Relation Annotation Guidelines

The relation task is to determine the type of relationship that exists between two concepts in the text (if any). Relations build on the medical problem, treatment, and test concepts that have already been marked. The task is to identify how problems relate to treatments, tests, and other medical problems in the text.

This guideline describes the different types of relations that medical problems have with treatment, tests, and other medical problems and provides examples similar to those that may be found in the clinical texts. For each relation type, instances of concepts that would be classified into the relation type are marked in **BLUE**.

Relationships are bounded by sentences. To determine the type of relationship that exists between two concepts, only the text within the same sentence may be used. All documents have been formatted so that one line corresponds to one sentence with a newline character separating each sentence from the next.

Relations may exist between:
1. medical problems and treatments
2. medical problems and tests
3. medical problems and other medical problems

1. Medical problems and treatments relations:
   a. Treatment improves medical problem (TrIP). This includes mentions where the treatment improves or cures the problem.
      - *hypertension was controlled on hydrochlorothiazide*
      - *She has an elevated cholesterol controlled with Zocor*
      - *infection resolved with antibiotic course*

   b. Treatment worsens medical problem (TrWP). This includes mentions where the treatment is administered for the problem but does not cure the problem, does not improve the problem, or makes the problem worse.
      - *was discharged to home to be followed for her coronary artery disease following two failed bypass graft procedure*
      - *the tumor was growing despite the available chemotherapeutic regimen*
      - *culture taken from the lumbar drain showed Staphylococcus aureus resistant to Nafcillin*

c. Treatment causes medical problem (TrCP). The implied context is that the treatment was not administered for the medical problem that it ended up causing.
- *Bactrim could be a cause of these abnormalities .*
- *Penicillin causes rash .*
- *hypothyroidism following near total thyroidectomy*
- *He did have some peripheral neuropathy related to his chemotherapy for testicular cancer .*

d. Treatment is administered for medical problem (TrAP). This includes mentions where a treatment is given for a problem, but the outcome is not mentioned in the sentence.
- *He was given Lasix periodically to prevent him from going into congestive heart failure .*
- *antibiotic therapy for presumed right forearm phlebitis*
- *heparin was restarted because of a possible small dissection in the RCA*
- *Dexamphetamine 2.5 mg. p.o. q. A.M. for depression.*
- *Excision of right forearm vein for question of phlebitis*
- *He did have some peripheral neuropathy related to his chemotherapy for testicular cancer .*

e. Treatment is not administered because of medical problem (TrNAP). This includes mentions where treatment was not given or discontinued because of a medical problem that the treatment did not cause.
- *Relafen which is contra-indicated because of ulcers.*
- *Colace 100 milligrams po q day , hold for loose stools .*
- *He was a poor candidate for anticoagulation because of his history of metastatic melanoma .*

f. Treatments and problems that are in the same sentence, but do not fit into one of the above defined relationships are not assigned a treatment-problem relationship.

2. Test relations with medical problems:
    a. Test reveals medical problem (TeRP). This includes mentions where a test is conducted and the outcome is known.
    - *an echocardiogram revealed a pericardial effusion*
    - *evaluation revealed extensive progressive retroperitoneal disease*
    - *A lung biopsy was performed , revealing chorio carcinoma*
    - *An abdominal ultrasound was performed showing no stones .*
    - *patient noted to have acute or chronic Hepatitis by chemistries*

b. Test conducted to investigate medical problem (TeCP). This includes mentions where a test is conducted and the outcome is not known.
- *an VQ scan was performed to investigate pulmonary embolus*
- *suggest echocardiogram to check for vegetation*
- *chest x-ray done to rule out pneumonia*

c. Tests and problems that are in the same sentence, but do not fit into one of the above defined relationships are not assigned a test-problem relationship.

3. Medical problem relations with other medical problems:
   a. Medical problem indicates medical problem (PIP). This includes medical problems that describe or reveal aspects of the same medical problem and those that cause other medical problems.
   - *Azotemia presumed secondary to sepsis*
   - *a history of noninsulin dependent diabetes mellitus , now presenting with acute blurry vision on the left side .*

   b. Pairs of medical problems that are in the same sentence, but do not fit into one of the above defined relationships are not assigned a problem-problem relationship.