Annotation Guide for Opioid NLP Project

General Instructions

- This guide does not explicitly list out variants of words, but assumes that all words with the same stem as the listed word and carrying the same underlying meaning will be noted during annotation (e.g. drowsy, drowsiness, drowsier).
- **Do not annotate note if it does not meet the inclusion criteria (see section below)**
- The remainder of the guide describes the schema used for annotation, and provides descriptions of free text content that would fit under the criteria for each class/attribute/etc.
    - **Highlighting Key:**
        - Classes
        - Properties
        - Relationships

Inclusion Criteria

- Primary care outpatient notes
- Patient must be currently taking a prescribed opioid medication **other than just methadone or just suboxone**
    - i.e. an opioid medication is listed in their medication list, or it's noted in the note free text that the patient is currently on a **prescribed** opioid medication
    - This can include patients who are currently on methadone or on suboxone, but either methadone or suboxone should not be the patient's sole opioid medication
- **EXCLUDE**
    - Patients who are not currently on an opioid medication
        - e.g. A patient who is newly prescribed an opioid during the clinical visit documented in the note should be excluded from the study
        - e.g. Patient comes to the ED for a suspected heart attack and receives morphine in the ED, but is not normally on an opioid medication → should exclude this patient from the study
    - Patients whose sole supply of opioids is via non-prescriber means (e.g. heroin from a friend) and who are not currently being prescribed opioids
        - **Note: Can include patients who are being prescribed opioids AND also noted to be obtaining opioids via non-prescription means**
    - **[If our goal is to make an argument about the predictive value of these characteristics, would also exclude notes that occur after a patient has had a catastrophic opioid-related event, e.g. overdose requiring emergency medical services or presentation to a medical setting such as an emergency room]**

Schema Description

CLASS 1: "CNS-RELATED"

- **Class description: CNS-related terms / terms suggesting altered sensorium**
- **Property 1:** Type of symptom
  - *Cognitive impairment*
    - Decreased attention span
    - Cognitively impaired
    - Disoriented
    - Restless/ness
    - Agitation
    - Hallucinations
    - Delirium
    - Confusion
      - Mental dullness / "fuzziness"/cloudiness/cloudy
      - **Note: do not annotated instances where the patient is described as confused about a clinical regimen, etc.**
    - "In a daze"
    - Dreaminess / "spacey-ness" / "spacing out" / "out of it"
    - More forgetful
    - Concentration problems
    - "Slowed"
    - Trouble thinking
  - *Sedation*
    - Sedation
    - Drowsiness
    - Tired
    - Sleepy
    - Fatigued
  - *Lightheadedness*
    - Lightheaded
    - Dizziness
    - "Going to pass out"
    - "Woozy"
    - Faint
    - Syncope
  - *General term (e.g. "altered mental status")*
    - "AMS"
    - "altered"
      - In the context of implied general mental state, not use as an adjective: e.g. "patient is altered," "patient presents altered from baseline" imply altered mental status
  - *Intoxication*
    - Clinician documents that patient appears "intoxicated," or uses phrases such as those listed below to describe the patient:
      - "High"
      - "Drunk"

        - *Note:* if the clinician further elaborates and includes descriptions of sedation, confusion, etc, those should instead be annotated under the appropriate property descriptions above.
    - *Other*
    - *None*
        - Use this label ONLY if the clinician specifically documents that the patient does NOT display any of the CNS-related symptoms described above
            - E.g. "**no** AMS" "patient **is not** sedated"
        - **Note:** do **not** document description in the physical exam of patient being "alert and oriented" as falling under this category. This is a very common phrase, and sometimes used in default physical exam templates or on reflex.
- **Relationship: OPIOIDNAME_CNSSX**
    - Connects Class 8 and 1

CLASS 2: "LOSS_CONTROL_BEHAVIOR

- **Class description:** **Evidence supporting loss of control of opioid use or compulsive/inappropriate use of opioids,** including the following:
- **Property 1: Behavior**
    - *Behavior suggesting that patient is seeking further doses of / other sources of opioids*
        - *Running out of opioids early / asking for early refills*
            - Note: for ED notes, given lack of contextual background, do not note if the patient simply asks for a refill (if additional language suggesting pressure/emotion, e.g. "demanding," see section related to patient emotion) unless there is evidence that the refill is early (e.g. reference to documentation that the patient just received a 1 month refill 1 week ago)
        - *"Report lost or stolen" (Patient reporting lost/stolen/accidentally destroyed opioids)*
            - E.g. "Patient states his son stole his oxys"
            - E.g. "Patient reports that his wife accidentally put his medications through the wash and ruined them"
        - *"Non-medical source" (Obtaining from non-medical sources)*
            - [Language that indicates that patient is obtaining opioid medications without a prescription, such as from friends or purchasing them on the street]
        - *"Multiple prescribers" (Obtaining opioid prescriptions from multiple prescribers)*
            - May be described as "doctor-shopping"
        - *"Stealing Rx" (Stealing prescriptions)*
        - *"Hstry breaking pain med contracts" (History of breaking pain medication contracts)*
            - E.g. "has previously broken pain contract"

- *"ER to obtain opioid" (Emergency room visits directly related to opioids)*
    - E.g. patient's explicitly stated chief complaint / reason for presentation to appointment or ED visit is to obtain opioid
    - Do NOT include ED visits in which the patient was prescribed opioids, but the primary reason of the visit is not listed/described as being to obtain opioids
    - Note: **this label should NOT** be used to annotate provider interpretation of the patient visit (e.g. "Patient is displaying "drug-seeking" behavior → this should be annotated in Class 7 "DR_EMOTIONS_CONCERN")
- *"Change of story" (Abruptly changing story of present illness to emphasize another complaint in response to clinician denying pain medication for original chief complaint)*
    - e.g. ED doctor says that narcotics are not appropriate for treatment of chest pain but might be appropriate in the case of acute abdominal pain; pt endorses new sx of abdominal pain that they did not previously mention before
- *"Inconsistent story" (Inconsistencies in patient's presenting story regarding pain medication / opioid use or prescriptions)*
    - E.g. says she was prescribed Vicodin during last visit, but only given Tylenol per her medical record
- *"Amount left is wrong" (Amount of opioid medication remaining is not consistent with patient taking medication as prescribed)*
    - E.g. 2 pills remaining 1 week after patient was prescribed a 30 day supply
- *"Pain complaint vs exam" (Pain complaints inconsistent with physical exam/appearance on presentation)*
    - E.g. reporting 10/10 back pain but stretching comfortably when doctor is not in the room
- *"Family member concern" (Family member voices concern about patient's use of opioids)*
    - Note: if the medical note documents that a family member has or is reporting that the patient is stealing prescriptions, doctor-shopping to obtain opioids, etc, this should be construed as evidence supporting the appropriate category above (e.g. "stealing prescriptions) and be documented as such. **This category is for general expressions of concern by family members that do not fit in the above categories** (e.g. "wife present at the appointment states that she is concerned about the patient's opioid use.")
- *"Other clinician concern" (Clinician writing the note refers to notes/comments from other physicians of the patient that suggest problematic behavior related to opioids or overt opioid misuse/abuse)*
    - E.g. "Review of the chart indicates that Dr. B recently saw her and refused to further prescribe any opioids given his concern about her behavior"

        - E.g. "In his note, pt's orthopedists documents that pt has been acting inappropriately with requests for opioid medication refills"
    - *No*
        - **Use this category ONLY if the clinician specifically documents that a behavior was NOT displayed**
            - E.g. "family members **denied** concerns about patient's opioid use"
            - E.g. "amount of pills left is consistent with appropriate use"
            - E.g. "patient has **not** been visiting ERs to obtain opioids"
- **Relationship: OPIOID_BEHAVIOR**
    - Connects Class 8 and 2

CLASS 10: LOSS_CONTROL_ABERRANT_USE (note in eHOST, this is listed as the tenth class but is closely related to class 2 and is therefore listed here in this document)

- **Class Description: Evidence supporting loss of control of opioid use, specifically aberrant usage of opioid medications**
- **Property 1: Aberrant Use**
    - *Aberrant use of opioids, such as administration/consumption in a way other than described or self-escalating doses*
        - *"No"*
            - **Use this category ONLY if the clinician specifically documents that a behavior was NOT displayed**
                - E.g. "pt has **not** been crushing and injecting medications"
                - E.g. "pt has been taking the prescribed amount of medication"
        - *"Admin other than rx" (Administration/consumption of opioids in a way other than prescribed)*
            - E.g. crushing and injecting/snorting pills
        - *Self-escalating doses*
            - E.g. patient was prescribed 20 mg to take daily, but they have self-increased their dosage to 40 mg daily
            - **Note: document ONLY** if phrasing suggests that this was inappropriate compared with instructions patient was given. Some physicians allow patient to self-titrate dosage depending on their pain symptoms. Examples of phrases that would fall under this category:
                - "Pt prescribed oxycodone 20 mg QD but on questioning admits that she has been been taking the medications TID"
        - *"Pt says taking > Rx" (Pt reporting/admitting taking higher doses than prescribed amount)*
        - *"Other" (default)*
            - Likely will not need to use this category
- **Relationship: OPIOID_ABERRANT-USE**
    - Connects Class 8 and 10

CLASS 3: "DIVERSION"

- **Class description: Evidence suggesting or proving that patient has been selling or giving away opioids to others, including family members**
  - E.g. Patient admits that he have been sharing his Percocet with his wife, and that is why he has run out early
  - E.g. Patient frequently has urine drug tests that show no signs of opioids whatsoever despite patient regularly filling opioid prescriptions
  - Should annotate only examples where it is clear that diversion is occurring (i.e. patient admits or physician has evidence supporting this), not general statement that physician is suspicious this may be occurring (see Class 7, "DR_EMOTION_CONCERN)

CLASS 4: "USE_DIFF_INDICATION"

- **Class description: Use of opioids for a different indication other than the indication intended by the prescriber**
  - **Note:** Highlight **the full description** of how the opioid is being used and who is saying it (e.g. should highlight this full statement: "Patient states that he likes taking Vicodin because it helps his anxiety during the day")
- **Property 1:** Reason for use
  - For insomnia
    - E.g. "it helps me sleep"
  - For euphoria
    - E.g. "it makes my mood better," "I feel high on them," "they make me happy"
  - For anxiety
    - E.g. "it helps me calm down"
  - Other (default)
    - Other reason for use not covered by the above categories
- **Relationship: OPIOID_DIFFINDXN**
  - Connects Class 8 and 4

CLASS 5: "PT_EMOTIONS_OPINIONS"

- **Class description: Emotions / strong opinions expressed by a patient related to opioids,** such as aggression/threats related to opioids, resistance to changing medication, or insistence on a particular opioid of dosage
- **Property 1: Pt Strong Opinion (related to opioids)**
  - *"Resistance to change" (Resistance to changing medications)*
  - *"Insistence on opioid or dose" (Insistence on a particular opioid or dosage)*
    - **Note: highlight only phrases with descriptive words from the physician or direct patient quotations that suggest strong opinion** (e.g. "demanding," "insisting on," "adamant that" → annotation should include those verbs or adjectives).

        - **Do not annotate phrases that include only neutral phrases and no indication that the patient is expressing a strong opinion** (e.g. "patient is requesting") → **these should fall under Property 3** "Pt Request"
    - E.g. "pt wants X mg of drug X, and is refusing to hear any other suggestions"
    - E.g. "Patient states that 'that [drug] won't work; only [X drug] will and I won't take any other"
        - Though this statement uses the neutral word "states" the patient quotation implies a strong opinion on the part of the patient
    - E.g. "Patient says that he 'will die' if he doesn't get his rx"
    - **Note:** when highlighting text for this, make sure to include the verbs or adjectives used to describe how the patient requested/insisted on medication (e.g. insisted, demanded, requested, adamant that)
  - *"Craving or need" (pt admits craving, strong need, or overt addiction)*
  - ***Other***
    - Pt expresses strong opinion related to opioids, e.g. "patient strongly declared that he felt I wasn't listening to his requests about opioids, and insisted on seeing another provider"
  - *None*
    - **Use this category ONLY if the clinician specifically documents that the properties described above were NOT displayed**
        - E.g. "patient **did not** insist on a specific dosage"

- **Property 2 Pt Emotion (related to opioids/pain management)**
  - *"Emotion" (Expression of emotion related to opioid)*
    - E.g. anger when not given a particular dosage, "patient became agitated," "patient very upset"
    - E.g. desperation
  - *"Aggression" (Patient aggression / threats related to opioids)*
    - E.g. patient described as becoming "aggressive" or "belligerent" when provider does not agree to their medication request
    - E.g. threatening repercussions to provider
    - E.g. threatening self-harm
        - E.g. threatening to buy street drugs if not given a prescription
  - *Other (default)*
    - Note: this label will likely not need to be used. **Do NOT use to document general patient emotions.** The only emotions that should be documented under Property 2 should be those that are related to opioid.

- **Property 3: Pt Request (related to opioids)**
  - *"Requests a switch" (Pt requests change of opioid medication)*
    - Similar to property 1 above, but note uses less emphatic language
        - E.g. "Patient is requesting to try a different opioid medication"
  - *"Requests a specific opioid" (Pt makes a request, calling out an opioid medication by name)*

        - Phrase should specifically use the word "request" or a similar neutral, non-aggressive word/phrasing (e.g. "would like")
        - May include general request for specific opioid, or request for change in dosage of that specific opioid medication
    - *Other (default)*
        - Should be used to document any other patient requests **that are related to opioids**
- **Relationship: OPIOID_OPINION**
    - Connects Class 8 and 5

CLASS 6: "SUBSTANCE_ABUSE"

- **Class description: Phrases suggesting CURRENT use of illicit or illicitly obtained substances or misuse of legal substances (e.g. alcohol) OTHER than prescription opioid medications** (e.g. heroin would be included in this category, but not Percocet)
- **Property 1: Abuse**
    - *"No"*
        - **Use this category ONLY if the clinician documents that the patient tested negative for specific substances, or specifically states that (from the doctor's implied perspective) the patient has not been using particular substance(s)**
            - E.g. "patient **tested negative** for the following illicit substances"
                - (should reference specific substances, as opposed to generic "tox screen negative" or "urine drug screen negative")
            - E.g. "patient [he] has **not** been abusing alcohol"
        - Do **NOT** use this category for the following phrases in which the clinician writes directly what the patient reported, or ambiguous phrases with no subject:
            - E.g. "Patient denies substance abuse [use of alcohol]"
            - E.g. "Patient reports being sober for the past 2 years"
            - E.g. "No alcohol use."
    - ***"Alcohol use"***
        - Use to document any mention of alcohol use that is **NOT** characterized as excessive or inappropriate by the physician
            - See "misuse of legal substances" section for definition of inappropriate/excessive alcohol use
            - **Use if alcohol quantity unspecified, e.g. "drinks alcohol", or if quantity of alcohol is listed as social in use (e.g. "social alcohol," "drinks socially") without further descriptors suggesting abuse
    - *"Use of illicit substances" (Phrases suggesting use of illicit or illicitly obtained substances, including):*
        - Amphetamine
            - Adderall, Benzedrine ("bennies, speed, uppers")
            - Methylphenidate
                - Concerta, Ritalin
                - "JIF, Skippy, the smart dog, vitamin R"

- Barbiturates
    - Pentobarbital (Nembutal)
    - Phenobarbital (Luminal)
    - "barbs, phennies"
- Cocaine ("blow, coke, crack, rock")
- Heroin ("dope, skag, smack")
- Ketamine ("K, Special K, Vitamin K")
- LSD ("acid, blotter")
- Marijuana ("blunt, dope, ganja, grass, joint, mary jane, MJ, pot, reefer, hashish, weed, hash")
    - Include use of medical marijuana
- MDMA ("ecstasy, molly")
- Methamphetamine ("meth, speed")
- PCP ("angel dust")
- Unknown substance, but phrases imply that patient is abusing the substance
    - E.g. "pt snorting unknown street drug twice a week"

o *"Misuse of legal substances" (Phrases suggesting misuse of legal substances, including):*

- Alcohol
    - **Note: see "Alcohol use" category above for documentation of low/moderate alcohol use**
    - **Criteria for documentation of alcohol use under "misuse of legal substances":**
        - Based on combined NIAAA and SAMHSA definitions (link) of heavy and binge drinking, and above-low-risk drinking:
            - Men: Drinking >4 drinks on one occasion, or >14 drinks per week
            - Women: Drinking >3 drinks on one occasion, or >7 drinks per week
- Benzodiazepines
    - **Note:** for this category, only note if phrases suggest that patient is **abusing** prescribed opioids (i.e. taking more than prescribed amount, using via means other than prescribed such as snorting or injecting) **or obtaining via illicit means. If patient is simply being co-prescribed benzos** (with no noted evidence for abuse), **please instead note in Class 10: "BENZOS".**
    - Alprazolam (Xanax)
    - Chlordiazepoxide (Limbitrol/Librium)
    - Diazepam (Valium)
    - Lorazepam (Ativan)
    - Triazolam (Halcion)
    - Street names "candy, downers, tranks, benzos")
- Over the counter cough/cold medicines

- Dextromethorphan or DXM (psychoactive when taken in higher than recommended amounts)
    - Robitussin is a well-known brand name; others will have DM in their name
    - *(Likely too many brands to list out; if in question and implied that patient is abusing the medication, look up the brand name and see if it contains dextromethorphan)*
    - Street description: "robotripping, robo, triple C"
- Codeine
    - Also in anti-nausea medication promethazine ("syrup, lean, purple, drank")
    - *(Likely too many brands to list out; if in question and implied that patient is abusing the medication, look up the brand name and see if it contains codeine)*

▪ **Note: EXCLUDE Tobacco** → should not be annotated

- *Other (default)*
    - Note: this label will likely not need to be used.

CLASS 7: "DR_EMOTION_CONCERN"

- **Class Description: Clinician interpretations / expressions of emotion**
- **General note: When highlighting, making sure to include key words that indicate clinician interpretation**
    - E.g. "concerning for," "suggestive of," "suspicious that"
- **Property 1: "Dr Concern" (***Expression of concern by the clinician with regard to opioids in the context of the patient or clinical encounter, or specific interpretation by the clinician that the patient is misusing opioids)*
    - E.g. "I am concerned that…"
    - E.g. "Given these factors, this patient is at **particularly high** risk for oversedation while on medication X"
        - **Statement must be MORE than a description of the general risks associated by opioid use** (i.e. indicate that the clinician is especially concerned about this particular patient's risk)
    - E.g. " Concern for…"
    - E.g. "I am suspicious that the patient may be diverting her medications"
    - E.g. "I consider his current use of Vicodin to be misuse"
- **Property 2: "Label drug-seeking behavior"(***Explicit use of labels/terms referring to drug-seeking behavior in the patient)*
    - [Language in which the clinician applies the label "drug-seeking" or implies specifically cites that he/she believes that the patient has previously displayed drug-seeking behavior. Phrases used might include:]
        - "Drug-seeking"
        - "Behavior concerning for drug-seeking"
- **Property 3: "Negative emotion" (***Expressions of "negative" emotion by the clinician **with regard to opioids** in the context of the patient or clinical encounter)*
    - Anger

- Frustration
- Disbelief
  - E.g. “I find it difficult to believe that Dr. X would prescribe drug A to the patient”
- Negative emotion implied by punctuation or capitalization
  - E.g. (from Merlin 2014) “Drug-seeking behavior – NO NARCOTICS!”
  - “Out of all pain rx again!!”
  - “I told her AGAIN that we will NOT replace the prescription”

- **Property 4: “Positive assessment”** *(Expressions of positive interpretations by the clinician regarding the patient’s opioid use)*
  - Clinician specifically expresses opinion or belief that supports appropriate opioid usage
    - E.g. “I do not believe that the patient is using opioids inappropriately”
    - E.g. “I am not concerned for opioid abuse in this patient”
    - E.g. “I am happy that her opioid use appears to be appropriate”
    - E.g. “No evidence for opioid abuse at the present”

CLASS 8: “OPIOID_NAME_GEN”

- **<u>Class Description:</u> mention or listing of the name(s) of the opioid medication(s) that the patient is <u>currently</u> prescribed or has just been newly prescribed. (If patient is not taking prescribed medication, see note below for “absent”)**
  - **General notes:**
    - **See Appendix B for list of names of opioid medications that should be annotated**
    - **Highlight ONLY the name of the opioid**
      - E.g. “Patient is taking Percocet” → only highlight Percocet
    - ****Do NOT include opioids that:**
      - Are listed in the allergies section
      - Are newly prescribed during this visit
      - Were mentioned as being previously prescribed, but the patient is not currently taking
        - E.g. “Patient was on Percocet prior to his recent surgery” → do NOT annotate
      - Are mentioned in a general sense not pertaining to the patient’s *current* medications
        - E.g. “In the past, patient has responded well to Vicodin”
        - E.g. “I counseled the patient that Vicodin is an opioid medication and one potential modality to consider”
        - E.g. “Oxycodone has been known to make the patient sleepy at 5 mg”
        - E.g. “Patient was asking about whether methadone or Suboxone might help him”

  - **Property 1: Presence**
    - **Present (Default)**

        - For prescribed opioid medications that the patient is currently taking
    - **Newly prescribed**
        - For new opioid medications that the patient was just prescribed this visit
    - **Absent**
        - For prescribed opioid medications that the patient is **NOT** currently taking
            - E.g. "Patient has been prescribed oxycodone, but has not been filling his prescriptions"
- **Relevant Relationship(s):**
    - **OPIOIDNAME_CNSSX**
        - Connects Class 8 and 1
    - **OPIOID_ABERRANT-USE**
        - Connects Class 8 and 10
    - **OPIOID_BEHAVIOR**
        - Connects Class 8 and 2
    - **OPIOID_DIFFINDXN**
        - Connects Class 8 and 4
    - **OPIOID_OPINION**
        - Connects Class 8 and 5

CLASS 9: "BENZODIAZEPINES"

- **Class Description: Text that mentions that patient is being co-PRESCRIBED benzodiazepines**
    - **General notes:**
        - Do NOT annotate any mention of benzos illicitly obtained (see Class 6: "SUBSTANCE_ABUSE")
        - Benzodiazepine must be one of the following:
            - Alprazolam (Xanax)
            - Chlorodiazepoxide (Limbitrol)
            - Diazepam (Valium)
            - Lorazepam (Ativan)
            - Triazolam (Halicon)
        - When annotating, **annotate only the benzodiazepine name** (do not annotate any surrounding text)
    - **Property 1: Presence**
        - **Present (default)**
            - For prescribed benzodiazepine medications that the patient is currently taking
        - **Absent**
            - For prescribed benzodiazepine medications that the patient is **NOT** currently taking

- E.g. “Patient has been prescribed Valium, but has not been filling his prescriptions”
- E.g. “Valium has been listed in patient medication list, but this is an actually an error”

CLASS 10: LOSS_CONTROL_ABERRANT_USE
(See description above)

CLASS 11: MED_CHANGE

- **Class Description: Text that mentions that the physician makes changes to the patient’s opioid regimen during this current encounter OR if the patient’s opioid regimen has been changed since the patient’s last encounter with the provider writing the note**
  - **General notes:**
    - This class should NOT capture any mentions of potential changes in the future (e.g. “I hope to taper him down in the future”), if a change in either medication type or dosage has not occurred or is not being initiated during this encounter.
    - If the physician is recommending a very elaborate change to the opioid regimen (e.g. 15 week taper, with details for each week listed), the annotator should only annotate the general description of the regimen (e.g. “patient should adhere to the following taper,” “recommend the following medication taper regimen”)
    - This class should only be used to capture changes made by PROVIDERS, not self-imposed by the patient
      - Providers may include clinical staff at nursing home facilities or other health care-related facilities where the patient is staying
    - Do not annotate “bridge” opioid regimens
      - (e.g. patient’s opioid is normally prescribed by another provider; patient has run out, so current provider writes an opioid prescription for a lower dose to “bridge” patient to the next time patient will see the prescriber who typically manages the opioid medication)
  - **Property 1: Change opioid type *this visit***
    - **[*Note:*** this should document changes to the patient’s opioid medication regimen that the physician is recommending at the end of this particular visit and documenting in the medical note.]
    - **New opioid added**
      - Note: this should capture instances where a new opioid medication is added IN ADDITION to the current opioid medications that the patient is on
    - **Switch from current to new**
      - Cessation of prior opioid medication, with a switch to a new opioid medication
    - **Stop opioid without new**

        - Prior opioid medication is stopped, WITHOUT addition of new opioid (if new is added, should fall under "switch from current to new")
    - **N/A (default)**
- **Property 2: Dosage change *this visit***
    - **[*Note:*** this should document changes to the patient's opioid dosing regimen that the physician is recommending at the end of this particular visit and documenting in the medical note.
        - Both changes in amount (e.g. mg) OR frequency (e.g. from BID to TID) should be documented here]
    - **Increase**
    - **Decrease**
    - **N/A** (default)
- **Property 3: Change opioid type *prior***
    - **[*Note:*** this should document any changes to the patient's opioid regimen that occurred prior to this clinical visit, but AFTER the patient's last appointment with this provider if the patient has previously seen this provider before.
        - **This may include changes made by providers other than the one writing this note,** so long as the stipulation in the previous sentence holds true.
        - **This may include new patient encounters.**
        - **Examples** that should be documented under this category**:**
            - "At last visit, we changed his opioid medication to oxycodone instead of his previous medication."
            - "Mr. B reports that his previous PCP just recently changed his pain regimen, adding oxycodone."]
    - **New opioid added**
        - Note: this should capture instances where a new opioid medication is added IN ADDITION to the current opioid medications that the patient is on
    - **Switch from current to new**
        - Cessation of prior opioid medication, with a switch to a new opioid medication
    - **Stop opioid without new**
        - Prior opioid medication is stopped, WITHOUT addition of new opioid (if new is added, should fall under "switch from current to new")
    - **N/A (default)**
- **Property 4: Dosage change *prior***
    - **[*Note:*** this should document any changes to the patient's opioid dosing regimen (either amount or frequency of dosage) that occurred prior to this clinical visit, but AFTER the patient's last appointment with this provider if the patient has previously seen this provider before.
        - **Example:** "At last visit, we changed his opioid medication to oxycodone X mg instead of Y mg."

        - **New patient example:** "Mr. B reports that his previous PCP just recently changed his pain regimen, increasing the frequency of his oxycodone dosing to TID."]
        - Could be either an increase in amount (e.g. mg) OR frequency (e.g. from BID to TID)
    - **Increase**
    - **Decrease**
    - **N/A** (default)

RELATIONSHIPS

Note: Annotate relationships only when there is clear reason to do so (e.g. doctor draws specific connection between a specific opioid and a symptom the patient has been having, pt expresses opinion about a specific opioid).

- **OPIOIDNAME_CNSSX**
    - Connects Class 8 and 1
- **OPIOID_ABERRANT-USE**
    - Connects Class 8 and 10
- **OPIOID_BEHAVIOR**
    - Connects Class 8 and 2
- **OPIOID_DIFFINDXN**
    - Connects Class 8 and 4
- **OPIOID_OPINION**
    - Connects Class 8 and 5
- **OPIOID_CHANGE**
    - Connects Class 8 and 11

APPENDIX A

List of common relevant medical abbreviations / slang

- "Benzos" (= benzodiazepines)
- EtOH (= alcohol)
- OTC (= over the counter)
- "Oxys" (= oxycodone); "percs" (= Percocet)
- Pt (= patient)
- Rx (= prescription, drugs)
- Dosing
    - QD = once a day
    - BID = 2x a day
    - TID = 3x a day
    - QID = 4x a day

APPENDIX B

List of Opioid Medications to Annotate

List is in alphabetical order by generic name. Brand names are indicated in parentheses.

Buprenorphine
Buprenorphine/naloxone
Codeine (also Tylenol #3, Tylenol #4)
Dextropropoxyphene +/- acetaminophen (Darvocet, Darvon; *no longer on the market*)
Fentanyl (Actiq, Duragesic, Fentora)
Hydrocodone (Hysingla ER, Zohydro ER) *Note: will be very low frequency*
Hydrocodone/acetaminophen (Lorcet, Lortab, Norco, Vicodin)
Hydromorphone (Dilaudid, Exalgo, Palladone)
Meperidine (Demerol)
Methadone (Dolophine, Methadose*)*
Morphine (Astramorph, Avinza, Kadian, MS Contin, Ora-Morph SR, MS-IR, MSIR, MS IR, Morphine SA (sustained action))
Oxycodone (OxyContin, Oxecta, Roxicodone, Oxy-IR, Oxy IR, Oxycodone CR)
Oxymorphone (Opana)
Oxycodone and acetaminophen (Percocet, Endocet, Roxicet, Tylox)
Propoxyphene (*no longer on the market*)
Tapentadol (Nucynta, Palexia, Tapal)
Tramadol (Tramal, Ultram, ConZip, Ryzolt)

EXCLUDE:
Loperamide