ No ❍ Unknown

***If no or unknown*, please proceed to Section 4.**

If yes, **select all that apply**:

❑ Asthma ❍ Not requiring daily controller medication ❍ Requiring daily controller medication	❑ Chronic lung disease ❑ Cystic fibrosis ❑ Bronchopulmonary dysplasia/chronic lung disease of prematurity ❑ Other, specify: _____
❑ Obesity Indicate height _____ cm and weight _____ kg	❑ Diabetes mellitus (DM) ❍ Insulin-dependant DM ❍ Non-insulin DM
❑ Congenital heart disease Specify type if known: _____ ❑ Cardiomyopathy	❑ Chronic renal disease Specify type if known: _____ Dialysis dependent? ❍ Yes ❍ No
❑ Immunocompromising medications in last 4 weeks List medication(s): _____	❑ Malignancy (active and/or undergoing therapy) Specify type if known: _____
❑ Solid organ transplant List organ and year of transplant: _____	❑ Bone marrow transplant List type and year of transplant: _____
❑ Primary immunodeficiency Specify diagnosis if known: _____	❑ Secondary immunodeficiency Specify: _____
❑ Sickle cell disease or other chronic hematologic condition Specify:_____	❑ Neurologic and/or neurodevelopmental condition(s) ❑ Epilepsy ❑ Cerebral palsy

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	❑ Genetic disorder, specify: _____ ❑ Other, specify: _____
❑ Tracheostomy	❑ Chronic rheumatologic or autoimmune disease Specify: _____
❑ Inflammatory bowel disease Specify type if known: _____ ❑ Other chronic gastrointestinal or liver condition Specify type if known: _____	❑ Genetic/metabolic disease Specify type if known: _____
❑ Other, specify: _____	

SECTION 4 – CLINICAL PRESENTATION – COMPLETE ONLY FOR PATIENTS WITH ACUTE COVID-19 (MICROBIOLOGICALLY CONFIRMED SARS-COV-2 INFECTION)

**** If you are reporting a case of a HOSPITALIZED PATIENT WITH PIMS/KAWASAKI DISEASE, PLEASE PROCEED TO SECTION 5.**

4.1 Was the patient hospitalized? ❍ Yes ❍ No

***If no*, proceed to question 4.2.**

4.1.1 *If yes*, date of admission: ____ /_____ /_____
DD MM YYYY

4.1.2 *If yes*, was this patient admitted primarily for:

❍ Care related to symptoms consistent with acute COVID-19

❍ Care unrelated to symptoms consistent with acute COVID-19 (i.e., an incidental finding in a patient admitted for another reason)
If yes, describe: _____

❍ Care required for purposes of isolation/infection control after testing positive for SARS-CoV-2 (i.e., supportive care for patients living in long-term care facilities and/or group homes)
If yes, describe:_____

❍ Humanitarian/compassionate reasons
If yes, describe:_____

4.2 Symptoms and signs at presentation **(select all that apply):**

❑ Fever	❑ Respiratory distress	❑ Muscle aches	❑ Conjunctivitis
❑ Cough	❑ Lethargy	❑ Rash	❑ Headache
❑ Sore throat	❑ Seizures	❑ Vomiting	❑ Loss of smell
❑ Runny nose	❑ Coma	❑ Diarrhea	❑ Loss of taste
❑ Sneezing	❑ Skin manifestations, specify: _____	❑ Loss of appetite	❑ Other, specify: _____

4.3 Total duration of symptoms prior to diagnosis of COVID-19, if known _____ days

4.4 During the course of COVID-19 illness, did the patient experience any of the following? **(Select all that apply)**:

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Respiratory:	**Inflammatory:**	**Neurologic:**
❑ Pneumonia ❑ Bronchiolitis ❑ Acute respiratory distress syndrome	❑ Cytokine storm/macrophage activating syndrome	❑ Seizures ❑ Stroke ❑ Encephalitis ❑ Encephalopathy ❑ Acute necrotizing encephalopathy ❑ Coma
Hematologic:	**Cardiac:**	**Other:**
❑ Coagulation dysfunction, Specify: - Prothrombin time (PT)/international normalized ratio (INR)_____ - Partial thromboplastin time (PTT)_____ - D-dimer_____ ❑ Anemia ❑ Lymphopenia ❑ Neutropenia ❑ Thrombocytosis	❑ Hypotension ❑ Acute cardiac dysfunction (myocarditis, pericarditis), specify:_____	❑ Skin changes, specify:_____ _____ ❑ Gastrointestinal symptoms (abdominal pain, vomiting, diarrhea) specify: _____ ❑ Hepatitis, specify:_____ ❑ Renal dysfunction, specify:____ _____ ❑ Other, specify:_____

SECTION 5 – CLINICAL PRESENTATION – COMPLETE ONLY FOR PATIENTS HOSPITALIZED WITH PIMS/KAWASAKI DISEASE TEMPORALLY ASSOCIATED WITH COVID-19

**** If you are reporting a case of a PATIENT WITH ACUTE COVID 19 (MICROBIOLOGICALLY CONFIRMED SARS-COV-2 INFECTION, PLEASE PROCEED TO SECTION 6.**

5.1 Date of hospital admission: _____ /_____ /_____
DD MM YYYY

5.2 Fever

5.2.1 Number of days of fever at diagnosis: _____ ❍ Unknown

5.2.2 Total number of days of fever (START of fever until complete resolution): _____ ❍ Unknown

5.3 Did this patient require hospitalization for acute COVID-19 in the past 8 weeks? ❍ Yes ❍ No ❍ Unknown

5.4 Is this a Kawasaki disease re-occurrence? ❍ Yes ❍ No ❍ Unknown

5.4.1 *If yes*, what was the month and year of the most recent previous diagnosis of Kawasaki disease?
_____ month _____ year

5.5 **Clinical features**

	Yes	No	Unknown
5.5.1 Changes in the peripheral extremities (e.g., redness, swelling)	❍	❍	❍
5.5.2 Rash	❍	❍	❍
If yes, specify:_____			
5.5.3 Bilateral bulbar conjunctival injection without exudate	❍	❍	❍

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5.5.4 Changes in the lips or oral cavity ❍ ❍ ❍

5.5.5 Cervical lymphadenopathy >1.5 cm diameter ❍ ❍ ❍

5.5.6 Abdominal pain/vomiting/diarrhea ❍ ❍ ❍

5.5.7 Coagulation dysfunction
If yes, specify prothrombin time (PT)/international normalized ratio (INR), partial thromboplastin time (PTT):_____

5.5.8 Periungual desquamation ❍ ❍ ❍

5.6 Did the patient present with clinical features consistent with shock/hypotension?
❍ Yes ❍ No ❍ Unknown

5.7 **Laboratory features**

5.7.1 Highest C-reactive protein (CRP)_____

5.7.2 Highest erythrocyte sedimentation rate (ESR)_____

5.7.3 Highest ferritin_____

5.7.4 Highest D-dimer_____

5.7.5 Highest troponin_____

5.7.6 Highest liver enzymes (aspartate aminotransferase test [AST], alanine aminotransferase test [ALT],
lactate dehydrogenase [LDH], bilirubin)_____

5.7.7 Lowest sodium_____

5.7.8 Lowest albumin_____

5.7.9 Lowest platelet count (while an inpatient)_____

5.7.10 Highest platelet count (if patient seen in follow-up)_____

5.8 Was an echocardiogram performed? ❍ Yes ❍ No ❍ Unknown

***If no or unknown*, proceed to section 6.**

5.8.1 *If yes:*
(Note: If multiple echocardiograms were performed, please provide results from the study with the most severe findings)

Was coronary ectasia present? ❍ Yes ❍ No Maximum size (by z-score): _____

Was coronary dilation present? ❍ Yes ❍ No Maximum size (by z-score): _____

Were one or several aneurysms present? ❍ Yes ❍ No Maximum size (by z-score): _____

Was decreased heart function present? ❍ Yes ❍ No *If yes*, specify ejection fraction: _____

Were other cardiac findings present? ❑ Myocarditis ❑ Pericardial effusion ❑ Valvular insufficiency ❑ Other, specify: _____

SECTION 6 – CONCURRENT INFECTIONS AND IMAGING

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6.1 Were there any other confirmed **concurrent viral** infections? ❍ Yes ❍ No ❍ Unknown
6.1.1 *If yes*, **select all that apply**: ❑ Respiratory syncytial virus ❑ Influenza ❑ Other, specify: _____

6.2. Were there any **other concurrent** microbiologically confirmed infections? ❍ Yes ❍ No ❍ Unknown
6.2.1 *If yes*, specify: _____

6.3 Were there any other concurrent **clinically diagnosed** infections? ❍ Yes ❍ No ❍ Unknown
6.3.1 *If yes*, specify: _____

6.4 Did the patient have any of the following imaging? **(Select all that apply):**
❑ Chest X-ray: ❍ Yes ❍ No *If yes*, describe main findings: _____
❑ CT scan: ❍ Yes ❍ No *If yes*, describe anatomical location(s) and main findings: _____
❑ MRI scan: ❍ Yes ❍ No *If yes*, describe anatomical location(s) and main findings: _____
❑ Other, specify: _____

SECTION 7 – TREATMENT

7.1 Treatment

	Yes	**No**	**Name of product(s), if applicable**
Bronchodilators	❍	❍	
Azithromycin	❍	❍	N/A
Other antibiotics	❍	❍	1 2 3
Remdesivir			
Other antivirals	❍	❍	1 2 3
Steroids	❍	❍	
Hydroxychloroquine	❍	❍	
Chloroquine	❍	❍	
Immunoglobulin (IVIG) *If yes*, specify number of doses:___	❍	❍	
Aspirin	❍	❍	
Anti-TNF	❍	❍	
Anti-IL-1 (e.g., anakinra, canakinumab)	❍	❍	
Anti-IL-6 (e.g., tocilizumab)	❍	❍	
Prophylactic anticoagulation	❍	❍	
Therapeutic anticoagulation	❍	❍	

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Mechanical anticoagulation (e.g., antiembolism stockings, pneumatic boots)	❍ ❍	
Other (e.g., blood products, other antiplatelet therapies)	❍ ❍	

7.2 Is this patient enrolled in a clinical trial and receiving novel therapy (e.g., convalescent plasma, antiretrovirals)? ❍ Yes ❍ No ❍ Unknown

7.2.1 *If yes,* provide details: _____

7.3 What was the highest level of care required: ❍ Managed at home ❍ Inpatient ward ❍ ICU

7.3.1 *If admitted to ICU*, what was the total duration of ICU admission? _____ days

Is the patient still in ICU? ❍ Yes ❍ No

7.4 Did the patient require any of the following forms of respiratory/other support? **(Select all that apply)**:

- ❑ Increased baseline home oxygen
- ❑ Low-flow oxygen
- ❑ High-flow nasal canula
- ❑ Non-invasive ventilation (e.g., CPAP or BiPAP)
- ❑ Conventional mechanical ventilation
- ❑ High-frequency oscillatory ventilation
- ❑ Nitric oxide (NO)
- ❑ Extracorporeal membrane oxygenation (ECMO)
- ❑ Vasopressors
- ❑ Surgical thrombectomy
- ❑ Hemofiltration

7.5 Did the patient experience any other complications over the course of their illness? ❍ Yes ❍ No ❍ Unknown

7.5.1 *If yes*, specify: _____

7.6 What was the final disposition of the patient? ❍ Remains at home ❍ Remains in hospital ❍ Discharged home from hospital ❍ Transferred to another facility ❍ Died ❍ Unknown

7.6.1 *If patient was transferred to another facility,* specify reason: _____

7.6.2 *If patient died*, specify cause of death: _____

SECTION 8 – FOLLOW-UP

8.1 Additional details: _____

_____

_____

_____

❍ I agree to be contacted by the CPSP for further information on this questionnaire.

❍ I do not wish to be contacted by the CPSP for further for information on this questionnaire.

LONG-TERM IMPACT

Appendix 1, as supplied by the authors. Appendix to: Drouin O, Moore Hepburn C, Farrar DS, et al. Characteristics of children admitted to hospital with acute SARS-CoV-2 infection in Canada. *CMAJ* 2021. doi: 10.1503/cmaj.210053.

A separate study may be conducted to better understand the long-term impact and epidemiology of COVID-19 in children and youth. Do you agree to be contacted by the study team with follow-up questions about this case in the future? ❍ Yes ❍ No

(*If yes*, you agree to the CPSP releasing your contact information to the study team (led by Dr. Shaun Morris) for potential follow-up.)

SECTION 9 – REPORTING PHYSICIAN

First name_____ Surname_____

Address_____

City_____ Province or territory_____ Postal code_____

Telephone number_____ Fax number_____

E-mail_____ Date completed_____

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. YOUR PARTICIPATION IS VITAL.

COVID-19 06/2020

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