Psychiatric Disorders Secondary to Medical Conditions
According to the Diagnostic and Statistical Manual of Mental Disorders, the psychiatric presentation of a medical condition can be defined as “the presence of mental symptoms that are judged to be the direct physiological consequences of a general medical condition.”

Evaluation of patients who present with altered behavior can often be difficult and at times may lead to pre-mature psychiatric diagnosis.

The failure to identify the medical cause of psychiatric symptoms can be potentially dangerous because serious and frequently reversible diseases often get overlooked.
The following features suggest a medical origin for psychiatric symptoms:

- Late Onset of Initial Presentation
- Known Underlying Medical Condition
- Atypical Presentation of a Specific Psychiatric Diagnosis
- Absence of Personal and Family History of Psychiatric Illnesses
- Illicit Substance Abuse
- Medication Use
- Treatment Resistance or Unusual Response to Treatment
- Sudden Onset of Symptoms
- Abnormal Vital Signs
- Waxing and Waning Mental Status
# Medical Disorders that can Induce Psychiatric Symptoms

<table>
<thead>
<tr>
<th>Medical and Toxic Effects</th>
<th>Central Nervous System</th>
<th>Infectious</th>
<th>Metabolic/Endocrine</th>
<th>Cardiopulmonary</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Alcohol</td>
<td>• Subdural hematoma</td>
<td>• Pneumonia</td>
<td>• Thyroid disorder</td>
<td>• Myocardial infarction</td>
<td>• Systemic lupus erythematosus</td>
</tr>
<tr>
<td>• Cocaine</td>
<td>• Tumor</td>
<td>• Urinary tract infection</td>
<td>• Adrenal disorder</td>
<td>• Congestive heart failure</td>
<td>• Anemia</td>
</tr>
<tr>
<td>• Marijuana</td>
<td>• Aneurysm</td>
<td>• Sepsis</td>
<td>• Renal disorder</td>
<td>• Hypoxia</td>
<td>• Vasculitis</td>
</tr>
<tr>
<td>• Phencyclidine (PCP)</td>
<td>• Severe hypertension</td>
<td>• Malaria</td>
<td>• Hepatic disorder</td>
<td>• Hypercarbia</td>
<td></td>
</tr>
<tr>
<td>• Lysergic acid diethylamide (LSD)</td>
<td>• Meningitis</td>
<td>• Legionnaire disease</td>
<td>• Wilson disease</td>
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<tr>
<td>• Heroin</td>
<td>• Encephalitis</td>
<td>• Syphilis</td>
<td>• Hyperglycemia</td>
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<tr>
<td>• Amphetamines</td>
<td>• Normal-pressure</td>
<td>• Typhoid</td>
<td>• Hypoglycemia</td>
<td></td>
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</tr>
<tr>
<td>• Jimson weed</td>
<td>hydrocephalus</td>
<td>• Diphtheria</td>
<td>• Vitamin deficiency</td>
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</tr>
<tr>
<td>• Gamma-hydroxybutyrate (GHB)</td>
<td>• Seizure disorder</td>
<td>• Human immunodeficiency virus (HIV)</td>
<td>• Electrolyte imbalances</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Benzodiazepines</td>
<td>• Multiple sclerosis</td>
<td>• Rheumatic fever</td>
<td>• Porphyria</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Prescription drugs</td>
<td></td>
<td>• Herpes</td>
<td></td>
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</tr>
</tbody>
</table>

Before attributing symptoms to a psychiatric disorder, all medical conditions need to be investigated and ruled out for causation.

A general physical examination and blood tests should be performed by a PCP prior to or in addition to a psychiatric consultation.
# Mental Disorders

<table>
<thead>
<tr>
<th>DSM-V Category</th>
<th>Mental Disorders Due to a General Medical Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurocognitive Disorders</td>
<td>Delirium due to a general medical condition 629</td>
</tr>
<tr>
<td></td>
<td>Dementia due to other general medical conditions</td>
</tr>
<tr>
<td></td>
<td>Amnestic disorder due to a general medical condition</td>
</tr>
<tr>
<td>Depressive Disorders</td>
<td>Depression due to other general medical conditions</td>
</tr>
<tr>
<td>Neurodevelopmental Disorders</td>
<td>Neurological disorders due to a general medical condition</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorders</td>
<td>Obsessive-Compulsive due to another medical condition</td>
</tr>
<tr>
<td>Schizophrenia and Other Psychotic disorders</td>
<td>Psychotic disorder due to a general medical condition</td>
</tr>
<tr>
<td>Mood Disorders</td>
<td>Mood disorder due to a general medical condition</td>
</tr>
<tr>
<td>Somatic Symptom and Related Disorders</td>
<td>Psychological factors affecting other medical conditions</td>
</tr>
<tr>
<td>Anxiety Disorders</td>
<td>Anxiety disorder due to a general medical condition</td>
</tr>
<tr>
<td>Sexual Disorders</td>
<td>Sexual dysfunction due to a general medical condition</td>
</tr>
<tr>
<td>Sleep Disorders</td>
<td>Sleep disorder due to a general medical condition</td>
</tr>
<tr>
<td>Catatonic Disorder Due to Another Medical Condition</td>
<td>Catatonic disorder due to a general medical condition</td>
</tr>
<tr>
<td>Personality Disorder</td>
<td>Personality change due to a general medical condition</td>
</tr>
</tbody>
</table>
Neurocognitive Disorders

1. Evidence of mild to major/significant decline from a previous level of performance in one or more cognitive domains (see next slide) based on:
   - Concern of the individual, a knowledgeable informant, or the clinician that there has been a significant decline in cognitive function; and
   - A substantial impairment in cognitive performance, preferably documented by standardized neuropsychological testing or, in its absence, another quantified clinical assessment.

2. The cognitive deficits interfere with independence in everyday activities (i.e., at a minimum, requiring assistance with complex instrumental activities of daily living such as paying bills or managing medications).

3. The cognitive deficits do not occur exclusively in the context of a delirium.

4. The cognitive deficits are not better explained by another mental disorder (e.g., major depressive disorder, schizophrenia).
Specify whether due to:

- Alzheimer's Disease
- Frontotemporal Lobar Degeneration
- Lewy Body Disease
- Vascular Disease
- Traumatic Brain Injury
- Substance/Medication Use
- HIV Infection

- Prion Disease
- Parkinson’s Disease
- Huntington’s Disease
- Another Medical Condition
- Multiple Etiologies
- Unspecified
# Neurocognitive (NCD) disorders

<table>
<thead>
<tr>
<th>Cognitive Domain</th>
<th>Functioning</th>
<th>Examples of major symptoms or observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Complex attention</td>
<td>Sustain, divide and selective attention; processing speed</td>
<td>Difficulty in environments with multiple stimuli (TV, conversation, radio); easily distracted; difficulty holding new information; thinking takes longer than usual.</td>
</tr>
<tr>
<td>2. Executive function</td>
<td>Planning, decision making, working memory, responding to feedback/error correction, mental flexibility</td>
<td>Abandons complex projects. Needs to focus on one task at a time. Relies on others to plan instrumental daily living or making decisions.</td>
</tr>
<tr>
<td>3. Learning and memory</td>
<td>Immediate, recent recall and long term memory</td>
<td>Repeats self in conversation, often within the same conversation. Cannot keep track of short list of items (i.e., grocery shopping or to-do list). Requires frequent reminders to orient task at hand.</td>
</tr>
</tbody>
</table>
# Neurocognitive (NCD) disorders

<table>
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<th>Cognitive Domain</th>
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<th>Examples of major symptoms or observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Language</td>
<td>Expressive language (naming, word finding, fluency, grammar and syntax) and receptive language.</td>
<td>Difficulties with expressive/receptive language. Uses phrases or “that thing” or “you know what I mean”. May not recall names of close friends/family. Idiosyncratic word usage, grammatical errors.</td>
</tr>
<tr>
<td>5. Perceptual-motor</td>
<td>Visual functioning, motor-skills</td>
<td>Difficult with familiar activities (e.g., tools, driving), navigating familiar environments. Confused at dusk when shadows and lower levels of light change perceptions.</td>
</tr>
<tr>
<td>6. Social cognition</td>
<td>Recognition of emotions, theory of mind</td>
<td>Behavior out of acceptable social range and with disregard to family and friends. Shows insensitivity to social standards of modesty in dress, political, religious, or sexual topics of conversations. Makes decisions without regard to safety. Little insight into these changes.</td>
</tr>
</tbody>
</table>
The common feature of all of these disorders is the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function.

It is characterized by discrete episodes of at least 2 weeks' duration (although most episodes last considerably longer) involving clear-cut changes in affect, cognition, regulatory functioning and inter-episode remissions.

A diagnosis based on a single episode is possible, although the disorder is a recurrent one in the majority of cases.

Careful consideration is given to the delineation of normal sadness and grief from a major depressive episode.
Neurological disorders

- A grouping of conditions that can typically manifest early in development in children often before the child enters grade school.
- Are characterized by developmental deficits that produce impairments of personal, social, academic, or occupational functioning.
- The range of developmental deficits varies from very specific limitations of learning or control of executive functions to global impairments of social skills or intelligence.
- Conditions can impact motor, speech, learning and intellectual development.
- The neurodevelopmental disorders frequently co-occur; for example, individuals with autism spectrum disorder often have intellectual disability (intellectual developmental disorder), and many children with attention-deficit/hyperactivity disorder (ADHD) also have a specific learning disorder.
Obsessions, compulsions, skin picking, hair pulling, other body-focused repetitive behaviors, or other symptoms characteristic of the obsessive-compulsive and related disorders predominate in the clinical picture.

There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct pathophysiological consequence of another medical condition.

The disturbance is not better explained by another mental disorder.

The disturbance does not occur exclusively during the course of a delirium.

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
Psychotic Disorder

- Prominent hallucinations or delusions.
- There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct physiological consequence of a general medical condition.
- The disturbance is not better accounted for by another mental disorder.
- The disturbance does not occur exclusively during the course of a delirium.

Specifiers:
- With delusions: if delusions (i.e., a belief that is held with strong conviction despite superior evidence to the contrary) are the predominant symptom
- With hallucinations: if hallucinations (i.e., the apparent perception of something not present) are the predominant symptom
## Psychotic Symptoms

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Site</th>
<th>Laterality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First-rank symptoms</strong></td>
<td></td>
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<tr>
<td>• Thoughts spoken aloud</td>
<td>Temporal lobe</td>
<td>Dominant hemisphere</td>
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<tr>
<td>• Voices commenting</td>
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<td>• Third-person voices arguing</td>
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<tr>
<td>• Made actions</td>
<td></td>
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<tr>
<td>• Made feelings</td>
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<tr>
<td>• Thought withdrawal</td>
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<td>• Thought diffusion</td>
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<tr>
<td>• Delusional perception</td>
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<tr>
<td><strong>Complex delusions</strong></td>
<td>Subcortical or limbic</td>
<td></td>
</tr>
<tr>
<td><strong>Anton syndrome</strong></td>
<td>Occipital lobe, optic tract</td>
<td>Bilateral</td>
</tr>
<tr>
<td><strong>Anosognosia</strong></td>
<td>Parietal lobe</td>
<td>Non-dominant hemisphere</td>
</tr>
<tr>
<td><strong>Misidentification syndromes</strong></td>
<td>Parietal, temporal, frontal lobes</td>
<td>Non-dominant hemisphere, bilateral</td>
</tr>
<tr>
<td><strong>Capgras syndrome</strong></td>
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<tr>
<td><strong>Reduplicative par amnesia</strong></td>
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<tr>
<td><strong>Fregoli syndrome</strong></td>
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<tr>
<td><strong>Intermetamorphosis syndrome</strong></td>
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</tbody>
</table>
Mood Disorder

- A prominent and persistent disturbance in mood predominates in the clinical picture and is characterized by either (or both) of the following:
  - Depressed mood or markedly diminished pleasure in all, or almost all, activities
  - Elevated, expansive, or irritable mood.
- There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct physiological consequence of a general medical condition.
- The disturbance is not better accounted for by another mental disorder (e.g., adjustment disorder with depressed mood in response to the stress of having a general medical condition).
- The disturbance does not occur exclusively during the course of a delirium.
- The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
Mood Disorder

- Specifiers:
  - With depressive features: if the predominant mood is depressed, but the full criteria are not met for a major depressive disorder
  - With major depressive-like episode: if all criteria for major depressive episode are met, except for the criterion that the symptoms are not due to the physiological effects of a substance or a general medical condition
  - With manic features: if the predominant mood is elevated, euphoric, or irritable
  - With mixed features: if the symptoms of mania and depression are present, but neither predominates
Psychological Factors Affecting other Medical Conditions

- A medical symptom or condition (other than a mental disorder) is present.
- Psychological or behavioral factors adversely affect the medical condition in one of the following ways:
  - The factors have influenced the course of the medical condition as shown by a close temporal association between the psychological factors and the development or exacerbation of, or delayed recovery from, the medical condition.
  - The factors interfere with the treatment of the medical condition (e.g., poor adherence).
  - The factors constitute additional well-established health risks for the individual.
  - The factors influence the underlying pathophysiology, precipitating or exacerbating symptoms or necessitating medical attention.
- The psychological and behavioral factors are not better explained by another mental disorder (e.g., panic disorder, major depressive disorder, posttraumatic stress disorder).
Psychological Factors Affecting other medical conditions

- Specify current severity:
  - **Mild**: Increases medical risk (e.g., inconsistent adherence with antihypertension treatment).
  - **Moderate**: Aggravates underlying medical condition (e.g., anxiety aggravating asthma).
  - **Severe**: Results in medical hospitalization or emergency room visit.
  - **Extreme**: Results in severe, life-threatening risk (e.g., ignoring heart attack symptoms)
Anxiety Disorder

- Prominent anxiety, panic attacks, obsessions, or compulsions predominate in the clinical picture.
- There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct physiological consequence of a general medical condition.
- The disturbance is not better accounted for by another mental disorder (e.g., adjustment disorder with anxiety in which the stressor is a serious general medical condition).
- The disturbance does not occur exclusively during the course of a delirium.
- The disturbance causes clinical significant distress or impairment in social, occupational, or other important areas of functioning
- Specifiers:
  - With generalized anxiety: if excessive anxiety or worry about a number of events or activities predominates in the clinical presentation
  - With panic attacks: if panic attacks predominate in the clinical presentation
  - With obsessive and compulsive symptoms: if obsessions or compulsions predominate in the clinical presentation
Clinically significant sexual dysfunction that results in marked distress or interpersonal difficulty predominates in the clinical picture.

There is evidence from the history, physical examination, or laboratory findings that the sexual dysfunction is fully explained by the direct physiological effects of a general medical condition.

The disturbance is not better accounted for by another mental disorder (e.g., major depressive disorder).
Sexual Dysfunction

Select code and term based on the predominant sexual dysfunction:

- Female hypoactive sexual desire disorder due to a [insert general medical condition here]: if deficient or absent sexual desire is the predominant feature.

- Male hypoactive sexual desire disorder due to a [insert general medical condition here]: if deficient or absent sexual desire is the predominant feature.

- Male erectile disorder due to a [insert general medical condition here]: if male erectile dysfunction is the predominant feature.

- Female dyspareunia due to a [insert general medical condition here]: if pain associated with intercourse is the predominant feature.

- Male dyspareunia due to a [insert general medical condition here]: if pain associated with intercourse is the predominant feature.

- Other female sexual dysfunction due to a [insert general medical condition here]: if some other feature is predominant (e.g., orgasmic disorder) or if no feature predominates.

- Other male sexual dysfunction due to a [insert general medical condition here]: if some other feature is predominant (e.g., orgasmic disorder) or if no feature predominates.
Medications

- Cardiac drugs, antihypertensive
- H2-receptor blockers
- Carbonic anhydrase inhibitors
- Anticholinergic
- Anticonvulsants (e.g., carbamazepine, phenytoin, pyrimidine)
- Antipsychotics
- Antidepressants (e.g., tricyclic drugs, MAO inhibitors, trazodone, SSRIs)
- Sedative-hypnotics

Substances of abuse

- Alcohol
- Opioids
- Stimulants
- Cannabis
- Sedative-hypnotics
### Causes of Secondary Sexual Dysfunctions

<table>
<thead>
<tr>
<th>Local disease processes that affect primary or secondary sexual organs</th>
<th>Systemic disease processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Congenital anomalies or malformations</td>
<td>• Neurological</td>
</tr>
<tr>
<td>• Trauma</td>
<td>• Central nervous system (e.g., strokes, multiple sclerosis)</td>
</tr>
<tr>
<td>• Tumor</td>
<td>• Peripheral nervous system (e.g., peripheral neuropathy)</td>
</tr>
<tr>
<td>• Infection</td>
<td>• Vascular</td>
</tr>
<tr>
<td>• Postsurgical or post irradiation local neurological and vascular pathology</td>
<td>• Atherosclerosis, vasculitis (as examples)</td>
</tr>
<tr>
<td></td>
<td>• Endocrine</td>
</tr>
<tr>
<td></td>
<td>• Diabetes mellitus, alterations in function of thyroid, adrenal cortex, gonadotropins, gonadal hormones (as examples)</td>
</tr>
</tbody>
</table>
Sleep Disorder

- A prominent disturbance in sleep that is sufficiently severe to warrant independent clinical attention.
- There is evidence from the history, physical examination, or laboratory findings that the sleep disturbance is the direct physiological consequence of a general medical condition.
- The disturbance is not better accounted for by another mental disorder (e.g., an adjustment disorder in which the stressor is a serious medical illness).
- The disturbance does not occur exclusively during the course of a delirium.
- The disturbance does not meet the criteria for breathing-related sleep disorder or narcolepsy.
- The sleep disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- Specify type:
  - Insomnia type: if the predominant sleep disturbance is insomnia (i.e., inability to sleep or fall asleep)
  - Hypersomnia type: if the predominant sleep disturbance is hypersomnia (i.e., excessive sleepiness)
  - Parasomnia type: if the predominant sleep disturbance is a parasomnia (i.e., sleep disorder that involves abnormal movements, behaviors, emotions, perceptions, and dreams that occur while falling asleep, sleeping, between sleep stages, or during arousal from sleep)
  - Mixed type: if more than one sleep disturbance is present and none predominate of comparable sexual dysfunction that was not substance-induced
<table>
<thead>
<tr>
<th>Condition</th>
<th>Sleep Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parkinsonism</td>
<td>Frequent awakenings, disturbance of circadian rhythms</td>
</tr>
<tr>
<td>Dementia</td>
<td>Sundowning, frequent awakenings</td>
</tr>
<tr>
<td>Epilepsy</td>
<td>Difficulty initiating sleep, frequent awakenings, parasomnias</td>
</tr>
<tr>
<td>Cerebrovascular Disease</td>
<td>Difficulty initiating sleep, frequent awakenings</td>
</tr>
<tr>
<td>Huntington’s Disease</td>
<td>Frequent awakening</td>
</tr>
<tr>
<td>Kleine-Levin Syndrome</td>
<td>Hypersomnia</td>
</tr>
<tr>
<td>Uremia</td>
<td>Restless legs, nocturnal myoclonus</td>
</tr>
</tbody>
</table>
The clinical picture is dominated by three (or more) of the following symptoms:

- **Stupor** (i.e., no psychomotor activity; not actively relating to environment)
- **Catalepsy** (i.e., passive induction of a posture held against gravity)
- **Waxy flexibility** (i.e., slight, even resistance to positioning by examiner)
- **Mutism** (i.e., no, or very little, verbal response--note: not applicable if there is an established aphasia)
- **Negativism** (i.e., opposition or no response to instructions or external stimuli)

- **Posturing** (i.e., spontaneous and active maintenance of a posture against gravity)
- **Mannerism** (i.e., odd, circumstantial caricature of normal actions)
- **Stereotypy** (i.e., repetitive, abnormally frequent, non-goal-directed movements)
- **Agitation**, not influenced by external stimuli.
- **Grimacing**
- **Echolalia** (i.e., mimicking another’s speech)
- **Echopraxia** (i.e., mimicking another’s movements)
The clinical picture is dominated by three (or more) of symptoms (listed on the previous slide).

There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct pathophysiological consequence of another medical condition.

The disturbance is not better explained by another mental disorder (e.g., a manic episode).

The disturbance does not occur exclusively during the course of a delirium.

The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

**Coding note:** Include the name of the medical condition in the name of the mental disorder (e.g., 293.89 [F06.1] catatonic disorder due to hepatic encephalopathy). The other medical condition should be coded and listed separately immediately before the catatonic disorder due to the medical condition (e.g., 572.2 [K71.90] hepatic encephalopathy; 293.89 [F06.1] catatonic disorder due to hepatic encephalopathy).
Diagnostic Criteria for Personality Change

- A persistent personality disturbance that represents a change from the individual’s previous characteristic personality pattern. (In children, the disturbance involves a marked deviation from normal development or a significant change in the child’s usual behavior patterns lasting at least 1 year.)

- There is evidence from the history, physical examination, or laboratory findings that the disturbance is the direct physiological consequence of a general medical condition.

- The disturbance is not better accounted for by another mental disorder (including other mental disorders due to a general medical condition).

- The disturbance does not occur exclusively during the course of a delirium.

- The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning

- Specify type:
  - Labile type: if the predominant feature is affective lability
  - Disinhibited type: if the predominant feature is poor impulse control as evidenced by sexual indiscretions, etc.
  - Aggressive type: if the predominant feature is aggressive behavior
  - Apathetic type: if the predominant feature is marked apathy and indifference
  - Paranoid type: if the predominant feature is suspiciousness or paranoid ideation
  - Other type: if the presentation is not characterized by any of the above subtypes
  - Combined type: if more than one feature predominates in the clinical picture
  - Unspecified type

- Coding note: Include the name of the general medical condition on Axis I, e.g., Personality change due to temporal lobe epilepsy; also code the general medical condition on Axis III.
References

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed. Text rev. Washington, DC; American Psychiatric Association; 2000, with permission
