Common Cold

Case Study:

A patient presents symptoms of headache, sneezing, and an itchy throat. The patient mentions that these symptoms have been on and off for the last two weeks.

Background Information:

* Causes of a cold:
  + Bacterial: 5% of the time
  + Viral: 95% of the time
* Initial Symptoms
  + Dryness in throat
  + Itchy throat and nose.
  + Sneezing
  + Teary eyes
  + Congestion
* Cold continuation symptoms:
  + Runny nose
  + Cough
* Most symptoms ease within 4 to 5 days and are completely gone in 7 to 10 days.
* Treatment
  + Most important ingredients of OTC products
    - Analgesics
    - Decongestants
    - Antihistamines (alleviate stuffy nose, tearing, and sneezing)
    - Stimulants
    - Anticholinergics (to dry out)

NARSESE Translation

<(\*, [bacterial], [common-cold]) --> causation>. %0.05%

<<#x --> [common-cold]> ==> <#x --> [bacterial]>>. %0.05%

<(\*, [viral], [common-cold]) --> causation>. (95%)

<<#x --> [common-cold]> ==> <#x --> [dryness-in-throat]>>.

<<#x --> [common-cold]> ==> <#x --> [sneezing]>>.

<<#x --> [common-cold]> ==> <#x --> [teary-eyes]>>.

<<#x --> [common-cold]> ==> <#x --> [congestion]>>.

<[itchy-throat] --> [common-cold]>.

<[sneezing] --> [common-cold]>.

<[teary-eyes] --> [common-cold]>.

<[congestion] --> [common-cold]>.

< [OTC] <-> [over-the-counter]>.

<[over-the-counter] --> treatment>.

<<#x --> [common-cold]> ==> <(\*, analgesics, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, decongestant, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, antihistamine, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, stimulant, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, anticholinergics, {#x}) --> OTC>>.

<(\*, [anticholinergics], [drying]) --> OTC-treatment>.

<(\*, [antihistamines], [sneezing]) --> OTC-treatment>.

Step-By-Step Translation:

INPUT:

<{John-Doe} --> [itchy-throat]>.

<{John-Doe} --> [sneezing]>.

<{John-Doe} --> [headache]>.

<[itchy-throat] --> [common-cold]>.

<[sneezing] --> [common-cold]>.

<[teary-eyes] --> [common-cold]>.

<[congestion] --> [common-cold]>.

<[headache] --> [common-cold]>.

<<#x --> [common-cold]> ==> <(\*, analgesics, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, decongestant, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, antihistamine, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, stimulant, {#x}) --> OTC>>.

<<#x --> [common-cold]> ==> <(\*, anticholinergics, {#x}) --> OTC>>.

OUTPUT:

<(\*,decongestant,{John-Doe}) --> OTC>. %1.00;0.81%

<(\*,analgesic,{John-Doe}) --> OTC>. %1.00;0.81%

<(\*,antihistamine,{John-Doe}) --> OTC>. %1.00;0.81%

<(\*,anticholinergics,{John-Doe}) --> OTC>. %1.00;0.81%

<(\*,stimulant,{John-Doe}) --> OTC>. %1.00;0.81%

(1)

IN: <{John-Doe} --> [itchy-throat]>.

IN: <{John-Doe} --> [sneezing]>.

OUT: <<{John-Doe} --> [itchy-throat]> <=> <{John-Doe} --> [sneezing]>>. %1.00;0.45%

(2)

IN: <<{John-Doe} --> [itchy-throat]> <=> <{John-Doe} --> [sneezing]>>. %1.00;0.45%

IN: <[itchy-throat] --> [common-cold]>.

IN: <[sneezing] --> [common-cold]>.

OUT: <[common-cold] --> {John-Doe}>. %1.00;0.27%

(3)

IN: <[common-cold] --> {John-Doe}>. %1.00;0.27%

IN: <{John-Doe} --> [headache]>.

IN: <[headache] --> [common-cold]>.

OUT: <{John-Doe} --> [common-cold]>. %1.00;0.81%

(4)

IN: <{John-Doe} --> [common-cold]>. %1.00;0.81%

IN: <<#x --> [common-cold]> ==> <(\*, analgesics, {#x}) --> OTC>>.

IN: <<#x --> [common-cold]> ==> <(\*, decongestant, {#x}) --> OTC>>.

IN: <<#x --> [common-cold]> ==> <(\*, antihistamine, {#x}) --> OTC>>.

IN: <<#x --> [common-cold]> ==> <(\*, stimulant, {#x}) --> OTC>>.

IN: <<#x --> [common-cold]> ==> <(\*, anticholinergics, {#x}) --> OTC>>.

OUT: <(\*,decongestant,{John-Doe}) --> OTC>. %1.00;0.73%

OUT: <(\*,analgesic,{John-Doe}) --> OTC>. %1.00;0.73%

OUT: <(\*,antihistamine,{John-Doe}) --> OTC>. %1.00;0.73%

OUT: <(\*,anticholinergics,{John-Doe}) --> OTC>. %1.00;0.73%

OUT: <(\*,stimulant,{John-Doe}) --> OTC>. %1.00;0.73%