

Supplemental Online Content

Villas-Boas SB, Kaplan S, White JS, Hsia RY. Adolescent total and mental health-related emergency department visits during the COVID-19 pandemic. *JAMA Netw Open*. 2023;6(10):e2336463. doi:10.1001/jamanetworkopen.2023.36463

eAppendix. Supporting Information on US Department of Health and Human Services (HHS) Regions

eTable. Keyword Syndrome Descriptions With Free-Text Reason for Visit (Chief Concern) Search Terms and Diagnosis Codes Included in Keyword Syndromes for Emergency Department Visits Associated With Mental Health Conditions (MHCs)—National Syndromic Surveillance Program

eAppendix. Supporting Information on US Department of Health and Human Services (HHS) Regions

The 10 HHS regions are as follows:

Region 1 – Boston: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

Region 2 - New York: New Jersey, New York, Puerto Rico, and the Virgin Islands

Region 3 – Philadelphia: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia

Region 4 – Atlanta: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee

Region 5 – Chicago: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin

Region 6 – Dallas: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas

Region 7 - Kansas City: Iowa, Kansas, Missouri, and Nebraska

Region 8 – Denver: Colorado, Montana, North Dakota, South Dakota, Utah, and Wyoming

Region 9 - San Francisco: Arizona, California, Hawaii, Nevada, American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Marshall Islands, and Republic of Palau

Region 10 – Seattle: Alaska, Idaho, Oregon, and Washington

eTable. Keyword Syndrome Descriptions With Free-Text Reason for Visit (Chief Concern) Search Terms and Diagnosis Codes Included in Keyword Syndromes for Emergency Department Visits Associated With Mental Health Conditions (MHCs)—National Syndromic Surveillance Program

Definition	Chief Complaint Search Terms	Diagnosis Codes
CDC Overall Mental Health Conditions v1	Schizophrenia (include misspellings) Schizotypal (include misspellings) Schizoaffective (include misspellings) Grief (include misspellings) Grieve (include misspellings) Bereave (include misspellings) Psych Mental health Mental evaluation Mental problem Mentally Mental illness Reactive attachment Auditory hallucination Visual hallucination Hearing voice Evaluation hallucination History of hallucination Hallucinations patient Hallucinations unspecified Seeing thing Delusion (include misspellings) Paranoia (include misspellings) Trichotillomania Dissociative disorder Dissociative conversion Dissociative identity Dissociative and conversion Dissociative tendency Dissociative episode Dissociative conversion Dissociative behavior Dissociative amnesia Dissociative attentive Experiencing dissociation Dissociative (when used with depress, depression, psych, dysthymic, anxiety, anxious, traumatic stress, PTSD, adjustment disorder, mental, attention deficit, bipolar, schizophrenia, schizoaffective, schizotypal – and associated misspellings of all terms)	295.00; 295.01; 295.02; 295.03; 295.04; 295.10; 295.11; 295.12; 295.13; 295.14; 295.20; 295.21; 295.22; 295.23; 295.24; 295.30; 295.31; 295.32; 295.33; 295.34; 295.40; 295.41; 295.42; 295.43; 295.44; 295.50; 295.51; 295.52; 295.53; 295.54; 295.60; 295.61; 295.62; 295.63; 295.64; 295.70; 295.71; 295.72; 295.73; 295.74; 295.80; 295.81; 295.82; 295.83; 295.84; 295.90; 295.91; 295.92; 295.93; 295.94; 296.90; 296.99; 297.0; 297.1; 297.2; 297.3; 297.8; 297.9; 298.0; 298.1; 298.2; 298.3; 298.4; 298.8; 298.9; 300.10; 300.11; 300.12; 300.13; 399.14; 300.15; 300.81; 300.82; 300.89; 300.7; 307.80; 307.89; 300.9 648.40; 648.41, 648.42, 648.43; 648.44; V62.82 F20; F21; F22; F23; F25; F28; F29; F39; F44; F45; F48; F53.1; F54; F63.3; F93.8; F93.9; F94; F98.9; F99; Z63.4 413307004; 74732009; 231538003; 268664001; 48500005; 191667009; 41526007; 18193002; 224965009; 74506000; 58214004; 268617001; 64905009; 191526005; 68890003

CDC Depressive Disorders v1	Depression Dysthymic Dysthymic Mood disorder Mood disturbance	296.20; 296.21; 296.22; 296.23; 296.24; 296.25; 296.30; 296.31; 296.32; 296.33; 296.34; 296.35; 300.4; 309.0; 309.1; 296.90; 296.99; 309.28 F32 (except F32.5); F33 (except F33.42); F34.1; F34.9; F43.21; F43.23; O90.6 35489007; 310497006; 370143000; 712823008; 57194009
CDC Attention-Deficit/Hyperactivity Disorders v1	Attention deficit Hyperactivity Attention problems	314.00, 314.01; 314.9; 314.2 F90 (include all in this series) 406506008 35253001
CDC Trauma and Stressor-related Disorders v1	Traumatic stress PTSD (including misspellings) Adjustment disorder Reaction to acute stress Acute stress reaction Acute stress crisis Acute stress eval Eval acute stress Acute stress behavior (including misspellings for behavior) Behavior acute stress Behavior acute stress Reaction to severe stress Severe stress reaction Severe stress crisis	308.0; 308.1; 308.2; 308.3; 308.4; 308.9; 309.81; 309.89; 309.9; 309.0; 309.1; 309.24; 309.28; 309.29; 309.3; 309.4 F43 67195008; 47505003; 17226007; 57194009; 271952001
CDC Disruptive Behavioral and Impulse-Control v1	Conduct disorder Oppositional defiant (with spelling mistakes for "defiant") Antisocial personality Disturbance of conduct Impulse control disorder Explosive disorder	309.3; 309.4; 312.00; 312.01; 312.02; 312.03; 312.10; 312.11; 312.12; 312.13; 312.20, 312.21; 312.22; 312.23; 312.4; 312.81; 312.82; 312.89; "312.9; 312.30; 312.31; 312.39; 313.81; 314.2; 301.7 F43.24; F43.25; F91.0; F91.1; F91.2; F91.3; F91.8; F91.9; F63.81; F63.1; F63.2; F63.9; F63.0; F63.89; F60.2 54319003; 18941000; 430909002; 26665006

CDC Bipolar Disorders v1	Bipolar Manic Cyclothymic Mania Hypomania Hypermania	296.00; 296.01; 296.02; 296.03; 296.04; 296.05; 296.40; 296.41; 296.42; 296.43; 296.44; 296.45; 296.50; 296.51; 296.52; 296.53; 296.54; 296.55; 296.60; 296.61; 296.62; 296.63; 296.64; 296.65; 296.7 296.80; 296.81; 296.82; 296.89 F30.1; F30.2; F30.3; F30.8; F30.9; F31.0; F31.1; F31.2; F31.3; F31.4; F31.5; F31.6; F31.7 (only include: F31.70, F31.71, F31.73, F31.75, F31.77); F31.8; F31.9; F34.0 191627008; 371596008; 83225003; 231494001; 284513006; 268619003
CDC Eating Disorders v1	Pica Bulimia (including misspellings) Binge eating (including misspellings of binge) Binge-eating Eating disorder Rumination disorder Binging or purging Binging and purging Weight loss or anorexia Anorexia nervosa (including misspellings of anorexia) Anorexic (including misspellings of anorexic) Being treated for anorexia (including misspellings of anorexia) Treatment for (including misspellings of anorexia) Weight loss (including misspellings of weight; include when used with anorexia) Loss of weight (including misspellings of weight; include when used with anorexia) Weight loss (including misspellings of weight; include when used with anorexia) Loss of weight (including misspellings of weight; include when used with anorexia) Eating disorder Anorexia history (including misspellings of anorexia) History of anorexia (including misspellings of anorexia) Mental anorexia (including misspellings of anorexia) Mental (when used with anorexia) Psych (when used with anorexia)	307.1; 307.50; 307.51; 307.52; 307.53; 307.54; 307.59 F50.00; F50.01; F50.02; F50.2; F50.8; F50.82; F50.89; F50.9; F98.21; F98.29; F98.3 72366004; 56882008; 7800400; 32721004

CDC Tic Disorders v1	Neurological tic Tic disorder Behavioral tic Facial tic Face tic	307.20; 307.21; 307.22; 307.23 F95; G25.69 568005; 5158005
CDC Obsessive-Compulsive Disorders v1	Obsessive compulsive Compulsive disorder	300.3 F42 191736004