



SYNDROMIC DETECTION ALGORITHM

COVID-19

Document Version 1.0

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1. OVERVIEW

The purpose of this document is to describe criteria to identify potential COVID-19 cases and the weekly COVID-19 report to be generated at participating ESP/MDPHnet sites.

2. CRITERIA USED TO IDENTIFY POTENTIAL COVID-19 CASES

There will be three categories of potential COVID-19 cases. They are defined below:

- a. Category 1:
 - i. COVID-19 related diagnosis (see Table 1)
AND
 - ii. At least one of the following diagnoses (see Table 2) or orders:
 - 1. Lower respiratory infection
 - 2. Bronchitis
 - 3. Acute respiratory distress syndrome
 - 4. Pneumonia
 - 5. Order for chest X-ray
 - 6. Order for chest CT scan

All diagnoses and orders must occur within 14 days of one another

- b. Category 2:
 - i. At least one of the following diagnoses (see Table 2)
 - 1. Lower respiratory infection
 - 2. Bronchitis
 - 3. Acute respiratory distress syndrome
 - 4. Pneumonia*AND*
 - ii. Fever (Table 3)

Fever and the diagnoses must occur within 14 days of one another

- c. Category 3:
 - i. At least one of the symptoms or infections related to COVID-19 (Table 4) and fever (Table 3) within 14 days of each other

Patients may meet criteria in multiple categories. Patients will only be counted once by being included in the highest category they meet. For example, if a patient meets the criteria for category 1 and 2, they will only be counted as a category 1 case.

The recurrence interval for COVID-19 will be 42 days.



3. DATA TO INCLUDE IN THE WEEKLY REPORT

The weekly report will include counts of potential COVID-19 cases identified at participating ESP/MDPHnet sites and will be emailed to MDPH recipients. The report will include the following column headers:

- a. Weekend date
- b. Week number
- c. Zip code (derived from patients' addresses)
- d. Age group (0-19, 20-29, 30-39, 40-49, 50-59, 60-69, ≥70)
- e. Gender
- f. Race
- g. Ethnicity
- h. Number of COVID-19 cases
- i. Number of Category 1 COVID-19 cases
- j. Number of Category 1 COVID-19 cases with positive COVID-19 PCR test results
- k. Number of Category 1 COVID-19 cases with negative COVID-19 PCR test results
- l. Number of Category 1 COVID-19 cases with COVID-19 PCR test with no result
- m. Number of Category 2 COVID-19 cases
- n. Number of Category 2 COVID-19 cases with positive COVID-19 PCR test results
- o. Number of Category 2 COVID-19 cases with negative COVID-19 PCR test results
- p. Number of Category 2 COVID-19 cases with COVID-19 PCR test with no result
- q. Number of Category 3 COVID-19 cases
- r. Number of Category 3 COVID-19 cases with positive COVID-19 PCR test results
- s. Number of Category 3 COVID-19 cases with negative COVID-19 PCRT test results
- t. Number of Category 3 COVID-19 cases with COVID-19 PCR test with no result
- u. Total number of patients with clinical encounters
- v. Percentage of patients with clinical encounters who are potential COVID-19 cases
- w. Cumulative number of Category 1 COVID-19 cases since February 1, 2020
- x. Cumulative number of Category 1 COVID-19 cases with positive PCR test results since February 1, 2020
- y. Cumulative number of Category 1 COVID-19 cases with negative PCR test results since February 1, 2020
- z. Cumulative number of Category 2 COVID-19 cases since February 1, 2020
- aa. Cumulative number of Category 2 COVID-19 cases with positive PCR test results since February 1, 2020
- bb. Cumulative number of Category 2 COVID-19 cases with negative PCR test results since February 1, 2020
- cc. Cumulative number of Category 3 COVID-19 cases since February 1, 2020
- dd. Cumulative number of Category 3 COVID-19 cases with positive PCR test results since February 1, 2020
- ee. Cumulative number of Category 3 COVID-19 cases with negative PCR test results since February 1, 2020



Clinical encounters are defined as encounters that contain any of the following: laboratory result, prescription, recorded diagnosis code, vital sign, or immunization.

4. Codes, laboratory tests, and medications used to identify criteria listed in Section 2 and supplementary reporting information in Section 3.

Table 1. Diagnosis codes used to identify COVID-19

	Code Type	Code	Description
COVID-19	ICD-10-CM	B34.2	Coronavirus infection, unspecified
	ICD-10-CM	B97.29	Other coronavirus as the cause of diseases classified elsewhere
	ICD-10-CM	U07.1	COVID-19

Table 2. Diagnosis codes used to identify lower respiratory tract infections and pneumonia

	Code Type	Code	Description
Pneumonia	ICD-10-CM	J12.89	Other viral pneumonia
	ICD-10-CM	J12.9	Viral pneumonia, unspecified
	ICD-10-CM	J17	Pneumonia in diseases classified elsewhere
	ICD-10-CM	J18.0	Bronchopneumonia, unspecified organism
	ICD-10-CM	J18.1	Lobar pneumonia, unspecified organism
	ICD-10-CM	J18.8	Other pneumonia, unspecified organism
Bronchitis	ICD-10-CM	J20.8	Acute bronchitis due to other specified organisms
	ICD-10-CM	J20.9	Acute bronchitis, unspecified
	ICD-10-CM	J21.8	Acute bronchiolitis due to other specified organisms
	ICD-10-CM	J21.9	Acute bronchiolitis, unspecified
	ICD-10-CM	J40	Bronchitis, not specified as acute or chronic
Lower respiratory infection	ICD-10-CM	J22	Unspecified acute lower respiratory infection
	ICD-10-CM	J98.8	Other specified respiratory disorders
Acute respiratory distress syndrome	ICD-10-CM	J80	Acute respiratory distress syndrome

Table 3. Diagnosis codes used to identify fever

Symptom	Code Type	Code	Description
Fever	N/A	Temperature >100.0	Measured temperature, if available
	ICD-10-CM	R50.2	Drug induced fever
	ICD-10-CM	R50.8	Other specified fever
	ICD-10-CM	R50.81	Fever presenting with conditions classified elsewhere
	ICD-10-CM	R50.84	Febrile nonhemolytic transfusion reaction
	ICD-10-CM	R50.9	Fever, unspecified
	ICD-10-CM	R56.00	Simple febrile convulsions

Table 4. Diagnosis codes used to identify symptoms and infections related to COVID-19

Symptom	Code Type	Code	Description
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Viral infections	ICD-10-CM	B33.8	Other specified viral diseases
	ICD-10-CM	B34.8	Other viral infections of unspecified site
	ICD-10-CM	B97.89	Other viral agents as the cause of diseases classified elsewhere
Upper respiratory infection	ICD-10-CM	J00	Acute nasopharyngitis [common cold]
	ICD-10-CM	J02.9	Acute pharyngitis, unspecified
	ICD-10-CM	J04.0	Acute laryngitis
	ICD-10-CM	J04.10	Acute tracheitis without obstruction
	ICD-10-CM	J04.11	Acute tracheitis with obstruction
	ICD-10-CM	J04.2	Acute laryngotracheitis
	ICD-10-CM	J05.0	Acute obstructive laryngitis [croup]
	ICD-10-CM	J06.0	Acute laryngopharyngitis
	ICD-10-CM	J06.9	Acute upper respiratory infection, unspecified
	ICD-10-CM	J39.8	Other specified diseases of upper respiratory tract
	ICD-10-CM	J39.9	Disease of upper respiratory tract, unspecified
Cough	ICD-10-CM	R07.0	Pain in throat
	ICD-10-CM	R05	Cough
Shortness of breath	ICD-10-CM	R06.02	Shortness of breath