SYNDROMIC DETECTION ALGORITHM
COVID-19

Document Version 2.0

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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 six 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 (excludes olfactory and taste disorders)

d. Category 4:
   i. At least one of the following diagnoses (see Table 2)
      1. Lower respiratory infection
      2. Bronchitis
      3. Acute respiratory distress syndrome
      4. Pneumonia

    e. Category 5:

        i. At least one of the symptoms or infections related to COVID-19 in Table 4

    f. Category 6:

        i. At least one symptom, infection, or COVID-19 related diagnosis code in Table 5

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.

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3. WEEKLY REPORT

A weekly report will include counts of potential COVID-19 cases identified at each participating ESP/MDPHnet sites and will be emailed to MDPH recipients. Please see the excel attachment for the column headers.

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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	J12.82	Pneumonia due to coronavirus disease 2019
	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
	ICD-10-CM	J18.9	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
	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
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
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
Olfactory and taste disorders	ICD-10-CM	R43.0	Anosmia
	ICD-10-CM	R43.1	Parosmia
	ICD-10-CM	R43.2	Parageusia
	ICD-10-CM	R43.8	Other disturbances of smell and taste
	ICD-10-CM	R43.9	Unspecified disturbances of smell and taste

Table 5. Diagnosis codes used to identify Category 6

Symptom	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
Pneumonia	ICD-10-CM	J12.82	Pneumonia due to coronavirus disease 2019
	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
	ICD-10-CM	J18.9	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
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
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
Olfactory and taste disorders	ICD-10-CM	R43.0	Anosmia
	ICD-10-CM	R43.1	Parosmia
	ICD-10-CM	R43.2	Parageusia
	ICD-10-CM	R43.8	Other disturbances of smell and taste
	ICD-10-CM	R43.9	Unspecified disturbances of smell and taste
Multisystem inflammatory syndrome	ICD-10-CM	M35.81	Multisystem inflammatory syndrome