

Disclaimer

The FDA chose a specific outcome algorithm that met its need for a given medical product-outcome assessment. The use of a specific outcome algorithm in a Sentinel assessment should not be interpreted as an endorsement from FDA to use the algorithm for all safety assessments. Investigators should always consider the objective, study design, analytic approach, and data source of a given medical product safety assessment when choosing the outcome algorithm. The suitability of an outcome algorithm may change when applied to different scenarios. For additional information, please refer to the

[Best Practices for Conducting and Reporting Pharmacoepidemiologic Safety Studies Using Electronic Healthcare Data](#) guidance document provided by the FDA.

Overview

Title	COVID-19 Severity Algorithm Defined in "Risk of Adverse Maternal Health Outcomes Among Pregnant Patients With and Without COVID-19: A Propensity Score Matched Analysis"
Request ID	cder_mpl2p_wp048
Description	<p>This report lists International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Category II (CPT Category II), Current Procedural Terminology, Category III (CPT Category III), Current Procedural Terminology, Fourth Edition (CPT-4), and Revenue codes and algorithms used to define COVID-19 severity in this request.</p> <p>For additional information about the algorithm and how it was defined relative to the cohort and exposure(s) of interest in the analysis, refer to the analysis webpage here: https://www.sentinelinitiative.org/studies/drugs/individual-drug-analyses/risk-adverse-maternal-health-outcomes-among-pregnant</p>
Outcome	COVID-19 Severity
Algorithm to Define Outcome	<p>The COVID-19 severity outcome is characterized mutually as exclusive descriptors of COVID-19 severity in the same obstetric-related period of interest as COVID-19 identification using ICD-10-CM, ICD-10-PCS, HCPCS, CPT Category II, CPT Category III, CPT-4, and Revenue codes in the maternal records. The numerically highest endpoint took precedence in establishing the hierarchy per patient. Levels 2-5 are severe endpoints as hospitalized diagnoses; level 1 is non-severe.</p> <ul style="list-style-type: none"> --Level 5: Hospitalization for COVID-19 with expired discharge status (death); --Level 4: Hospitalization for COVID-19 with acute respiratory distress syndrome (ARDS) or requiring ventilation; --Level 3: Hospitalization for COVID-19 with an intensive care unit (ICU) admission; --Level 2: Hospitalization for COVID-19 with co-occurring pneumonia, dyspnea, hypoxia, hypoxemia, supplemental oxygen, or non-invasive oxygen therapy; --Level 1: Any other occurrence of COVID-19 (non-severe)
Query Period	January 1, 2020 - November 30, 2023
Request Send Date	February 8, 2024

Glossary

Care Setting - type of medical encounter or facility where the exposure, event, or condition code was recorded. Possible care settings include: Inpatient Hospital Stay (IP), Non-Acute Institutional Stay (IS), Emergency Department (ED), Ambulatory Visit (AV), and Other Ambulatory Visit (OA). For laboratory results, possible care settings include: Emergency department (E), Home (H), Inpatient (I), Outpatient (O), or Unknown or missing (U)

Outcome - outcome of interest (either primary or secondary)

Principal Diagnosis (PDX) - diagnosis or condition established to be chiefly responsible for admission of the patient to the hospital. 'P' = principal diagnosis, 'S' = secondary diagnosis, 'X' = unspecified diagnosis, '.' = blank. Along with the Care Setting values, forms the Caresetting/PDX parameter.

Query Period - period in which the modular program looks for exposures and outcomes of interest

Request Send Date - date the request was sent to Sentinel Data Partners

Code List 1. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Category II (CPT Category II), Current Procedural Terminology, Category III (CPT Category III), Current Procedural Terminology, Fourth Edition (CPT-4), and Revenue Codes Used to Define COVID-19 Severity in this Request

Code	Description	Care Setting	Code Category	Code Type
Hierarchical severity level 4: Acute respiratory distress syndrome, intubation, or invasive mechanical ventilation				
J96	Respiratory failure, not elsewhere classified	IP* IS*	Diagnosis	ICD-10-CM
J960	Acute respiratory failure	IP* IS*	Diagnosis	ICD-10-CM
J9600	Acute respiratory failure, unspecified whether with hypoxia or hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J9601	Acute respiratory failure with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9602	Acute respiratory failure with hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J962	Acute and chronic respiratory failure	IP* IS*	Diagnosis	ICD-10-CM
J9620	Acute and chronic respiratory failure unspecified with hypoxia/hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J9621	Acute and chronic respiratory failure with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9622	Acute and chronic respiratory failure with hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J969	Respiratory failure, unspecified	IP* IS*	Diagnosis	ICD-10-CM
J9690	Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J9691	Respiratory failure, unspecified with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9692	Respiratory failure, unspecified with hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J80	Acute respiratory distress syndrome	IP* IS*	Diagnosis	ICD-10-CM
31500	Intubation, endotracheal, emergency procedure	IP* IS*	Procedure	CPT-4
31600	Tracheostomy, planned procedure	IP* IS*	Procedure	CPT-4
31603	Tracheostomy, emergency procedure, transtracheal	IP* IS*	Procedure	CPT-4
31605	Tracheostomy, emergency procedure, cricothyroid membrane	IP* IS*	Procedure	CPT-4
31730	Transtracheal (percutaneous) introduction of needle wire dilator/stent or indwelling tube for oxygen therapy	IP* IS*	Procedure	CPT-4
33946	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; initiation, veno-venous	IP* IS*	Procedure	CPT-4
33947	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; initiation, veno-arterial	IP* IS*	Procedure	CPT-4
33948	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; daily management, each day, veno-venous	IP* IS*	Procedure	CPT-4
33949	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; daily management, each day, veno-arterial	IP* IS*	Procedure	CPT-4
33951	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; insertion of peripheral (arterial and/or venous) cannula(e), percutaneous, birth through 5 years of age (includes fluoroscopic guidance, when performed)	IP* IS*	Procedure	CPT-4
33952	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; insertion of peripheral (arterial and/or venous) cannula(e), percutaneous, 6 years and older (include fluoroscopic guidance, when performed)	IP* IS*	Procedure	CPT-4

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33954	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; insertion of peripheral (arterial and/or venous) cannula(e), open, 6 years and older	IP* IS*	Procedure CPT-4
33956	Extracorporeal membrane oxygenation (ecmo)/ extracorporeal life support (ecls) provided by physician; insertion of central cannula(e) by sternotomy or thoracotomy, 6 years and older	IP* IS*	Procedure CPT-4
33958	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; reposition peripheral (arterial and/or venous) cannula(e), percutaneous, 6 years and older (includes fluoroscopic guidance, when performed)	IP* IS*	Procedure CPT-4
33962	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; reposition peripheral (arterial and/or venous) cannula(e), open, 6 years and older (includes fluoroscopic guidance, when performed)	IP* IS*	Procedure CPT-4
33964	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; reposition central cannula(e) by sternotomy or thoracotomy, 6 years and older (includes fluoroscopic guidance, when performed)	IP* IS*	Procedure CPT-4
33966	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; removal of peripheral (arterial and/or venous) cannula(e), percutaneous, 6 years and older	IP* IS*	Procedure CPT-4
33984	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; removal of peripheral (arterial and/or venous) cannula(e), open, 6 years and older	IP* IS*	Procedure CPT-4
33986	Extracorporeal membrane oxygenation (ECMO)/extracorporeal life support (ECLS) provided by physician; reposition peripheral (arterial and/or venous) cannula(e), percutaneous, 6 years and older (includes fluoroscopic guidance, when performed)	IP* IS*	Procedure CPT-4
33987	Arterial exposure with creation of graft conduit (eg, chimney graft) to facilitate arterial perfusion for ECMO/ECLS (List separately in addition to code for primary procedure)	IP* IS*	Procedure CPT-4
33988	Insertion of left heart vent by thoracic incision (eg, sternotomy, thoracotomy) for ECMO/ECLS	IP* IS*	Procedure CPT-4
33989	Removal of left heart vent by thoracic incision (eg, sternotomy, thoracotomy) for ECMO/ECLS	IP* IS*	Procedure CPT-4
99504	Home visit for respirator care	IP* IS*	Procedure CPT-4
09HN7BZ	Insertion of Airway into Nasopharynx, Via Natural or Artificial Opening	IP* IS*	Procedure ICD-10-PCS
09HN8BZ	Insertion of Airway into Nasopharynx, Via Natural or Artificial Opening Endoscopic	IP* IS*	Procedure ICD-10-PCS
0B113F4	Insertion Of Endotracheal Airway Into Trachea, Percutaneous Approach	IP* IS*	Procedure ICD-10-PCS
0B113Z4	Bypass Trachea To Cutaneous, Percutaneous Approach	IP* IS*	Procedure ICD-10-PCS
0B114F4	Insertion Of Endotracheal Airway Into Trachea, Percutaneous Approach	IP* IS*	Procedure ICD-10-PCS

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0B114Z4	Bypass Trachea To Cutaneous, Percutaneous Endoscopic Approach	IP* IS*	Procedure	ICD-10-PCS
0B21XEZ	Change Endotracheal Airway In Trachea, External Approach	IP* IS*	Procedure	ICD-10-PCS
0B21XFZ	Change Endotracheal Airway In Trachea, External Approach	IP* IS*	Procedure	ICD-10-PCS
0BH13EZ	Insertion of Endotracheal Airway into Trachea, Percutaneous Approach	IP* IS*	Procedure	ICD-10-PCS
0BH17EZ	Insertion of Endotracheal Airway into Trachea, Via Natural or Artificial Opening	IP* IS*	Procedure	ICD-10-PCS
0BH18EZ	Insertion of Endotracheal Airway into Trachea, Via Natural or Artificial Opening Endoscopic	IP* IS*	Procedure	ICD-10-PCS
0CHY7BZ	Insertion of Airway into Mouth and Throat, Via Natural or Artificial Opening	IP* IS*	Procedure	ICD-10-PCS
0CHY8BZ	Insertion of Airway into Mouth and Throat, Via Natural or Artificial Opening Endoscopic	IP* IS*	Procedure	ICD-10-PCS
0DH57BZ	Insertion of Airway into Esophagus, Via Natural or Artificial Opening	IP* IS*	Procedure	ICD-10-PCS
0DH58BZ	Insertion of Airway into Esophagus, Via Natural or Artificial Opening Endoscopic	IP* IS*	Procedure	ICD-10-PCS
4168F	Patient receiving care in the intensive care unit (ICU) and receiving mechanical ventilation, 24 hours or less (CRIT)	IP* IS*	Procedure	CPT Category II
5A15223	Extracorporeal Membrane Oxygenation, Continuous	IP* IS*	Procedure	CPT-4
5A1522F	Extracorporeal Oxygenation, Membrane, Central	IP* IS*	Procedure	ICD-10-PCS
5A1522G	Extracorporeal Oxygenation, Membrane, Peripheral Venous-arterial	IP* IS*	Procedure	ICD-10-PCS
5A1522H	Extracorporeal Oxygenation, Membrane, Peripheral Venous-venous	IP* IS*	Procedure	ICD-10-PCS
5A19054	Respiratory Ventilation, Single, Nonmechanical	IP* IS*	Procedure	ICD-10-PCS
5A1935Z	Respiratory Ventilation, Less than 24 Consecutive Hours	IP* IS*	Procedure	ICD-10-PCS
5A1945Z	Respiratory Ventilation, 24-96 Consecutive Hours	IP* IS*	Procedure	ICD-10-PCS
5A1955Z	Respiratory Ventilation, Greater than 96 Consecutive Hours	IP* IS*	Procedure	ICD-10-PCS
94002	Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing; hospital inpatient/observation, initial day	IP* IS*	Procedure	CPT-4
94003	Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing; hospital inpatient/observation, each subsequent day	IP* IS*	Procedure	CPT-4
94004	Ventilation assist and management, initiation of pressure or volume preset ventilators for assisted or controlled breathing; nursing facility, per day	IP* IS*	Procedure	CPT-4
A4483	Moisture exchanger, disposable, for use with invasive mechanical ventilation	IP* IS*	Procedure	HCPCS
A4623	Tracheostomy, inner cannula	IP* IS*	Procedure	HCPCS
E0465	Home ventilator, any type, used with invasive interface, (e.g., tracheostomy tube)	IP* IS*	Procedure	HCPCS
J1325	Injection, epoprostenol, 0.5 mg	IP* IS*	Procedure	HCPCS
Z9911	Dependence on respirator [ventilator] status	IP* IS*	Diagnosis	ICD-10-CM
Hierarchical severity level 3: Intensive care unit (ICU) admission				
200	ICU general	IP* IS*	Procedure	Revenue
201	ICU surgical	IP* IS*	Procedure	Revenue
202	ICU medical	IP* IS*	Procedure	Revenue

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203	ICU pediatric	IP* IS*	Procedure	Revenue
204	ICU psychiatric stay	IP* IS*	Procedure	Revenue
206	ICU intermediate	IP* IS*	Procedure	Revenue
207	ICU burn care	IP* IS*	Procedure	Revenue
208	ICU trauma	IP* IS*	Procedure	Revenue
209	ICU other	IP* IS*	Procedure	Revenue
210	CCU	IP* IS*	Procedure	Revenue
211	CCU myo infarc	IP* IS*	Procedure	Revenue
212	CCU pulmonary	IP* IS*	Procedure	Revenue
213	CCU transplant	IP* IS*	Procedure	Revenue
214	CCU intermediate	IP* IS*	Procedure	Revenue
219	CCU other	IP* IS*	Procedure	Revenue
G0390	Trauma response team associated with hospital critical care service	IP* IS*	Procedure	HCPCS
G0509	Telehealth consultation, critical care, subsequent, physicians typically spend 50 minutes communicating with the patient and providers via telehealth	IP* IS*	Procedure	HCPCS
G0508	Telehealth consultation, critical care, initial, physicians typically spend 60 minutes communicating with the patient and providers via telehealth	IP* IS*	Procedure	HCPCS
0188T	Remote real-time interactive video-conferenced critical care, evaluation and management of the critically ill or critically injured patient; first 30-74 minutes	IP* IS*	Procedure	CPT Category III
0189T	Remote real-time interactive video-conferenced critical care, evaluation and management of the critically ill or critically injured patient; each additional 30 minutes (List separately in addition to code for primary service)	IP* IS*	Procedure	CPT Category III
0581F	Patient transferred directly from anesthetizing location to critical care unit (Peri2)	IP* IS*	Procedure	CPT Category II
0582F	Patient not transferred directly from anesthetizing location to critical care unit (Peri2)	IP* IS*	Procedure	CPT Category II
99171	Critical Care, Subsequent Follow-up Visit; Brief Examination, Evaluation And/or Treatment For Same Illness	IP* IS*	Procedure	CPT-4
99160	Critical Care, Initial, Including The Diagnostic And Therapeutic Services And Direction Of Care Of The Critically Ill Or Multiply Injured Or Comatose Patient, Requiring The Prolonged Presence Of The Physician; First Hour	IP* IS*	Procedure	CPT-4
99162	Critical Care, Initial, Including The Diagnostic And Therapeutic Services And Direction Of Care Of The Critically Ill Or Multiply Injured Or Comatose Patient, Requiring The Prolonged Presence Of The Physician; Each Additional 30 Minutes	IP* IS*	Procedure	CPT-4
99291	Critical care, evaluation and management of the critically ill or critically injured patient; first 30-74 minutes	IP* IS*	Procedure	CPT-4
99292	Critical care, evaluation and management of the critically ill or critically injured patient; each additional 30 minutes (List separately in addition to code for primary service)	IP* IS*	Procedure	CPT-4

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G0240	Critical care service delivered by a physician, face to face; during interfacility transport of a critically ill or critically injured patient; first 30-74 minutes of active transport	IP* IS*	Procedure	HCPCS
Hierarchical severity level 2: Pneumonia				
B9729	Other coronavirus as the cause of diseases classified elsewhere	IP* IS*	Diagnosis	ICD-10-CM
J1281	Pneumonia due to SARS-associated coronavirus	IP* IS*	Diagnosis	ICD-10-CM
J1282	Pneumonia due to coronavirus disease 2019	IP* IS*	Diagnosis	ICD-10-CM
J1289	Other viral pneumonia	IP* IS*	Diagnosis	ICD-10-CM
J129	Viral pneumonia, unspecified	IP* IS*	Diagnosis	ICD-10-CM
Hierarchical severity level 2: Dyspnea				
R0602	Shortness of breath or trouble breathing	IP* IS*	Diagnosis	ICD-10-CM
R0600	Dyspnea, unspecified	IP* IS*	Diagnosis	ICD-10-CM
R0601	Orthopnea	IP* IS*	Diagnosis	ICD-10-CM
R0603	Acute respiratory distress	IP* IS*	Diagnosis	ICD-10-CM
R0609	Other forms of dyspnea	IP* IS*	Diagnosis	ICD-10-CM
R062	Wheezing	IP* IS*	Diagnosis	ICD-10-CM
Hierarchical severity level 2: Hypoxia or hypoxemia				
R090	Asphyxia and hypoxemia	IP* IS*	Diagnosis	ICD-10-CM
R0902	Hypoxemia	IP* IS*	Diagnosis	ICD-10-CM
R0901	Asphyxia	IP* IS*	Diagnosis	ICD-10-CM
J9600	Acute respiratory failure, unspecified whether with hypoxia or hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J9601	Acute respiratory failure with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9620	Acute and chronic respiratory failure unspecified with hypoxia/hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
J9621	Acute and chronic respiratory failure with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9611	Chronic respiratory failure with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9690	Respiratory failure, unspecified, unspecified whether with hypoxia or hypercapnia		Diagnosis	ICD-10-CM
J9691	Respiratory failure, unspecified with hypoxia	IP* IS*	Diagnosis	ICD-10-CM
J9610	Chronic respiratory failure, unspecified whether with hypoxia or hypercapnia	IP* IS*	Diagnosis	ICD-10-CM
Hierarchical severity level 2: Supplemental oxygen				
0277	Medical/surgical supplies-oxygen-take home	IP* IS*	Procedure	Revenue
0412	Respiratory Services-Inhalation Services	IP* IS*	Procedure	Revenue
0600	Oxygen/Home Health-General Classification	IP* IS*	Procedure	Revenue
0601	Oxygen/Home Health-Stat Or Port Equip/Supply Or Count	IP* IS*	Procedure	Revenue
0602	Oxygen/Home Health-Stat/Equip/Under 1 Lpm	IP* IS*	Procedure	Revenue
0603	Oxygen/Home Health-Stat/Equip/Over 4 Lpm	IP* IS*	Procedure	Revenue
0604	Oxygen/Home Health-Stat/Equip/Portable Add-On	IP* IS*	Procedure	Revenue
3E097GC	Introduction Of Other Therapeutic Substance Into Nose, Via Natural Or Artificial Opening	IP* IS*	Procedure	ICD-10-PCS
99503	Home visit for respiratory therapy care	IP* IS*	Procedure	CPT-4
A4608	Transtracheal oxygen catheter, each	IP* IS*	Procedure	HCPCS
A4615	Cannula, nasal	IP* IS*	Procedure	HCPCS

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A4616	Tubing (oxygen), per foot	IP* IS*	Procedure	HCPCS
A4619	Face tent	IP* IS*	Procedure	HCPCS
A4620	Variable concentration mask	IP* IS*	Procedure	HCPCS
E0424	Stationary compressed gaseous oxygen system, rental; includes container, contents, regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
E0425	Stationary compressed gas system, purchase; includes regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
E0430	Portable gaseous oxygen system, purchase; includes regulator, flowmeter, humidifier, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
E0431	Portable gaseous oxygen system, rental; includes portable container, regulator, flowmeter, humidifier, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
E0433	Portable liquid oxygen system, rental; home liquefier used to fill portable liquid oxygen containers, includes portable containers, regulator, flowmeter, humidifier, cannula or mask and tubing, with o	IP* IS*	Procedure	HCPCS
E0434	Portable liquid oxygen system, rental; includes portable container, supply reservoir, humidifier, flowmeter, refill adaptor, contents gauge, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
E0435	Portable liquid oxygen system, purchase; includes portable container, supply reservoir, flowmeter, humidifier, contents gauge, cannula or mask, tubing and refill adaptor	IP* IS*	Procedure	HCPCS
E0439	Stationary liquid oxygen system, rental; includes container, contents, regulator, flowmeter, humidifier, nebulizer, cannula or mask, & tubing	IP* IS*	Procedure	HCPCS
E0440	Stationary liquid oxygen system, purchase; includes use of reservoir, contents indicator, regulator, flowmeter, humidifier, nebulizer, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
E0441	Stationary oxygen contents, gaseous, 1 month's supply = 1 unit	IP* IS*	Procedure	HCPCS
E0442	Stationary oxygen contents, liquid, 1 month's supply = 1 unit	IP* IS*	Procedure	HCPCS
E0443	Portable oxygen contents, gaseous, 1 month's supply = 1 unit	IP* IS*	Procedure	HCPCS
E0444	Portable oxygen contents, liquid, 1 month's supply = 1 unit	IP* IS*	Procedure	HCPCS
E0447	Portable oxygen contents, one month supply	IP* IS*	Procedure	HCPCS
E0455	Oxygen tent, excluding croup or pediatric tents	IP* IS*	Procedure	HCPCS
E0550	Humidifier, durable for extensive supplemental humidification during IPPB treatments or oxygen delivery	IP* IS*	Procedure	HCPCS
E0555	Humidifier, durable, glass or autoclavable plastic bottle type, for use with regulator or flowmeter	IP* IS*	Procedure	HCPCS
E0560	Humidifier, durable for supplemental humidification during IPPB treatment or oxygen delivery	IP* IS*	Procedure	HCPCS
E1352	Oxygen accessory, flow regulator capable of positive inspiratory pressure	IP* IS*	Procedure	HCPCS
E1353	Regulator	IP* IS*	Procedure	HCPCS
E1354	Oxygen accessory, wheeled cart for portable cylinder or portable concentrator, any type, replacement only, each	IP* IS*	Procedure	HCPCS

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E1355	Stand/rack	IP* IS*	Procedure	HCPCS
E1356	Oxygen accessory, battery pack/cartridge for portable concentrator, any type, replacement only, each	IP* IS*	Procedure	HCPCS
E1357	Oxygen accessory, battery charger for portable concentrator, any type, replacement only, each	IP* IS*	Procedure	HCPCS
E1358	Oxygen accessory, dc power adapter for portable concentrator, any type, replacement only, each	IP* IS*	Procedure	HCPCS
E1390	Oxygen concentrator, single delivery port, capable of delivering 85 percent or greater oxygen concentration at the prescribed flow rate	IP* IS*	Procedure	HCPCS
E1391	Oxygen concentrator, dual delivery port, capable of delivering 85 percent or greater oxygen concentration at the prescribed flow rate, each	IP* IS*	Procedure	HCPCS
E1392	Portable oxygen concentrator, rental	IP* IS*	Procedure	HCPCS
E1405	Oxygen and water vapor enriching system with heated delivery	IP* IS*	Procedure	HCPCS
E1406	Oxygen and water vapor enriching system without heated delivery	IP* IS*	Procedure	HCPCS
K0738	Portable gaseous oxygen system, rental; home compressor used to fill portable oxygen cylinders; includes portable containers, regulator, flowmeter, humidifier, cannula or mask, and tubing	IP* IS*	Procedure	HCPCS
K0740	Repair or nonroutine service for oxygen equipment requiring the skill of a technician, labor component, per 15 minutes	IP* IS*	Procedure	HCPCS
Z9981	Dependence on supplemental oxygen	IP* IS*	Diagnosis	ICD-10-CM
S8120	Oxygen contents, gaseous, 1 unit equals 1 cubic foot	IP* IS*	Procedure	HCPCS
S8121	Oxygen contents, liquid, 1 unit equals 1 pound	IP* IS*	Procedure	HCPCS
Hierarchical severity level 2: High-flow oxygen or non-invasive mechanical ventilation				
5A09357	Assistance with Respiratory Ventilation, Less than 24 Consecutive Hours, Continuous Positive Airway Pressure	IP* IS*	Procedure	ICD-10-PCS
5A09358	Assistance with Respiratory Ventilation, Less than 24 Consecutive Hours, Intermittent Positive Airway Pressure	IP* IS*	Procedure	ICD-10-PCS
5A0935A	Assistance with Respiratory Ventilation, Less than 24 Consecutive Hours, High Nasal Flow/Velocity	IP* IS*	Procedure	ICD-10-PCS
5A0935Z	Assistance with Respiratory Ventilation, Less than 24 Consecutive Hours	IP* IS*	Procedure	ICD-10-PCS
5A09457	Assistance with Respiratory Ventilation, 24-96 Consecutive Hours, Continuous Positive Airway Pressure	IP* IS*	Procedure	ICD-10-PCS
5A09458	Assistance with Respiratory Ventilation, 24-96 Consecutive Hours, Intermittent Positive Airway Pressure	IP* IS*	Procedure	ICD-10-PCS
5A0945A	Assistance with Respiratory Ventilation, 24-96 Consecutive Hours, High Nasal Flow/Velocity	IP* IS*	Procedure	ICD-10-PCS
5A0945Z	Assistance with Respiratory Ventilation, 24-96 Consecutive Hours	IP* IS*	Procedure	ICD-10-PCS
5A09557	Assistance with Respiratory Ventilation, Greater than 96 Consecutive Hours, Continuous Positive Airway Pressure	IP* IS*	Procedure	ICD-10-PCS
5A09558	Assistance with Respiratory Ventilation, Greater than 96 Consecutive Hours, Intermittent Positive Airway Pressure	IP* IS*	Procedure	ICD-10-PCS

Code List 1. List of International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM), International Classification of Diseases, Tenth Revision, Procedure Coding System (ICD-10-PCS), Healthcare Common Procedure Coding System (HCPCS), Current Procedural Terminology, Category II (CPT Category II), Current Procedural Terminology, Category III (CPT Category III), Current Procedural Terminology, Fourth Edition (CPT-4), and Revenue Codes Used to Define COVID-19 Severity in this Request

5A0955A	Assistance with Respiratory Ventilation, Greater than 96 Consecutive Hours, High Nasal Flow/Velocity	IP* IS*	Procedure	ICD-10-PCS
5A0955Z	Assistance with Respiratory Ventilation, Greater than 96 Consecutive Hours	IP* IS*	Procedure	ICD-10-PCS
94660	Continuous positive airway pressure ventilation (CPAP), initiation and management	IP* IS*	Procedure	CPT-4
A7027	Combination oral/nasal mask, used with continuous positive airway pressure device, each	IP* IS*	Procedure	HCPCS
A7045	Exhalation port with or without swivel used with accessories for positive airway devices, replacement only	IP* IS*	Procedure	HCPCS
A7046	Water chamber for humidifier, used with positive airway pressure device, replacement, each	IP* IS*	Procedure	HCPCS
E0466	Home ventilator, any type, used with noninvasive interface, (e.g., mask, chest shell)	IP* IS*	Procedure	HCPCS
E0467	Home ventilator, multi-function respiratory device, also performs any or all of the additional functions of oxygen concentration, drug nebulization, aspiration, and cough stimulation, includes all accessories, components and supplies for all functions	IP* IS*	Procedure	HCPCS
E0470	Respiratory assist device, bi-level pressure capability, without backup rate feature, used with noninvasive interface, e.g., nasal or facial mask (intermittent assist device with continuous positive airway pressure device)	IP* IS*	Procedure	HCPCS
E0471	Respiratory assist device, bi-level pressure capability, with back-up rate feature, used with noninvasive interface, e.g., nasal or facial mask (intermittent assist device with continuous positive airway pressure device)	IP* IS*	Procedure	HCPCS
E0472	Respiratory assist device, bi-level pressure capability, with backup rate feature, used with invasive interface, e.g., tracheostomy tube (intermittent assist device with continuous positive airway pressure device)	IP* IS*	Procedure	HCPCS
5A19054	Respiratory Ventilation, Single, Nonmechanical	IP* IS*	Procedure	ICD-10-PCS
99504	Home visit for respirator care	IP* IS*	Procedure	CPT-4
Hierarchical severity level 1: COVID-19 Diagnosis				
U071	COVID-19	Any	Diagnosis	ICD-10-CM
B342	Coronavirus infection, unspecified	IP* IS*	Diagnosis	ICD-10-CM
B9721	SARS-associated coronavirus as the cause of diseases classified elsewhere	IP* IS*	Diagnosis	ICD-10-CM
B9729	Other coronavirus as the cause of diseases classified elsewhere	IP* IS*	Diagnosis	ICD-10-CM
J1281	Pneumonia due to SARS-associated coronavirus	IP* IS*	Diagnosis	ICD-10-CM