1. Introduction

The UMLS® Metathesaurus® contains a significant amount of ambiguity. For example, the string “Cold” (or “cold” or “COLD”) occurs in six distinct concepts with six distinct meanings. The purpose of this report is to examine ambiguity in the 2008AA release of the Metathesaurus in the context of its effect on natural language processing (NLP) applications.

Until the 2004AC release of the UMLS Knowledge Sources, ambiguity was denoted explicitly by appending an ambiguity designator, a number in angle brackets, to the end of an ambiguous string. Thus the ambiguity for “cold” was denoted by ‘Cold <1>’, ‘Cold <2>’, ‘COLD <3>’, etc. Now ambiguity is computed by finding concepts with strings that differ only with respect to case.¹

Table 1 shows that the degree of Metathesaurus ambiguity has grown over the years and was particularly explosive in 2005, partly due to the direct computation of ambiguity mentioned above.

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strings with an ambiguity designator</td>
<td>21,295 (+30%)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Concepts with one or more ambiguity</td>
<td>16,775 (+35%)</td>
<td>36,133 (+115%)</td>
<td>44,591 (+23%)</td>
<td>48,820 (+9%)</td>
<td>61,873 (+27%)</td>
<td>71,127 (+15%)</td>
</tr>
<tr>
<td>Concepts with one or more non-suppressible ambiguity</td>
<td>12,387 (+19%)</td>
<td>33,513 (+171%)</td>
<td>40,977 (+22%)</td>
<td>43,499 (+6%)</td>
<td>55,168 (+27%)</td>
<td>64,322 (+17%)</td>
</tr>
<tr>
<td>Cases of ambiguity</td>
<td>10,018 (+39%)</td>
<td>22,218 (+122%)</td>
<td>27,599 (+24%)</td>
<td>29,415 (+7%)</td>
<td>40,574 (+38%)</td>
<td>45,540 (+12%)</td>
</tr>
<tr>
<td>Cases of non-suppressible ambiguity</td>
<td>9,521 (+40%)</td>
<td>20,996 (+121%)</td>
<td>25,290 (+20%)</td>
<td>26,084 (+3%)</td>
<td>36,266 (+39%)</td>
<td>40,937 (+13%)</td>
</tr>
</tbody>
</table>

Table 1. Measures of ambiguity in the UMLS Metathesaurus

Note that in the table, percentage changes are computed relative to the previous year. More

¹ Note that AMBIGSUI.RRF or AMBIG.SUI cannot be used for this purpose because they do not conflate case.
recently, ambiguity grew significantly in 2006 and 2008, less so in 2009 and quite modestly in 2007.

Examining the cases of ambiguity more closely, consider the degree of ambiguity, i.e., the number of ways a string is ambiguous or, equivalently, the number of concepts in which it (or one of its case variants) occurs. For example “deprecated ^ wbc-acnc” has degree 124 in 2008 all of which are marked as suppressible; “other” has degree 89 (43 if suppressibles are ignored). Table 2 contains the distribution of ambiguities in the Metathesaurus according to degree. Note that an ambiguity of degree one is not actually an ambiguity. In 2004 and before, for example, ‘Abbreviations <1>’ is not ambiguous since there were no other ‘Abbreviations <n>’ strings in the Metathesaurus.

Ignoring suppressible synonyms produces the more realistic distribution shown in Table 3. Most of the ambiguity of higher degree has disappeared, and all of that would disappear if appropriate strings were marked as suppressible. Suppressible synonyms are ignored for the remainder of this report.

Section 2 of this report describes general classes of ambiguity found in the Metathesaurus. Section 3 describes only the most notable cases of ambiguity in the Metathesaurus, i.e., the cases of degree 10 or more. The bulk of the cases are now reported automatically by the Migration Assistant, a tool developed generally for annotating ambiguity and specifically for the purpose of marking appropriate cases as suppressible. Finally, Section 4 is an appendix containing instructions for populating the tables in the report.

2. Classes of Metathesaurus Ambiguity

Some concepts contain strings which should be marked as suppressible. Many of these strings are already marked suppressible for a given UMLS release; this report recommends further cases some of which are universally applicable and some of which are appropriate in more limited environments such as the natural language processing done by MetaMap.

The analysis in this and previous editions of this report reveals some classes of ambiguity commonly occurring in the Metathesaurus:

- **Contextual (or hierarchical) ambiguity.** This class of false ambiguity is exemplified by the string ‘prostate’ for ‘Prostatic Diseases’. (Many of these problems have been fixed by suppressing the misleading string for the concept; but the problems continue to reappear as the Metathesaurus grows.) It normally arises from terms which require context within their vocabulary (in this case, a disease hierarchy) in order to be properly understood. Contextual ambiguities can be classified according to their participants:
  - **Body part/disease ambiguity** exemplified by ‘Prostate’ and ‘Prostatic Diseases’
  - **Body part/procedure ambiguity** exemplified by ‘Stomach’ and ‘Procedures on the stomach’
  - **Pathology/procedure ambiguity** exemplified by ‘Pathology’ and ‘Pathology procedure’

1. The computation of the degree of an ambiguity was corrected in 2002. As a result, there are some differences from previous editions of this report in the counts reported in the tables.
### 2. Classes of Metathesaurus Ambiguity

<table>
<thead>
<tr>
<th>Degree of ambiguity</th>
<th>2006 cases</th>
<th>2007 cases</th>
<th>2008 cases</th>
<th>2009 cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>124</td>
<td>1</td>
<td>1</td>
<td>1 (0%)</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>89</td>
<td>1</td>
<td></td>
<td>1 (0%)</td>
<td>1 (0%)</td>
</tr>
<tr>
<td>39</td>
<td>1</td>
<td>1 (0%)</td>
<td>1 (0%)</td>
<td>1 (0%)</td>
</tr>
<tr>
<td>36</td>
<td>1</td>
<td>1 (0%)</td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td></td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>20</td>
<td>1</td>
<td></td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>1 (0%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>1 (0%)</td>
<td>2 (+100%)</td>
<td>2 (0%)</td>
<td>3 (+50%)</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>2 (0%)</td>
<td></td>
<td>5 (+150%)</td>
</tr>
<tr>
<td>16</td>
<td>2 (+100%)</td>
<td>1 (-50%)</td>
<td>1 (0%)</td>
<td>2 (+100%)</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>3 (+200%)</td>
<td>2 (-33%)</td>
<td>10 (+400%)</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td></td>
<td>3 (+200%)</td>
<td>2 (-33%)</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
<td>9 (+200%)</td>
</tr>
<tr>
<td>12</td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
<td>6 (+100%)</td>
<td>12 (+100%)</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>4 (+33%)</td>
<td>10 (+150%)</td>
<td>13 (+30%)</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>7 (+75%)</td>
<td>17 (+143%)</td>
<td>18 (+6%)</td>
</tr>
<tr>
<td>9</td>
<td>13 (+117%)</td>
<td>14 (+8%)</td>
<td>25 (+79%)</td>
<td>40 (+60%)</td>
</tr>
<tr>
<td>8</td>
<td>23 (+130%)</td>
<td>24 (+4%)</td>
<td>61 (+154%)</td>
<td>70 (+15%)</td>
</tr>
<tr>
<td>7</td>
<td>28 (+155%)</td>
<td>42 (+50%)</td>
<td>70 (+67%)</td>
<td>118 (+69%)</td>
</tr>
<tr>
<td>6</td>
<td>66 (+175%)</td>
<td>104 (+58%)</td>
<td>185 (78%)</td>
<td>242 (+31%)</td>
</tr>
<tr>
<td>5</td>
<td>158 (+193%)</td>
<td>195 (+23%)</td>
<td>404 (+107%)</td>
<td>464 (+15%)</td>
</tr>
<tr>
<td>4</td>
<td>452 (+117%)</td>
<td>562 (+24%)</td>
<td>996 (77%)</td>
<td>1,231 (24%)</td>
</tr>
<tr>
<td>3</td>
<td>1,868 (+51%)</td>
<td>2,380 (+27%)</td>
<td>4,226 (+78%)</td>
<td>4,873 (+15%)</td>
</tr>
<tr>
<td>2</td>
<td>24,971 (+21%)</td>
<td>26,067 (+4%)</td>
<td>34,555 (+32%)</td>
<td>38,403 (+11%)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27,599 (+24%)</td>
<td>29,415 (+7%)</td>
<td>40,574 (+38%)</td>
<td>45,540 (+12%)</td>
</tr>
</tbody>
</table>

Table 2. Metathesaurus ambiguity distribution by degree

- **Medical device/procedure ambiguity** exemplified by ‘Prosthesis’ and ‘Prosthesis Implantation’
### Table 3:  Metathesaurus ambiguity distribution after removing suppressibles

<table>
<thead>
<tr>
<th>Degree of ambiguity</th>
<th>2006 cases</th>
<th>2007 cases</th>
<th>2008 cases</th>
<th>2009 cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td></td>
<td>1</td>
<td>1 (0%)</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>1</td>
<td>1 (0%)</td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td>1 (0%)</td>
<td>4 (+300%)</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>1</td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>1 (0%)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>18</td>
<td>1 (0%)</td>
<td>2 (+100%)</td>
<td>2 (0%)</td>
<td>3 (+50%)</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>1 (0%)</td>
<td>1 (0%)</td>
<td>9 (+800%)</td>
</tr>
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<td>14</td>
<td>1</td>
<td>4 (+300%)</td>
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<td>2 (-50%)</td>
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<tr>
<td>13</td>
<td>1</td>
<td></td>
<td>1</td>
<td>8 (+700%)</td>
</tr>
<tr>
<td>12</td>
<td>1 (0%)</td>
<td>3 (+200%)</td>
<td>6 (+100%)</td>
<td>9 (+50%)</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>2 (+100%)</td>
<td>7 (+250%)</td>
<td>12 (+71%)</td>
</tr>
<tr>
<td>10</td>
<td>4</td>
<td>6 (+50%)</td>
<td>16 (+167%)</td>
<td>18 (+13%)</td>
</tr>
<tr>
<td>9</td>
<td>9 (+80%)</td>
<td>12 (+33%)</td>
<td>22 (+83%)</td>
<td>27 (+23%)</td>
</tr>
<tr>
<td>8</td>
<td>16 (+100%)</td>
<td>19 (+19%)</td>
<td>40 (+110%)</td>
<td>56 (+40%)</td>
</tr>
<tr>
<td>7</td>
<td>16 (+220%)</td>
<td>25 (+56%)</td>
<td>60 (+140%)</td>
<td>99 (+65%)</td>
</tr>
<tr>
<td>6</td>
<td>39 (+457%)</td>
<td>87 (+123%)</td>
<td>142 (+63%)</td>
<td>214 (+51%)</td>
</tr>
<tr>
<td>5</td>
<td>123 (+297%)</td>
<td>160 (+30%)</td>
<td>306 (+91%)</td>
<td>355 (+16%)</td>
</tr>
<tr>
<td>4</td>
<td>360 (+131%)</td>
<td>481 (+34%)</td>
<td>899 (+87%)</td>
<td>1,133 (+26%)</td>
</tr>
<tr>
<td>3</td>
<td>1,586 (+59%)</td>
<td>2,076 (+31%)</td>
<td>3,857 (+86%)</td>
<td>4,474 (+16%)</td>
</tr>
<tr>
<td>2</td>
<td>23,126 (+17%)</td>
<td>23,205 (+0%)</td>
<td>30,899 (+33%)</td>
<td>34,490 (+12%)</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>25,290 (+20%)</td>
<td>26,084 (+3%)</td>
<td>36,266 (+39%)</td>
<td>40,937 (+13%)</td>
</tr>
</tbody>
</table>

2. Classes of Metathesaurus Ambiguity
3. Higher Degree Metathesaurus Ambiguity

Ambiguous English Metathesaurus strings are described in this section in decreasing order of degree of ambiguity. Only those cases of degree 10 or more are covered. See Migration Assistant reports for cases of ambiguity of lesser degree.

In all cases, suppressible synonyms are ignored as is done in Table 3. Ambiguous forms for concepts shown in bold should be marked as suppressible. Recommendations for cases which are not clear are introduced with the word consider. Ambiguous forms for concepts shown in italics should be marked as suppressible in MetaMap only.

3.1 “other” (degree 43) <no change from last year>

Except for ‘Other’, the remaining cases should be suppressed because they mean something more specific than “other”. The concepts involved are

1. C0205394| Other
2. C0220886| Other location of complaint
3. Higher Degree Metathesaurus Ambiguity

3.  C1271040| Other health professional
4.  C1521979| Other Routes of Drug Administration
5.  C1546380| Other - Event Reason
6.  C1546725| Other Specimen Source Code
7.  C1546836| Other - Special Program Code
8.  C1546840| Other - Publicity Code
9.  C1546902| Other - Diagnosis Classification
10. C1546930| Other - Report Source
11. C1547110| Other - Modality
12. C1547196| Other - Organization unit type
13. C1547233| Other - Triage Code
14. C1547241| Other - Newborn Code
15. C1547267| Other - Risk Management Incident Code
16. C1547272| Other - Incident Type Code
17. C1547281| Other - Production Class Code
18. C1547292| Other - Recreational Drug Use Code
19. C1547304| Other - Precaution Code
20. C1547309| Other - Patient Condition Code
21. C1547994| Other - Diagnostic Service Section ID
22. C1549063| Other - Notify Clergy Code
23. C1549104| Other - Administrative Gender
24. C1549110| Other - Marital Status
25. C1550146| Other - Substance Type
26. C1556042| Other - Relationship
27. C1556043| Other - Religion
28. C1556044| other - No Information
29. C1556045| Other - What subject filter
30. C1556046| Other - Employment Status
31. C1556048| Other - Contact Role
32. C1556049| Other - Mail Claim Party
33. C1556050| Other - Living Dependency
34. C1556051| Other - Event Consequence
35. C1556052| Other - Indirect exposure mechanism
36. C1556053| Other - Action Taken in Response to the Event
37. C1556054| Other - Status of Evaluation
38. C1556055| Other - Causality Observations
39. C1556056| Other - Job Status
40. C1556057| Other - Immunization Registry Status
41. C1561608| Other - Mode of Arrival
42. C1868670| Other Growth
43. C1996846| Other (qualifier in LNC)

3.2 “(+)” (degree 36)

Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1.  C2071858| uncorrected binocular vision (at 14in) using Jaeger in plus diopters
2.  C2071860| uncorrected vision in right eye (at 14in) using Jaeger in plus diopters
3. Higher Degree Metathesaurus Ambiguity

3. C2071862 | uncorrected vision in left eye (at 14in) using Jaeger in plus diopters
4. C2071866 | corrected vision in right eye (at 14in) using Jaeger in plus diopters
5. C2071868 | corrected vision in left eye (at 14in) using Jaeger in plus diopters
6. C2072856 | uncorrected distance acuity on right: (plus____)
7. C2072857 | distance acuity right with current correction: (plus____)
8. C2072858 | distance acuity left uncorrected: (plus____)
9. C2072859 | distance acuity left with current correction: (plus____)
10. C2072860 | binocular distance acuity uncorrected: (plus____)
11. C2072861 | near vision right eye (uncorrected) (plus____)
12. C2072862 | near vision left eye (uncorrected) (plus____)
13. C2072863 | uncorrected near vision in both eyes (plus____)
14. C2072864 | corrected near vision in both eyes (plus____)
15. C2072865 | near vision left eye (current correction) (plus____)
16. C2072866 | near vision right eye (corrected) (plus____)
17. C2072877 | distance acuity binocular, with current correction: plus____
18. C2087278 | uncorrected binocular vision (at 26in) using Jaeger in plus diopters
19. C2087281 | uncorrected vision in right eye (at 26in) using Jaeger in plus diopters
20. C2087284 | uncorrected vision in left eye (at 26in) using Jaeger in plus diopters
21. C2087287 | corrected binocular vision (26in) using Jaeger in plus diopters
22. C2087290 | corrected vision in right eye (at 26in) using Jaeger in plus diopters
23. C2087293 | corrected vision in left eye (at 26in) using Jaeger in plus diopters
24. C2087332 | manifest vision in right eye (14in) using Jaeger in plus diopters
25. C2087335 | manifest vision in left eye (14in) using Jaeger in plus diopters
26. C2087381 | manifest near vision in both eyes (plus____)
27. C2087384 | near vision right eye manifest (plus____)
28. C2087387 | near vision left eye manifest (plus____)
29. C2087401 | manifest vision in right eye (at 26in) using Jaeger in plus diopters
30. C2087406 | manifest vision in left eye (at 26in) using Jaeger in plus diopters
31. C2087590 | binocular acuity with new correction (plus____)
32. C2087593 | manifest binocular vision (26in) using Jaeger in plus diopters
33. C2089354 | uncorrected distance acuity on right: pinhole: (plus____)
34. C2089356 | distance acuity left uncorrected: pinhole: (plus____)
35. C2089358 | distance acuity right with current correction: pinhole: (plus____)
36. C2089360 | distance acuity left with current correction pinhole (plus____)

3.3 “(-)” (degree 36)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C2071857 | uncorrected binocular vision (at 14in) using Jaeger in minus diopters
2. C2071859 | uncorrected vision in right eye (at 14in) using Jaeger in minus diopters
3. C2071861 | uncorrected vision in left eye (at 14in) using Jaeger in minus diopters
4. C2071865 | corrected vision in right eye (at 14in) using Jaeger in minus diopters
5. C2071867 | corrected vision in left eye (at 14in) using Jaeger in minus diopters
6. C2072844 | uncorrected distance acuity on right: (minus____)
7. C2072845 | distance acuity right with current correction: (minus____)
8. C2072846 | distance acuity left uncorrected: (minus____)
9. C2072847 | distance acuity left with current correction: (minus____)
3. Higher Degree Metathesaurus Ambiguity

10. C2072848| binocular distance acuity uncorrected: (minus___)
11. C2072849| distance acuity binocular with specified current correction: (minus___)
12. C2072850| near vision right eye (uncorrected) (minus___)
13. C2072851| near vision left eye (uncorrected) (minus___)
14. C2072852| uncorrected near vision in both eyes (minus___)
15. C2072853| near vision right eye (corrected) (minus___)
16. C2072854| near vision left eye (current correction) (minus___)
17. C2072855| corrected near vision in both eyes (minus___)
18. C2087277| uncorrected binocular vision (at 26in) using Jaeger in minus diopters
19. C2087280| uncorrected vision in right eye (at 26in) using Jaeger in minus diopters
20. C2087283| uncorrected vision in left eye (at 26in) using Jaeger in minus diopters
21. C2087286| corrected binocular vision (at 26in) using Jaeger in minus diopters
22. C2087289| corrected vision in right eye (at 26in) using Jaeger in minus diopters
23. C2087292| corrected vision in left eye (at 26in) using Jaeger in minus diopters
24. C2087331| manifest vision in right eye (at 14in) using Jaeger in minus diopters
25. C2087334| manifest vision in left eye (at 14in) using Jaeger in minus diopters
26. C2087362| binocular visual acuity with new correction (minus___)
27. C2087380| manifest near vision in both eyes (minus___)
28. C2087383| near vision right eye manifest (minus___)
29. C2087386| near vision left eye manifest (minus___)
30. C2087400| manifest vision in right eye (at 26in) using Jaeger in minus diopters
31. C2087405| manifest vision in left eye (at 26in) using Jaeger in minus diopters
32. C2087592| manifest binocular vision (at 26in) using Jaeger in minus diopters
33. C2089353| uncorrected distance acuity on right: pinhole: (minus___)
34. C2089355| distance acuity left uncorrected: pinhole: (minus___)
35. C2089357| distance acuity right with current correction pinhole: (minus___)
36. C2089359| distance acuity left with current correction pinhole (minus___)

3.4 “unknown” (degree 36) <no change from last year>

Except for ‘Unknown’ (occurs twice), the remaining cases should be suppressed because they mean something more specific than “unknown”. The concepts involved are

1. C0439673| Unknown
2. C1521803| Unknown Route of Drug Administration
3. C1546837| Unknown - Special Program Code
4. C1546841| Unknown Publicity Code
5. C1547283| Unknown - Production Class Code
6. C1547294| Unknown - Recreational Drug Use Code
7. C1547306| Unknown - Precaution Code
8. C1547312| Unknown - Patient Condition Code
9. C1548340| Unknown - Allergy Severity
10. C1548502| Unknown - Vaccines administered
11. C1548543| Unknown - Living Will Code
12. C1548550| Unknown - Organ Donor Code
13. C1549064| Unknown - Notify Clergy Code
14. C1549105| Unknown - Administrative Gender
15. C1549115| Marital Status - Unknown
16. C1549625| Unknown - Ethnic Group
17. **C1556120**| Unknown - Religion
18. **C1556121**| Unknown - Event reason
19. **C1556122**| Unknown - Relationship
20. **C1556123**| Unknown - Employment Status
21. **C1556124**| Unknown - Living Arrangement
22. **C1556125**| Unknown - Transport Arranged
23. **C1556126**| Unknown - Escort Required
24. **C1556127**| Unknown - Patient Outcome
25. **C1556128**| Unknown - Job Status
26. **C1556129**| Unknown - Patient's Relationship to Insured
27. **C1556130**| Unknown - CWE statuses
28. **C1556131**| Unknown - Container status
29. **C1556132**| Unknown - Immunization Registry Status
30. **C1556133**| Unknown - Expanded yes/no indicator
31. **C1556134**| Unknown - Event Expected
32. **C1556135**| Unknown - Patient Class
33. **C1556136**| Unknown - Living Dependency
34. **C1556137**| Unknown - Contact Role
35. **C1561529**| Unknown
36. **C1609613**| unknown - NullFlavor

### 3.5 “grade II” (degree 25)

Except for ‘Grade two rank’, ‘G2 stage (tumor staging)’, and ‘Disease Grade 2’, the remaining cases should be suppressed because they mean something more specific than “grade II”. The concepts involved are:

1. **C0441802**| Grade two rank
2. **C0475270**| G2 stage (tumor staging)
3. **C1522446**| Disease Grade 2
4. **C1883547**| WHO Central Nervous System Grade II
5. **C2012450**| grade II continuous axillary murmur
6. **C2012451**| grade II continuous interscapular murmur
7. **C2012452**| grade II diastolic interscapular murmur
8. **C2012453**| grade II systolic interscapular murmur
9. **C2012454**| grade II systolic murmur along left upper sternal border
10. **C2071964**| murmur left upper sternal border diastolic grade II
11. **C2072012**| murmur left upper sternal border continuous grade II
12. **C2072058**| murmur right upper sternal border systolic grade II
13. **C2072107**| murmur right upper sternal border diastolic grade II
14. **C2072155**| murmur right upper sternal border continuous grade II
15. **C2072201**| murmur right lower sternal border systolic grade II
16. **C2072246**| murmur right lower sternal border diastolic grade II
17. **C2072294**| murmur right lower sternal border continuous grade II
18. **C2072337**| murmur left lower sternal border systolic grade II
19. **C2072383**| murmur left lower sternal border diastolic grade II
20. **C2072427**| murmur left lower sternal border continuous grade II
21. **C2072470**| murmur apical systolic grade II
22. **C2072516**| murmur apical diastolic grade II
3.6 “grade III” (degree 24)

Except for ‘Poorly differentiated’ and ‘Grade three rank’, the remaining cases should be suppressed because they mean something more specific than “grade III”. The concepts involved are

1. C0205617 | Poorly differentiated
2. C0450094 | Grade three rank
3. C1883548 | WHO Central Nervous System Grade III
4. C2012455 | grade III continuous axillary murmur
5. C2012456 | grade III continuous interscapular murmur
6. C2012457 | grade III diastolic interscapular murmur
7. C2012458 | grade III systolic interscapular murmur
8. C2071886 | murmur left upper sternal border systolic grade III
9. C2071965 | murmur left upper sternal border diastolic grade III
10. C2072013 | murmur left upper sternal border continuous grade III
11. C2072059 | murmur right upper sternal border systolic grade III
12. C2072108 | murmur right upper sternal border diastolic grade III
13. C2072156 | murmur right upper sternal border continuous grade III
14. C2072202 | murmur right lower sternal border systolic grade III
15. C2072247 | murmur right lower sternal border diastolic grade III
16. C2072295 | murmur right lower sternal border continuous grade III
17. C2072338 | murmur left lower sternal border systolic grade III
18. C2072384 | murmur left lower sternal border diastolic grade III
19. C2072428 | murmur left lower sternal border continuous grade III
20. C2072471 | murmur apical systolic grade III
21. C2072517 | murmur apical diastolic grade III
22. C2072561 | murmur apical continuous grade III
23. C2072640 | murmur axilla diastolic grade II
24. C2072641 | murmur axilla diastolic grade III

3.7 “no radiographic evidence of any osteoarticular abnormality” (degree 24)

All twenty-four cases should be suppressed because they are specific kinds of “no radiographic evidence of any osteoarticular abnormality”. Their concepts are

1. C2029127 | hand x-ray without radiographic evidence of osteoarticular abnormality
2. C2046269 | hip x-ray without radiographic evidence of osteoarticular abnormalities
3. C2052331 | pelvic x-ray without radiographic evidence of osteoarticular abnormality
4. C2075477 | clavicle x-ray without radiographic evidence of osteoarticular abnormality
5. C2106288 | coccyx x-ray without radiographic evidence of osteoarticular abnormality
6. C2110834 | knee x-ray without radiographic evidence of osteoarticular abnormality
7. C2115714 | thoracic spine x-ray without radiographic evidence of osteoarticular abnormality
8. C2115857 | thoracolumbar spine x-ray without radiographic evidence osteoarticular abnormality
9. C2120873 | finger x-ray without radiographic evidence of osteoarticular abnormality
3. Higher Degree Metathesaurus Ambiguity

10. C2120875| wrist x-ray without radiographic evidence of osteoarticular abnormality
11. C2120876| x-ray of radius and ulna without radiographic evidence of osteoarticular abnormality
12. C2120879| arm x-ray without radiographic evidence of osteoarticular abnormality
13. C2120881| shoulder x-ray without radiographic evidence of osteoarticular abnormality
14. C2120882| scapular x-ray without radiographic evidence of osteoarticular abnormality
15. C2120883| rib x-ray without radiographic evidence of osteoarticular abnormality
16. C2120884| lumbosacral spine x-ray without radiographic evidence of osteoarticular abnormalities
17. C2120886| sacroiliac joint x-ray without radiographic evidence osteoarticular abnormality
18. C2120887| sacrum x-ray without radiographic evidence of osteoarticular abnormality
19. C2120888| femur x-ray without radiographic evidence of osteoarticular abnormality
20. C2120890| lower leg x-ray without radiographic evidence of osteoarticular abnormality
21. C2120892| ankle x-ray without radiographic evidence of osteoarticular abnormality
22. C2120894| foot x-ray without radiographic evidence of osteoarticular abnormality
23. C2120895| toe x-ray without radiographic evidence of osteoarticular abnormality
24. C2121024| skull x-ray without radiographic evidence of osteoarticular abnormality

3.8  “grade I” (degree 23)

Except for ‘Grade one rank’ and ‘WHO Central Nervous System Grade I’, the remaining cases should be suppressed because they mean something more specific than “grade I”. The concepts involved are

1. C0687695| Grade one rank
2. C1883546| WHO Central Nervous System Grade I
3. C2012446| grade I continuous axillary murmur
4. C2012447| grade I continuous interscapular murmur
5. C2012448| grade I diastolic interscapular murmur
6. C2012449| grade I systolic interscapular murmur
7. C2071885| murmur left upper sternal border systolic grade I
8. C2071963| murmur left upper sternal border diastolic grade I
9. C2072011| murmur left upper sternal border continuous grade I
10. C2072057| murmur right upper sternal border systolic grade I
11. C2072106| murmur right upper sternal border diastolic grade I
12. C2072154| murmur right upper sternal border continuous grade I
13. C2072200| murmur right lower sternal border systolic grade I
14. C2072245| murmur right lower sternal border diastolic grade I
15. C2072293| murmur right lower sternal border continuous grade I
16. C2072336| grade I systolic murmur along left lower sternal border
17. C2072382| murmur left lower sternal border diastolic grade I
18. C2072426| murmur left lower sternal border continuous grade I
19. C2072469| grade I apical systolic murmur
20. C2072515| murmur apical diastolic grade I
21. C2072559| murmur apical continuous grade
22. C2072602| murmur axilla systolic grade I
23. C2072639| murmur axilla diastolic grade I
3. Higher Degree Metathesaurus Ambiguity

3.9 “grade IV” (degree 23)
Except for ‘Grade four rank’ and ‘WHO Central Nervous System Grade IV’, the remaining cases should be suppressed because they mean something more specific than “grade IV”. The concepts involved are

1. C0547054| Grade four rank
2. C1883549| WHO Central Nervous System Grade IV
3. C2012459| grade IV continuous axillary murmur
4. C2012460| grade IV continuous interscapular murmur
5. C2012461| grade IV diastolic interscapular murmur
6. C2012462| grade IV systolic interscapular murmur
7. C2071887| murmur left upper sternal border systolic grade IV
8. C2071966| murmur left upper sternal border diastolic grade IV
9. C2072014| murmur left upper sternal border continuous grade IV
10. C2072060| murmur right upper sternal border systolic grade IV
11. C2072109| murmur right upper sternal border diastolic grade IV
12. C2072157| murmur right upper sternal border continuous grade IV
13. C2072203| murmur right lower sternal border systolic grade IV
14. C2072248| murmur right lower sternal border diastolic grade IV
15. C2072296| murmur right lower sternal border continuous grade IV
16. C2072339| murmur left lower sternal border systolic grade IV
17. C2072385| murmur left lower sternal border diastolic grade IV
18. C2072429| murmur left lower sternal border continuous grade IV
19. C2072472| murmur apical systolic grade IV
20. C2072518| murmur apical diastolic grade IV
21. C2072562| murmur apical continuous grade IV
22. C2072605| murmur axilla systolic grade IV
23. C2072642| murmur axilla diastolic grade IV

3.10 “new” (degree 23)
Except for ‘New’, the remaining cases should be suppressed because they mean something more specific than “new”. The concepts involved are

1. C0205314| New
2. C1553390| Act Status - new
3. C1578513| Query Status Code - new
4. C2071883| murmur left upper sternal border systolic new
5. C2071961| murmur left upper sternal border diastolic new
6. C2072009| murmur left upper sternal border continuous new
7. C2072055| murmur right upper sternal border systolic new
8. C2072104| murmur right upper sternal border diastolic new
9. C2072152| murmur right upper sternal border continuous new
10. C2072198| murmur right lower sternal border systolic new
11. C2072243| murmur right lower sternal border diastolic new
12. C2072291| murmur right lower sternal border continuous new
13. C2072334| murmur left lower sternal border systolic new
14. C2072380| murmur left lower sternal border diastolic new
15. C2072424| murmur left lower sternal border continuous new
3. Higher Degree Metathesaurus Ambiguity

16. C2072467| murmur apical systolic new
17. C2072513| murmur apical diastolic new
18. C2072600| murmur axilla systolic new
19. C2072637| murmur axilla diastolic new
20. C2072672| new continuous axillary murmur
21. C2072699| new systolic interscapular murmur
22. C2072707| new diastolic interscapular murmur
23. C2072734| new continuous interscapular murmur

3.11 “protocols” (degree 23) <no change from last year>
Except for ‘Protocols documentation’, the remaining cases should be suppressed because they mean something more specific than “protocols”. The concepts involved are

1. C0442711| Protocols documentation
2. C0542547| Protocols: Activities
3. C0677556| Protocols: Pre- or Intra- or Post-Procedure
4. C0677557| Protocols: Urinary Elimination
5. C0677558| Protocols: Tissue Perfusion
6. C0677559| Protocols: Tissue Integrity
7. C0677560| Protocols: Sensation, Pain and Comfort
8. C0677561| Protocols: Self-Concept
9. C0677562| Protocols: Self-Care
10. C0677563| Protocols: Safety
11. C0677564| Protocols: Role Relationship
12. C0677565| Protocols: Respiration
15. C0677568| Protocols: Metabolism
16. C0677569| Protocols: Medications and Blood Products
17. C0677570| Protocols: Immunology
18. C0677571| Protocols: Health Behavior
19. C0677572| Protocols: Fluid and Electrolyte
20. C0677573| Protocols: Coping
22. C0677575| Protocols: Circulation
23. C0677576| Protocols: Bowel Elimination

3.12 “high-pitched” (degree 22)
Except for ‘High pitched voice’, the remaining cases should be suppressed because they mean something more specific than “high-pitched”. The concepts involved are

1. C0241703| High pitched voice
2. C2030957| high-pitched continuous axillary murmur
3. C2030958| high-pitched continuous interscapular murmur
4. C2030959| high-pitched diastolic interscapular murmur
5. C2030960| high-pitched systolic interscapular murmur
6. C2071927| murmur left upper sternal border systolic high-pitched
7. C2071975| murmur left upper sternal border diastolic high-pitched
3. Higher Degree Metathesaurus Ambiguity

8. C2072022| murmure left upper sternal border continuous high-pitched
9. C2072071| murmure right upper sternal border systolic high-pitched
10. C2072118| murmure right upper sternal border diastolic high-pitched
11. C2072165| murmure right upper sternal border continuous high-pitched
12. C2072214| murmure right lower sternal border systolic high-pitched
13. C2072257| murmure right lower sternal border diastolic high-pitched
14. C2072304| murmure right lower sternal border continuous high-pitched
15. C2072350| murmure left lower sternal border systolic high-pitched
16. C2072394| murmure left lower sternal border diastolic high-pitched
17. C2072437| murmure left lower sternal border continuous high-pitched
18. C2072483| murmure apical systolic high-pitched
19. C2072527| murmure apical diastolic high-pitched
20. C2072570| murmure apical continuous high-pitched
21. C2072616| murmure axilla systolic high-pitched
22. C2072651| murmure axilla diastolic high-pitched

3.13 “clearest at end exhalation in the left lateral recumbent position” (degree 21)
All twenty-one cases should be suppressed because they are specific kinds of “clearest at end exhalation in the left lateral recumbent position”. Their concepts are

1. C2039723| systolic interscapular murmure heard best with patient in left lateral recumbent position in full expiration
2. C2071947| murmure left upper sternal border systolic heard clearest left lateral recumbent position at end of expiration
3. C2071995| murmure left upper sternal border diastolic heard clearest left lateral recumbent position at end of expiration
4. C2072041| murmure left upper sternal border continuous heard clearest left lateral recumbent position at end of expiration
5. C2072090| murmure right upper sternal border systolic heard clearest left lateral recumbent position at end of expiration
6. C2072138| murmure right upper sternal border diastolic heard clearest left lateral recumbent position at end of expiration
7. C2072184| murmure right upper sternal border continuous heard clearest left lateral recumbent position at end of expiration
8. C2072229| murmure right lower sternal border systolic heard clearest left lateral recumbent position at end of expiration
9. C2072273| murmure right lower sternal border diastolic heard clearest left lateral recumbent position at end of expiration
10. C2072320| murmure right lower sternal border continuous heard clearest left lateral recumbent position at end of expiration
11. C2072366| murmure left lower sternal border systolic heard clearest left lateral recumbent position at end of expiration
12. C2072410| murmure left lower sternal border diastolic heard clearest left lateral recumbent position at end of expiration
13. C2072453| murmure left lower sternal border continuous heard clearest in left lateral recumbent position at end of expiration
14. C2072499| murmure apical systolic heard clearest in left lateral recumbent position at end of expiration
3. Higher Degree Metathesaurus Ambiguity

15. C2072543| diastolic apical murmur heard clearest in left lateral recumbent position in end expiration
16. C2072586| continuous apical murmur heard clearest in left lateral recumbent position in end expiration
17. C2072623| diastolic apical systolic murmur heard clearest in left lateral recumbent position at end of expiration
18. C2072658| diastolic axillary murmur heard clearest in left lateral recumbent position at end of expiration
19. C2072685| continuous axillary murmur heard best with patient in left lateral recumbent position in full expiration
20. C2072720| diastolic interscapular murmur heard best with patient in left lateral recumbent position in full expiration
21. C2072747| continuous interscapular murmur heard best with patient in left lateral recumbent position in full expiration

3.14 “clearest at end exhalation while sitting and leaning forward” (degree 21)

All twenty-one cases should be suppressed because they are specific kinds of “clearest at end exhalation while sitting and leaning forward”. Their concepts are

1. C2039724| systolic interscapular murmur heard best with patient sitting up leaning forward in full expiration
2. C2071946| murmur left upper sternal border systolic heard clearest with patient sitting and leaning forward at end exhalation
3. C2071994| murmur left upper sternal border diastolic heard clearest with patient sitting and leaning forward at end of expiration
4. C2072040| murmur left upper sternal border continuous heard clearest with patient sitting and leaning forward at end of expiration
5. C2072089| murmur right upper sternal border systolic heard clearest with patient sitting and leaning forward at end of expiration
6. C2072137| murmur right upper sternal border diastolic heard clearest with patient sitting and leaning forward at end of expiration
7. C2072183| murmur right upper sternal border continuous heard clearest with patient sitting and leaning forward at end of expiration
8. C2072228| murmur right lower sternal border systolic heard clearest with patient sitting and leaning forward at end of expiration
9. C2072272| murmur right lower sternal border diastolic heard clearest with patient sitting and leaning forward at end of expiration
10. C2072319| murmur right lower sternal border continuous heard clearest with patient sitting and leaning forward at end of expiration
11. C2072365| murmur left lower sternal border systolic heard clearest with patient sitting and leaning forward at end of expiration
12. C2072409| murmur left lower sternal border diastolic heard clearest with patient sitting and leaning forward at end of expiration
13. C2072452| murmur left lower sternal border continuous heard clearest with patient sitting and leaning forward at end of expiration
14. C2072498| murmur apical systolic heard clearest with patient sitting and leaning forward at end expiration
3. Higher Degree Metathesaurus Ambiguity

15. **C2072542** | diastolic apical murmur heard clearest with patient sitting and leaning forward in end expiration
16. **C2072585** | continuous apical murmur heard clearest with patient sitting and leaning forward in end expiration
17. **C2072622** | murmur axilla systolic heard clearest with patient sitting and leaning forward at end expiration
18. **C2072657** | murmur axilla diastolic heard clearest with patient sitting and leaning forward at end expiration
19. **C2072684** | continuous axillary murmur heard best with patient sitting up leaning forward in full expiration
20. **C2072719** | diastolic interscapular murmur heard best with patient sitting up leaning forward in full expiration
21. **C2072746** | continuous interscapular murmur heard best with patient sitting up leaning forward in full expiration

3.15 “harsh” (degree 21)
All twenty-one cases should be suppressed because they are specific kinds of “harsh”. Their concepts are

1. **C2029356** | harsh continuous axillary murmur
2. **C2029357** | harsh continuous interscapular murmur
3. **C2029359** | harsh diastolic interscapular murmur
4. **C2029360** | harsh systolic interscapular region
5. **C2071928** | murmur left upper sternal border systolic harsh
6. **C2071976** | murmur left upper sternal border diastolic harsh
7. **C2072023** | murmur left upper sternal border continuous harsh
8. **C2072072** | murmur right upper sternal border systolic harsh
9. **C2072119** | murmur right upper sternal border diastolic harsh
10. **C2072166** | murmur right upper sternal border continuous harsh
11. **C2072215** | murmur right lower sternal border systolic harsh
12. **C2072258** | murmur right lower sternal border diastolic harsh
13. **C2072305** | murmur right lower sternal border continuous harsh
14. **C2072351** | murmur left lower sternal border systolic harsh
15. **C2072395** | murmur left lower sternal border diastolic harsh
16. **C2072438** | murmur left lower sternal border continuous harsh
17. **C2072484** | murmur apical systolic harsh
18. **C2072528** | murmur apical diastolic harsh
19. **C2072571** | murmur apical continuous harsh
20. **C2072617** | murmur axilla systolic harsh
21. **C2072652** | murmur axilla diastolic harsh

3.16 “intermittent” (degree 21)
Except for ‘Intermittent’, the remaining cases should be suppressed because they mean something more specific than “intermittent”. The concepts involved are

1. **C0205267** | Intermittent
2. **C2039746** | systolic interscapular murmur with intermittent pattern
3. **C2108127** | continuous interscapular murmur with intermittent pattern
4. C2183337| diastolic interscapular murmur with intermittent pattern
5. C2221248| murmur left upper sternal border systolic intermittent
6. C2221251| murmur left upper sternal border diastolic intermittent
7. C2221255| murmur left upper sternal border continuous intermittent
8. C2221259| murmur right upper sternal border systolic intermittent
9. C2221263| murmur right upper sternal border diastolic intermittent
10. C2221267| murmur right upper sternal border continuous intermittent
11. C2221271| murmur right lower sternal border systolic intermittent
12. C2221275| murmur right lower sternal border diastolic intermittent
13. C2221279| murmur right lower sternal border continuous intermittent
14. C2221283| murmur left lower sternal border systolic intermittent
15. C2221291| murmur left lower sternal border continuous intermittent
16. C2221295| murmur apical systolic intermittent
17. C2221299| murmur apical diastolic intermittent
18. C2221303| murmur apical continuous intermittent
19. C2221307| murmur axilla systolic intermittent
20. C2221311| murmur axilla diastolic intermittent
21. C2221313| murmur axilla continuous intermittent

3.17 “low-pitched” (degree 21)

All twenty-one cases should be suppressed because they are specific kinds of “low-pitched”. Their concepts are

1. C2071925| murmur left upper sternal border systolic low-pitched
2. C2071973| murmur left upper sternal border diastolic low-pitched
3. C2072020| murmur left upper sternal border continuous low-pitched
4. C2072069| murmur right upper sternal border systolic low-pitched
5. C2072116| murmur right upper sternal border diastolic low-pitched
6. C2072163| murmur right upper sternal border continuous low-pitched
7. C2072212| murmur right lower sternal border systolic low-pitched
8. C2072255| murmur right lower sternal border diastolic low-pitched
9. C2072302| murmur right lower sternal border continuous low-pitched
10. C2072348| murmur left lower sternal border systolic low-pitched
11. C2072392| murmur left lower sternal border diastolic low-pitched
12. C2072435| murmur left lower sternal border continuous low-pitched
13. C2072481| murmur apical systolic low-pitched
14. C2072525| murmur apical diastolic low-pitched
15. C2072568| murmur apical continuous low-pitched
16. C2072614| murmur axilla systolic low-pitched
17. C2072649| murmur axilla diastolic low-pitched
18. C2072678| low-pitched continuous axillary murmur
19. C2072701| low-pitched systolic interscapular murmur
20. C2072713| low-pitched diastolic interscapular murmur
21. C2072740| low-pitched continuous interscapular murmur
3. Higher Degree Metathesaurus Ambiguity

3.18 “medium-pitched” (degree 21)
All twenty-one cases should be suppressed because they are specific kinds of “medium-pitched”. Their concepts are

1. C2071926 | murmur left upper sternal border systolic medium-pitched
2. C2071974 | murmur left upper sternal border diastolic medium-pitched
3. C2072021 | murmur left upper sternal border continuous medium pitched
4. C2072070 | murmur right upper sternal border systolic medium pitched
5. C2072117 | murmur right upper sternal border diastolic medium-pitched
6. C2072164 | murmur right upper sternal border continuous medium pitched
7. C2072213 | murmur right lower sternal border systolic medium-pitched
8. C2072256 | murmur right lower sternal border diastolic medium-pitched
9. C2072303 | murmur right lower sternal border continuous medium-pitched
10. C2072349 | murmur left lower sternal border systolic medium-pitched
11. C2072393 | murmur left lower sternal border diastolic medium-pitched
12. C2072436 | murmur left lower sternal border continuous medium-pitched
13. C2072482 | murmur apical systolic medium-pitched
14. C2072526 | murmur apical diastolic medium-pitched
15. C2072569 | murmur apical continuous medium-pitched
16. C2072615 | murmur axilla systolic medium-pitched
17. C2072650 | murmur axilla diastolic medium-pitched
18. C2072679 | medium-pitched continuous axillary murmur
19. C2072702 | medium-pitched systolic interscapular murmur
20. C2072714 | medium-pitched diastolic interscapular murmur
21. C2072741 | medium-pitched continuous interscapular murmur

3.19 “crescendo pattern” (degree 20)
All twenty cases should be suppressed because they are specific kinds of “crescendo pattern”. Their concepts are

1. C2039742 | systolic interscapular murmur with crescendo pattern
2. C2071920 | murmur left upper sternal border systolic crescendo
3. C2071968 | murmur left upper sternal border diastolic crescendo
4. C2072016 | murmur left upper sternal border continuous crescendo
5. C2072064 | murmur right upper sternal border systolic crescendo
6. C2072111 | murmur right upper sternal border diastolic crescendo
7. C2072159 | murmur right upper sternal border continuous crescendo
8. C2072207 | murmur right lower sternal border systolic crescendo
9. C2072250 | murmur right lower sternal border diastolic crescendo
10. C2072343 | murmur left lower sternal border systolic crescendo
11. C2072387 | murmur left lower sternal border diastolic crescendo
12. C2072431 | murmur left lower sternal border continuous crescendo
13. C2072476 | murmur apical systolic crescendo
14. C2072520 | murmur apical diastolic crescendo
15. C2072564 | murmur apical continuous crescendo
16. C2072609 | murmur axilla systolic crescendo
17. C2072644 | murmur axilla diastolic crescendo
18. C2072674 | continuous axillary murmur with crescendo pattern
3. Higher Degree Metathesaurus Ambiguity

19. C2072709| diastolic interscapular murmur with crescendo pattern
20. C2072736| continuous interscapular murmur with crescendo pattern

3.20 “crescendo-decrescendo pattern” (degree 20)
All twenty cases should be suppressed because they are specific kinds of “crescendo-decrescendo pattern”. Their concepts are
1. C2039743| systolic interscapular murmur with crescendo-decrescendo pattern
2. C2071922| murmur left upper sternal border systolic crescendo-decrescendo
3. C2071970| murmur left upper sternal border diastolic crescendo-decrescendo
4. C2072018| murmur left upper sternal border continuous crescendo-decrescendo
5. C2072066| murmur right upper sternal border systolic crescendo-decrescendo
6. C2072113| murmur right upper sternal border diastolic crescendo-decrescendo
7. C2072161| murmur right upper sternal border continuous crescendo-decrescendo
8. C2072209| murmur right lower sternal border systolic crescendo-decrescendo
9. C2072252| murmur right lower sternal border diastolic crescendo-decrescendo
10. C2072345| murmur right lower sternal border continuous crescendo-decrescendo
11. C2072389| murmur left lower sternal border systolic crescendo-decrescendo
12. C2072433| murmur left lower sternal border diastolic crescendo-decrescendo
13. C2072478| murmur apical systolic crescendo-decrescendo
14. C2072522| murmur apical diastolic crescendo-decrescendo
15. C2072566| murmur apical continuous crescendo-decrescendo
16. C2072611| murmur axilla systolic crescendo-decrescendo
17. C2072646| murmur axilla diastolic crescendo-decrescendo
18. C2072676| continuous axillary murmur with crescendo-decrescendo pattern
19. C2072711| diastolic interscapular murmur with crescendo-decrescendo pattern
20. C2072738| continuous interscapular murmur with crescendo-decrescendo pattern

3.21 “decrescendo pattern” (degree 20)
All twenty cases should be suppressed because they are specific kinds of “decrescendo pattern”. Their concepts are
1. C2039744| systolic interscapular murmur with decrescendo pattern
2. C2071921| murmur left upper sternal border systolic decrescendo
3. C2071969| murmur left upper sternal border diastolic decrescendo
4. C2072017| murmur left upper sternal border continuous decrescendo
5. C2072065| murmur right upper sternal border systolic decrescendo
6. C2072112| murmur right upper sternal border diastolic decrescendo
7. C2072160| murmur right upper sternal border continuous decrescendo
8. C2072208| murmur right lower sternal border systolic decrescendo
9. C2072251| murmur right lower sternal border diastolic decrescendo
10. C2072344| murmur left lower sternal border systolic decrescendo
11. C2072388| murmur left lower sternal border diastolic decrescendo
12. C2072432| murmur left lower sternal border continuous decrescendo
13. C2072477| murmur apical systolic decrescendo
14. C2072521| murmur apical diastolic decrescendo
15. C2072565| murmur apical continuous decrescendo
16. C2072610| murmur axilla systolic decrescendo
17. C2072645| murmur axilla diastolic decrescendo
18. C2072675| continuous axillary murmur with decrescendo pattern
19. C2072710| diastolic interscapular murmur with decrescendo pattern
20. C2072737| continuous interscapular murmur with decrescendo pattern

3.22 “assessment” (degree 19)
Except for ‘Evaluation procedure’ and ‘Assessed’, the remaining cases should be suppressed because they are specific kinds of “assessment”. The concepts involved are
1. C0028708| Nutrition Assessment
2. C0031809| Physical Examination
3. C0542573| Assessment: Bowel Elimination
4. C0549068| Assessment: Circulation
5. C0549070| Assessment: Coping
6. C0549071| Assessment: Fluid and Electrolytes
7. C0549072| Assessment: Health Behavior
8. C0549073| Assessment: Medications and Blood Products
9. C0549074| Assessment: Metabolism
10. C0549075| Assessment: Respiration
11. C0549076| Assessment: Safety
12. C0549077| Assessment: Self-Care
13. C0549078| Assessment: Sensation, Pain and Comfort
14. C0549079| Assessment: Urinary Elimination
15. C0549080| Assessment: Pre- or Intra- or Post-Procedure
17. C0870300| Assessment: Cognition
18. C1261322| Evaluation procedure
19. C1516048| Assessed

3.23 “it had a blowing quality” (degree 19)
All nineteen cases should be suppressed because they are specific kinds of “it had a blowing quality”. Their concepts are
1. C2072025| continuous blowing murmur along left upper sternal border
2. C2072074| murmur right upper sternal border systolic blowing
3. C2072121| murmur right upper sternal border diastolic blowing
4. C2072168| murmur right upper sternal border continuous blowing
5. C2072217| murmur right lower sternal border systolic blowing
6. C2072260| murmur right lower sternal border diastolic blowing
7. C2072307| murmur right lower sternal border continuous blowing
8. C2072353| murmur left lower sternal border systolic blowing
9. C2072397| murmur left lower sternal border diastolic blowing
10. C2072440| murmur left lower sternal border continuous blowing
11. C2072486| murmur apical systolic blowing
12. C2072530| murmur apical diastolic blowing
13. C2072573| murmur apical continuous blowing
14. C2072619| murmur axilla systolic blowing
15. C2072654| murmur axilla diastolic blowing
3. Higher Degree Metathesaurus Ambiguity

16. C2072681| blowing continuous axillary murmur
17. C2072704| blowing systolic interscapular region
18. C2072716| blowing diastolic interscapular murmur
19. C2072743| blowing continuous interscapular murmur

3.24 “presystolic accentuation” (degree 19)
All nineteen cases should be suppressed because they are specific kinds of “presystolic accentuation”. Their concepts are
1. C2039749| systolic interscapular murmur with presystolic accentuation pattern
2. C2071923| murmur left upper sternal border systolic with presystolic accentuation
3. C2071971| murmur left upper sternal border diastolic with presystolic accentuation
4. C2072019| murmur left upper sternal border continuous with presystolic accentuation
5. C2072067| murmur right upper sternal border systolic with presystolic accentuation
6. C2072114| murmur right upper sternal border diastolic with presystolic accentuation
7. C2072162| murmur right upper sternal border continuous with presystolic accentuation
8. C2072210| murmur right lower sternal border systolic with presystolic accentuation
9. C2072253| murmur right lower sternal border diastolic with presystolic accentuation
10. C2072346| murmur left lower sternal border systolic with presystolic accentuation
11. C2072390| murmur left lower sternal border diastolic with presystolic accentuation
12. C2072434| murmur left lower sternal border continuous with presystolic accentuation
13. C2072479| murmur apical systolic with presystolic accentuation
14. C2072567| murmur apical continuous with presystolic accentuation
15. C2072612| murmur axilla systolic with presystolic accentuation
16. C2072647| murmur axilla diastolic with presystolic accentuation
17. C2072677| continuous axillary murmur with presystolic accentuation pattern
18. C2072712| diastolic interscapular murmur with presystolic accentuation pattern
19. C2072739| continuous interscapular murmur with presystolic accentuation

3.25 “ec 2.7.1.112” (degree 18) <no change from last year>
All Enzyme Commission (EC) numbers (strings beginning “ec <integer>.”) are suppressed by MetaMap because they represent classes of enzymes and are consequently highly ambiguous. The concepts involved are
1. C0033681| Protein Tyrosine Kinase
2. C0065344| Lymphocyte Specific Protein Tyrosine Kinase p56(lck)
3. C0109317| EphB2 Receptor
4. C0117718| fibroblast growth factor receptor 3
5. C0138965| protein-tyrosine kinase c-src
6. C0169658| Janus kinase 1
7. C0169661| Janus kinase 2
8. C0290067| Platelet-Derived Growth Factor alpha Receptor
9. C0290068| Platelet-Derived Growth Factor beta Receptor
10. C0907648| Ephrin Receptor EphB1
11. C0915156| Ephrin Receptor EphA8
12. C1259418| MERTK protein, human
13. C1333408| EPHA4 protein, human
14. C1333409| EPHB3 protein, human
3. Higher Degree Metathesaurus Ambiguity

15. C1333410| EPHA2 protein, human
16. C1334392| LTK protein, human
17. C1370509| EPHA1 protein, human
18. C1504624| KDR protein, human

3.26 “patient education plans” (degree 18) <no change from last year>

All eighteen cases should be suppressed because they are specific kinds of “patient education plans”. Their concepts are

1. C0549081| Patient Education Plans: Activities
2. C0549082| Patient Education Plans: Bowel Elimination
3. C0549083| Patient Education Plans: Circulation
4. C0549084| Patient Education Plans: Coping
5. C0549085| Patient Education Plans: Health Behavior
6. C0549086| Patient Education Plans: Immunology
7. C0549087| Patient Education Plans: Medications and Blood Products
8. C0549088| Patient Education Plans: Metabolism
11. C0549091| Patient Education Plans: Respiration
12. C0549092| Patient Education Plans: Role Relationship
13. C0549093| Patient Education Plans: Safety
14. C0549094| Patient Education Plans: Self-Care
15. C0549095| Patient Education Plans: Sensation, Pain and Comfort
16. C0549096| Patient Education Plans: Tissue Integrity
17. C0549097| Patient Education Plans: Urinary Elimination
18. C0549098| Patient Education Plans: Pre- or Intra- or Post-Procedure

3.27 “rumbling” (degree 18)

All eighteen cases should be suppressed because they are specific kinds of “rumbling”. Their concepts are

1. C2071931| murmur left upper sternal border systolic rumbling
2. C2071979| murmur left upper sternal border diastolic rumbling
3. C2072122| murmur right upper sternal border diastolic rumbling
4. C2072261| murmur right lower sternal border diastolic rumbling
5. C2072290| murmur right lower sternal border systolic rumbling
6. C2072308| murmur right lower sternal border continuous rumbling
7. C2072354| murmur left lower sternal border systolic rumbling
8. C2072398| murmur left lower sternal border diastolic rumbling
9. C2072441| murmur left lower sternal border continuous rumbling
10. C2072487| murmur apical systolic rumbling
11. C2072531| murmur apical diastolic rumbling
12. C2072574| murmur apical continuous rumbling
13. C2072620| murmur axilla systolic rumbling
14. C2072655| murmur axilla diastolic rumbling
15. C2072682| rumbling continuous axillary murmur
16. C2072705| rumbling systolic interscapular region
3. Higher Degree Metathesaurus Ambiguity

17. C2072717| rumbling diastolic interscapular murmur
18. C2072744| rumbling continuous interscapular murmur

3.28 “changed since previous exam” (degree 17)
All seventeen cases should be suppressed because they are specific kinds of “changed since previous exam”. Their concepts are

1. C2045662| change in continuous axillary murmur
2. C2045685| changed continuous interscapular murmur
3. C2045686| changed diastolic interscapular murmur
4. C2045687| changed systolic interscapular murmur
5. C2071884| murmur left upper sternal border systolic changed
6. C2071962| murmur left upper sternal border diastolic changed
7. C2072010| continuous murmur along left upper sternal border changed since previous exam
8. C2072105| murmur right upper sternal border diastolic changed
9. C2072244| murmur right lower sternal border diastolic changed
10. C2072292| murmur right lower sternal border continuous changed
11. C2072335| murmur left lower sternal border systolic changed
12. C2072381| murmur left lower sternal border diastolic changed
13. C2072468| murmur apical systolic changed
14. C2072514| murmur apical diastolic changed
15. C2072558| murmur apical continuous changed
16. C2072601| murmur axilla systolic changed
17. C2072638| murmur axilla diastolic changed

3.29 “it had a musical quality” (degree 17)
All seventeen cases should be suppressed because they are specific kinds of “it had a musical quality”. Their concepts are

1. C2072120| murmur right upper sternal border diastolic musical
2. C2072167| murmur right upper sternal border continuous musical
3. C2072216| murmur right lower sternal border systolic musical
4. C2072259| murmur right lower sternal border diastolic musical
5. C2072306| murmur right lower sternal border continuous musical
6. C2072352| murmur left lower sternal border systolic musical
7. C2072396| murmur left lower sternal border diastolic musical
8. C2072439| murmur left lower sternal border continuous musical
9. C2072485| murmur apical systolic musical
10. C2072529| murmur apical diastolic musical
11. C2072572| murmur apical continuous musical
12. C2072618| murmur axilla systolic musical
13. C2072653| murmur axilla diastolic musical
14. C2072680| musical continuous axillary murmur
15. C2072703| musical systolic interscapular region
16. C2072715| musical diastolic interscapular murmur
17. C2072742| musical continuous interscapular murmur
3.00 “transmitted” (degree 17)
Except for ‘disease transmission’ and ‘transmission process’, the remaining cases should be suppressed because they mean something more specific than “transmitted”. The concepts involved are

1. C0242781| disease transmission
2. C1521797| transmission process
3. C2071932| murmur left upper sternal border systolic transmitted
4. C2071980| murmur left upper sternal border diastolic transmitted
5. C2072026| murmur left upper sternal border continuous transmitted
6. C2072075| murmur right upper sternal border systolic transmitted
7. C2072123| murmur right upper sternal border diastolic transmitted
8. C2072169| murmur right upper sternal border continuous transmitted
9. C2072218| murmur right lower sternal border systolic transmitted
10. C2072262| murmur right lower sternal border diastolic transmitted
11. C2072309| murmur right lower sternal border continuous transmitted
12. C2072355| murmur left lower sternal border systolic transmitted
13. C2072399| murmur left lower sternal border diastolic transmitted
14. C2072442| murmur left lower sternal border continuous transmitted
15. C2072488| murmur apical systolic transmitted
16. C2072532| murmur apical diastolic transmitted
17. C2072575| murmur apical continuous transmitted

3.11 “constant” (degree 16)
Except for ‘Constant (qualifier)’, the remaining cases should be suppressed because they mean something more specific than “constant”. The concepts involved are

1. C1720529| Constant - dosing instruction fragment
2. C1948059| Constant (qualifier)
3. C2071919| murmur left upper sternal border systolic constant
4. C2071967| murmur left upper sternal border diastolic constant
5. C2072063| murmur right upper sternal border systolic constant
6. C2072110| murmur right upper sternal border diastolic constant
7. C2072206| murmur right lower sternal border systolic constant
8. C2072249| murmur right lower sternal border diastolic constant
9. C2072342| murmur left lower sternal border systolic constant
10. C2072386| murmur left lower sternal border diastolic constant
11. C2072475| murmur apical systolic constant
12. C2072519| murmur apical diastolic constant
13. C2072608| murmur axilla systolic constant
14. C2072643| murmur axilla diastolic constant
15. C2072700| murmur interscapular systolic constant
16. C2072708| diastolic interscapular murmur with constant pattern

3.22 “ar” (degree 15)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
3. Higher Degree Metathesaurus Ambiguity

1. C0003504 | Aortic Valve Insufficiency
2. C0003761 | Country of Argentina
3. C0003790 | Arkansas
4. C0051755 | Amphiregulin
5. C0332284 | Arising in
6. C0559546 | Adverse reactions
7. C0560271 | acre
8. C1367578 | AR gene
9. C1412322 | AKR1B1 gene
10. C1447749 | AR protein, human
11. C1514768 | Recombinant Amphiregulin
12. C1551058 | are unit of measure
13. C1704744 | Suppository Dosing Unit
14. C1704903 | AREG wt Allele
15. C1705240 | AR wt Allele

3.33 “ec 2.1.1.43” (degree 15)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C2348051 | DOT1L wt Allele
2. C2348110 | SETD2 wt Allele
3. C2348111 | SETD7 wt Allele
4. C2348112 | SETD8 wt Allele
5. C2348121 | SUV39H1 wt Allele
6. C2348122 | SUV39H2 wt Allele
7. C2348123 | SUV420H1 wt Allele
8. C2348124 | SUV420H2 wt Allele
9. C2348977 | Histone-Lysine N-Methyltransferase SETD2
10. C2348978 | Histone-Lysine N-Methyltransferase SETD8
11. C2348979 | Histone-Lysine N-Methyltransferase SUV39H2
12. C2348980 | Histone-Lysine N-Methyltransferase SUV420H1
13. C2348981 | Histone-Lysine N-Methyltransferase SUV420H2
14. C2348982 | Histone-Lysine N-Methyltransferase SETD7
15. C2348983 | Histone-Lysine N-Methyltransferase SUV39H1

3.34 “emergency” (degree 15) <no change from last year>
Except for ‘Emergency Situation’ and ‘Bale out’, the remaining cases should be suppressed because they are specific kinds of “emergency”. The concepts involved are

1. C0013956 | Emergency Situation
2. C0175673 | Bale out
3. C1546399 | Encounter Admission Source - emergency
5. C1547144 | Specialty Type - Emergency
6. C1552231 | Clinical Nurse Specialist - Emergency
7. C1553500 | Act Code - emergency
8. C1555975 | Registered Nurse - Emergency
3. Higher Degree Metathesaurus Ambiguity

9. C1561583 | Patient Class - Emergency
10. C1561584 | Certification patient type - Emergency
11. C1561585 | Level of Care - Emergency
12. C1561586 | Consent Bypass Reason - Emergency
13. C1561587 | Referral category - Emergency
14. C1561588 | Admission Type - Emergency
15. C1561589 | Consent Non-Disclosure Reason - Emergency

3.35 “pap” (degree 15)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
1. C0030350 | Papaverine
2. C0312402 | Acid phosphatase isoenzyme, prostatic fraction
3. C1367456 | ACPP gene
4. C1413944 | DDEF1 gene
5. C1413945 | DDEF2 gene
6. C1418410 | MRPS30 gene
7. C1422804 | PDAP1 gene
8. C1423108 | PAPOLA gene
9. C1424700 | TUSC2 gene
10. C1538823 | REG3A gene
11. C1705529 | ACPP wt Allele
12. C1705530 | PAPOLA wt Allele
13. C1705531 | TUSC2 wt Allele
14. C1970472 | PULMONARY ALVEOLAR PROTEINOSIS, ACQUIRED
15. C2266415 | polyphosphate:AMP phosphotransferase activity

3.36 “transmitted to the axilla” (degree 15)
All fifteen cases should be suppressed because they are specific kinds of “transmitted to the axilla”. Their concepts are
1. C2071942 | murmur left upper sternal border systolic transmitted to right clavicle
2. C2071990 | murmur left upper sternal border diastolic transmitted to right clavicle
3. C2072036 | murmur left upper sternal border continuous transmitted to right clavicle
4. C2072085 | murmur right upper sternal border systolic transmitted to right clavicle
5. C2072133 | murmur right upper sternal border diastolic transmitted to right clavicle
6. C2072179 | murmur right upper sternal border continuous transmitted to right clavicle
7. C2072224 | murmur right lower sternal border systolic transmitted to right clavicle
8. C2072268 | murmur right lower sternal border diastolic transmitted to right clavicle
9. C2072315 | murmur right lower sternal border continuous transmitted to right clavicle
10. C2072361 | murmur left lower sternal border systolic transmitted to right clavicle
11. C2072405 | murmur left lower sternal border diastolic transmitted to right clavicle
12. C2072448 | murmur left lower sternal border continuous transmitted to right clavicle
13. C2072494 | murmur apical systolic transmitted to right clavicle
14. C2072538 | murmur apical diastolic transmitted to right clavicle
15. C2072581 | murmur apical continuous transmitted to right clavicle
3.37 “transmitted to the base” (degree 15)

All fifteen cases should be suppressed because they are specific kinds of “transmitted to the base”. Their concepts are

1. C2071938| murmural left upper sternal border systolic transmitted to base
2. C2071986| murmural left upper sternal border diastolic transmitted to base
3. C2072032| murmural left upper sternal border continuous transmitted to the base
4. C2072081| murmural right upper sternal border systolic transmitted to base
5. C2072129| murmural right upper sternal border diastolic transmitted to base
6. C2072175| murmural right upper sternal border continuous transmitted to base
7. C2072220| murmural right lower sternal border systolic transmitted to base
8. C2072264| murmural right lower sternal border diastolic transmitted to base
9. C2072311| murmural right lower sternal border continuous transmitted to base
10. C2072357| murmural left lower sternal border systolic transmitted to base
11. C2072401| murmural left lower sternal border diastolic transmitted to base
12. C2072444| murmural left lower sternal border continuous transmitted to base
13. C2072491| murmural apical systolic transmitted to base
14. C2072535| murmural apical diastolic transmitted to base
15. C2072578| murmural apical continuous transmitted to base

3.38 “transmitted to the interscapular region” (degree 15)

All fifteen cases should be suppressed because they are specific kinds of “transmitted to the interscapular region”. Their concepts are

1. C2071944| murmural left upper sternal border systolic transmitted to interscapular region
2. C2071992| murmural left upper sternal border diastolic transmitted to interscapular region
3. C2072038| murmural left upper sternal border continuous transmitted to interscapular region
4. C2072087| murmural right upper sternal border systolic transmitted to interscapular region
5. C2072135| murmural right upper sternal border diastolic transmitted to interscapular region
6. C2072181| murmural right upper sternal border continuous transmitted to interscapular region
7. C2072226| murmural right lower sternal border systolic transmitted to interscapular region
8. C2072270| murmural right lower sternal border diastolic transmitted to interscapular region
9. C2072317| murmural right lower sternal border continuous transmitted to interscapular region
10. C2072363| murmural left lower sternal border systolic transmitted to interscapular region
11. C2072407| murmural left lower sternal border diastolic transmitted to interscapular region
12. C2072450| murmural left lower sternal border continuous transmitted to interscapular region
13. C2072496| murmural apical systolic transmitted to interscapular region
14. C2072540| murmure apical diastolic transmitted to interscapular region
15. C2072583| murmure apical continuous transmitted to interscapular region

3.39 “transmitted to the left clavicle” (degree 15)
All fifteen cases should be suppressed because they are specific kinds of “transmitted to the left clavicle”. Their concepts are

1. C2071941| murmure left upper sternal border systolic transmitted to left clavicle
2. C2071989| murmure left upper sternal border diastolic transmitted to left clavicle
3. C2072035| murmure left upper sternal border continuous transmitted to left clavicle
4. C2072084| murmure right upper sternal border systolic transmitted to left clavicle
5. C2072132| murmure right upper sternal border diastolic transmitted to left clavicle
6. C2072178| murmure right upper sternal border continuous transmitted to left clavicle
7. C2072223| murmure right lower sternal border systolic transmitted to left clavicle
8. C2072267| murmure right lower sternal border diastolic transmitted to left clavicle
9. C2072314| murmure right lower sternal border continuous transmitted to left clavicle
10. C2072360| murmure left lower sternal border systolic transmitted to left clavicle
11. C2072404| murmure left lower sternal border diastolic transmitted to left clavicle
12. C2072447| murmure left lower sternal border continuous transmitted to left clavicle
13. C2072493| murmure apical systolic transmitted to left clavicle
14. C2072537| murmure apical diastolic transmitted to left clavicle
15. C2072580| murmure apical continuous transmitted to left clavicle

3.40 “transmitted to the right clavicle” (degree 15)
All fifteen cases should be suppressed because they are specific kinds of “transmitted to the right clavicle”. Their concepts are

1. C2071942| murmure left upper sternal border systolic transmitted to right clavicle
2. C2071990| murmure left upper sternal border diastolic transmitted to right clavicle
3. C2072036| murmure left upper sternal border continuous transmitted to right clavicle
4. C2072085| murmure right upper sternal border systolic transmitted to right clavicle
5. C2072133| murmure right upper sternal border diastolic transmitted to right clavicle
6. C2072179| murmure right upper sternal border continuous transmitted to right clavicle
7. C2072224| murmure right lower sternal border systolic transmitted to right clavicle
8. C2072268| murmure right lower sternal border diastolic transmitted to right clavicle
9. C2072315| murmure right lower sternal border continuous transmitted to right clavicle
10. C2072361| murmure left lower sternal border systolic transmitted to right clavicle
11. C2072405| murmure left lower sternal border diastolic transmitted to right clavicle
12. C2072448| murmure left lower sternal border continuous transmitted to right clavicle
13. C2072494| murmure apical systolic transmitted to right clavicle
14. C2072538| murmure apical diastolic transmitted to right clavicle
15. C2072581| murmure apical continuous transmitted to right clavicle

3.41 “cap” (degree 14) <no change from last year>
Except for ‘Caps’, ‘Syringe Caps’, and ‘Cap Device Component’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. The concepts involved are
3. Higher Degree Metathesaurus Ambiguity

1. C0006935 | capsule (pharmacologic)
2. C0179586 | Caps
3. C0278651 | cyclophosphamide/doxorubicin/prednisone protocol
4. C0280547 | cisplatin/cyclophosphamide/doxorubicin protocol
5. C1416891 | LNPEP gene
6. C1418551 | SERPINB6 gene
7. C1419093 | PTPLA gene
8. C1422073 | BRD4 gene
9. C1422760 | SORBS1 gene
10. C1426630 | CAP1 gene
11. C1657858 | Syringe Caps
12. C1706092 | Cap Device Component
13. C1706433 | Capsule Dosing Unit
14. C1855179 | CATARACT, ANTERIOR POLAR

3.42 “none” (degree 14) <no change from last year>
Except for ‘None’, the remaining cases should be suppressed because they are specific kinds of “none”. The concepts involved are

1. C0549184 | None
2. C1546509 | none - TableRules
3. C1547191 | none - ResponseLevel
4. C1550083 | None - EntityCode
5. C1550437 | None - Sequencing
6. C1551387 | None - ContainerSeparator
7. C1553523 | none - SubstanceAdminSubstitution
8. C1556146 | None - Relationship
9. C1556147 | None - Eligibility Source
10. C1556148 | None - Action Taken in Response to the Event
11. C1556150 | None - ObservationValue
12. C1556151 | None - Language Proficiency
13. C1556152 | None - Additive/Preservative
14. C1706277 | None Device Component

3.43 “active” (degree 13)
Except for ‘Active’ and ‘Active brand of pseudoephedrine-triprolidine’, the remaining cases should be suppressed because they are specific kinds of “active”. Suppress ‘Active brand of pseudoephedrine-triprolidine’ (MetaMap only) because it is a brand name. The concepts involved are

1. C0205177 | Active
2. C0718247 | Active brand of pseudoephedrine-triprolidine
3. C1547419 | ActStatus - active
4. C1553875 | Concept Status - Active
5. C1561507 | EditStatus - Active
6. C1561508 | Managed Participation Status - active
7. C1561509 | Role Status - active
8. C1561510 | Entity Status - active
9. C1561511 | Document Storage - active
3. Higher Degree Metathesaurus Ambiguity

10. C1561512| Document Storage Status - Active
11. C1561513| Immunization Registry Status - Active
12. C1706449| Active Control
13. C2347179| Active Study

3.44 “alp” (degree 13) <no change from last year>
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0102159| alizarinprimeveroside
2. C0201850| Alkaline phosphatase measurement
3. C0663932| SLPI protein, human
4. C1366565| SLPI gene
5. C1366566| CCL27 gene
6. C1412624| ATHS gene
7. C1424288| ASRGL1 gene
8. C1427121| PDLIM3 gene
9. C1428783| ATRNL1 gene
10. C1531719| Atherogenic lipoprotein phenotype
11. C1705078| CCL27 wt Allele
12. C1706468| SLPI wt Allele
13. C1826354| NAT10 gene

3.45 “cat” (degree 13)
‘Chloramphenicol O-Acetyltransferase’, ‘X-Ray Computed Tomography’, ‘cytarabine/thioguanine’, ‘catalase activity’, ‘Chloramphenicol Acetyl Transferase Gene’ and ‘CAT gene’ should be suppressed (MetaMap only) because they are abbreviatory. ‘Family Felidae’, ‘Subfamily Felinae’, ‘Cat (antigen)’, and ‘allergy testing cat’ should be suppressed because they are specific kinds of “cat”. The concepts involved are

1. C0007450| Felis catus
2. C0008169| Chloramphenicol O-Acetyltransferase
3. C0040405| X-Ray Computed Tomography
4. C0280589| cytarabine/thioguanine
5. C0325089| Family Felidae
6. C0325090| Felis silvestris
7. C0524517| Genus Felis
8. C1151515| catalase activity
9. C1270185| Subfamily Felinae
10. C1366498| Chloramphenicol Acetyl Transferase Gene
11. C1413138| CAT gene
12. C1963009| Cat (antigen)
13. C2097305| allergy testing cat

3.46 “cd” (degree 13)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
3. Higher Degree Metathesaurus Ambiguity

1. C0006632 | Cadmium
2. C0007570 | Celiac Disease
3. C0018553 | Hamartoma Syndrome, Multiple
4. C0043444 | Democratic Republic of the Congo
5. C0056447 | CP protocol
6. C0079141 | Compact discs
7. C0332140 | Diagnosis, clinical
8. C0700300 | candela
9. C1426202 | CELIAC3 gene
10. C1426204 | CELIAC2 gene
11. C1826449 | NOD2 gene
12. C1955216 | Clusters of differentiation
13. C2348923 | HLA-DQA1 wt Allele

3.47 “cooing” (degree 13)
All thirteen cases should be suppressed because they are specific kinds of “cooing”. Their concepts are

1. C2137264 | cooing diastolic interscapular murmur
2. C2137265 | cooing systolic interscapular region
3. C2220637 | murmur left lower sternal border systolic cooing
4. C2220657 | murmur left lower sternal border diastolic cooing
5. C2220683 | murmur right lower sternal border systolic cooing
6. C2220700 | murmur right lower sternal border diastolic cooing
7. C2220730 | murmur left upper sternal border systolic cooing
8. C2220749 | murmur left upper sternal border diastolic cooing
9. C2220775 | murmur right upper sternal border systolic cooing
10. C2220792 | murmur right upper sternal border diastolic cooing
11. C2220818 | murmur axilla systolic cooing
12. C2220835 | murmur apical diastolic cooing
13. C2220871 | murmur axilla diastolic cooing

3.48 “honking” (degree 13)
All thirteen cases should be suppressed because they are specific kinds of “honking”. Their concepts are

1. C2046972 | honking diastolic interscapular murmur
2. C2046973 | honking systolic interscapular region
3. C2220639 | murmur left lower sternal border systolic honking
4. C2220659 | murmur left lower sternal border diastolic honking
5. C2220685 | murmur right lower sternal border systolic honking
6. C2220701 | murmur right lower sternal border diastolic honking
7. C2220732 | murmur left upper sternal border systolic honking
8. C2220750 | murmur left upper sternal border diastolic honking
9. C2220777 | murmur right upper sternal border systolic honking
10. C2220793 | murmur right upper sternal border diastolic honking
11. C2220820 | murmur axilla systolic honking
12. C2220836 | murmur apical diastolic honking
3. Higher Degree Metathesaurus Ambiguity

13. **C2220872| murmur axilla diastolic honking**

### 3.49 “ms” (degree 13)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are:

1. **C0025867| Metric System**
2. **C0026221| Mississippi (geographic location)**
3. **C0026269| Mitral Valve Stenosis**
4. **C0026514| Montserrat**
5. **C0026769| Multiple Sclerosis**
6. **C0137813| Mass Spectrometry**
7. **C0439223| millisecond**
8. **C1417453| MTR gene**
9. **C1513009| Master of Science**
10. **C1552156| Supernumerary mandibular left primary canine**
11. **C1868685| MULTIPLE SCLEROSIS, SUSCEPTIBILITY TO**
12. **C1881819| Microbiology Susceptibility Domain**
13. **C2349943| Ms. - Title**

### 3.50 “rasping” (degree 13)
All thirteen cases should be suppressed because they are specific kinds of “rasping”. Their concepts are:

1. **C2169393| rasping diastolic interscapular murmur**
2. **C2169394| rasping systolic interscapular region**
3. **C2220640| murmur left lower sternal border systolic rasping**
4. **C2220660| murmur left lower sternal border diastolic rasping**
5. **C2220686| murmur right lower sternal border systolic rasping**
6. **C2220702| murmur right lower sternal border diastolic rasping**
7. **C2220733| murmur left upper sternal border systolic rasping**
8. **C2220751| murmur left upper sternal border diastolic rasping**
9. **C2220778| murmur right upper sternal border systolic rasping**
10. **C2220794| murmur right upper sternal border diastolic rasping**
11. **C2220821| murmur axilla systolic rasping**
12. **C2220837| murmur apical diastolic rasping**
13. **C2220873| murmur axilla diastolic rasping**

### 3.51 “c” (degree 12)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are:

1. **C0007404| Catechin**
2. **C0009170| Cocaine**
3. **C0227087| Maxillary right primary canine**
4. **C0312905| Blood group antigen C**
5. **C0332287| In addition to**
3. Higher Degree Metathesaurus Ambiguity

6. C0439106| Upper case sea
7. C0439128| Lower case sea
8. C0439237| degrees Celsius
9. C0562424| Coulomb
10. C1555033| Cent
11. C1556156| Nutrition, Calories
12. C1720692| Roman numeral C

3.52 “ec 2.7.1.-” (degree 12) <no change from last year>
All Enzyme Commission (EC) numbers (strings beginning “ec <integer>.”) are suppressed by MetaMap because they represent classes of enzymes and are consequently highly ambiguous. The concepts involved are
1. C0108836| CDC7 protein, human
2. C0108855| CDK2 protein, human
3. C0259367| PCTAIRE Protein Kinase 1
4. C0659150| CHEK1 protein, human
5. C0673406| GPRK7 protein, human
6. C1333180| Cyclin-Dependent Kinase 10
7. C1333735| GPRK2L protein, human
8. C1333738| G Protein-Coupled Receptor Kinase Family
9. C1337052| PAK6 protein, human
10. C1447440| CDK3 protein, human
11. C1744605| G-protein-coupled receptor kinase 5
12. C1744606| G-protein-coupled receptor kinase 6

3.53 “m” (degree 12)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are
1. C0024554| Male gender
2. C0221134| Blood group antigen M
3. C0227102| Mandibular left primary canine tooth
4. C0439113| Upper case emm
5. C0439232| Minute of time
6. C0456533| M - Metastasis stages
7. C0475209| meter
8. C1553028| Mega
9. C1553034| Milli
10. C1706456| Roman numeral upper case emm
11. C1706457| lower case emm
12. C1883310| One Thousand

3.54 “not applicable” (degree 12) <no change from last year>
Except for ‘Not Applicable’, the remaining cases should be suppressed because they are specific kinds of “not applicable”. The concepts involved are
3. Higher Degree Metathesaurus Ambiguity

1. C1272460 Not Applicable
2. C1546968 No Information - not applicable
3. C1547280 Production Class Code - Not Applicable
4. C1549103 Administrative Sex - Not applicable
5. C1609491 Patient Class - Not Applicable
6. C1610044 Derived specimen - Not Applicable
7. C1610595 Identity May Be Divulged - Not applicable
8. C1611147 CWE statuses - Not applicable
9. C1619691 Expanded yes/no indicator - not applicable
10. C1705112 Potency Not Applicable
11. C1705113 Dosage Form Not Applicable
12. C1705512 Route of Administration Not Applicable

3.55 “p” (degree 12)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are
1. C0031705 Phosphorus
2. C0033452 Properdin
3. C0080014 Dietary Phosphorus
4. C0202178 Phosphorus measurement
5. C0221133 Blood group antigen P
6. C0227095 Deciduous mandibular right central incisor tooth
7. C0439115 upper case pea
8. C0439140 lower case pea
9. C0439473 newton per square metre
10. C1553025 peta unit of measure prefix
11. C1553037 Pico
12. C1704238 Tumor staging descriptor p

3.56 “ptc” (degree 12) <no change from last year>
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
1. C0015491 Factor IX
2. C0203085 Percutaneous transhepatic cholangiography
3. C0238463 Papillary thyroid carcinoma
4. C0694890 RET gene
5. C1366464 F9 gene
6. C1419055 TAS2R38 gene
7. C1425774 CCDC6 gene
8. C1704885 RET wt Allele
9. C1705338 F9 wt Allele
10. C1705339 PTCH wt Allele
11. C1706229 CCDC6 wt Allele
12. C1826732 PTCH1 gene
3.57 “t” (degree 12)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are

1. C0040223 | Time
2. C0040715 | Chromosomal translocation
3. C0227099 | Mandibular right second primary molar
4. C0439119 | Upper case tea
5. C0439143 | Lower case tea
6. C0439216 | metric ton
7. C0475455 | T - Tumor stage
8. C1420562 | T gene
9. C1522168 | Topical Route of Drug Administration
10. C1551055 | Tesla - unit
11. C1552647 | ProbabilityDistributionType - T
12. C1553026 | tera units

3.58 “transmitted along left sternal border” (degree 12)
All twelve cases should be suppressed because they are specific kinds of “transmitted along left sternal border”. Their concepts are

1. C2071936 | murmur left upper sternal border systolic transmitted along left sternal border
2. C2071984 | murmur left upper sternal border diastolic transmitted along left sternal border
3. C2072030 | murmur left upper sternal border continuous transmitted along left sternal border
4. C2072079 | murmur right upper sternal border systolic transmitted along left sternal border
5. C2072127 | murmur right upper sternal border diastolic transmitted along left sternal border
6. C2072173 | murmur right upper sternal border continuous transmitted along left sternal border
7. C2072219 | murmur right lower sternal border systolic transmitted along left sternal border
8. C2072263 | murmur right lower sternal border diastolic transmitted along left sternal border
9. C2072310 | murmur right lower sternal border continuous transmitted along left sternal border
10. C2072489 | murmur apical systolic transmitted along left sternal border
11. C2072533 | murmur apical diastolic transmitted along left sternal border
12. C2072576 | murmur apical continuous transmitted along left sternal border

3.59 “transmitted to the apex” (degree 12)
All twelve cases should be suppressed because they are specific kinds of “transmitted to the apex”. Their concepts are

1. C2071939 | murmur left upper sternal border systolic transmitted to apex
3. Higher Degree Metathesaurus Ambiguity

2. C2071987| murmurm left upper sternal border diastolic transmitted to apex
3. C2072033| murmurm left upper sternal border continuous transmitted to the apex
4. C2072082| murmurm right upper sternal border systolic transmitted to apex
5. C2072130| murmurm right upper sternal border diastolic transmitted to apex
6. C2072176| murmurm right upper sternal border continuous transmitted to apex
7. C2072221| murmurm right lower sternal border systolic transmitted to apex
8. C2072265| murmurm right lower sternal border diastolic transmitted to apex
9. C2072312| murmurm right lower sternal border continuous transmitted to apex
10. C2072358| murmurm left lower sternal border systolic transmitted to apex
11. C2072402| murmurm left lower sternal border diastolic transmitted to apex
12. C2072445| murmurm left lower sternal border continuous transmitted to apex

3.60 “a” (degree 11)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are

1. C0227089| Deciduous maxillary right second molar tooth
2. C0348042| Blood group antigen A
3. C0439234| year
4. C0457243| Ampere
5. C1442985| Tumor staging descriptor a
6. C1442986| Abdominal lymph node tumor invasion status A (tumor staging)
7. C1522424| A Mouse
8. C1553039| Atto
9. C1706280| Lower case Roman letter a
10. C1706281| Upper case Roman letter A
11. C1706282| Lymphoma staging symptom status A

3.61 “ad” (degree 11) <no change from last year>
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0002395| Alzheimer’s Disease
2. C0002838| Andorra
3. C0010934| Dactinomycin
4. C0050841| dacarbazine/doxorubicin protocol
5. C0228318| Anterodorsal nucleus of thalamus
6. C0280573| cytarabine/daunorubicin protocol
7. C0332133| Admitting Diagnosis
8. C0547043| Up
9. C1630418| AD Substance
10. C1704642| Analysis Dataset Domain
11. C1706476| AD Term Type
3. Higher Degree Metathesaurus Ambiguity

3.62 “as” (degree 11)
Except for ‘As - dosing instruction fragment’ and ‘As - qualifier’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. Suppress ‘As - dosing instruction fragment’ and ‘As - qualifier’ because they are specific kinds of “as”. The concepts involved are

1. C0003507| Aortic valve stenosis
2. C0003818| Arsenic
3. C0162635| Angelman Syndrome
4. C0242536| American Samoa
5. C1150694| asparagine synthase (glutamine-hydrolyzing) activity
6. C1421293| UBE3A gene
7. C1442846| AS gene
8. C1549947| Associate of Science
9. C1563293| Supernumerary maxillary right second primary molar
10. C1706103| As - dosing instruction fragment
11. C1883713| As - qualifier

3.63 “asp” (degree 11)
Except for ‘Asp snake’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0004015| Aspartic Acid
2. C0085845| Aspartate
3. C0206293| Asp snake
4. C0370199| Aspirate substance
5. C1412581| ASIP gene
6. C1412591| ASPA gene
7. C1425978| ASPM gene
8. C1538881| ROPN1L gene
9. C1825497| ATG5 gene
10. C1852701| ACYLATION-STIMULATING PROTEIN
11. C2240226| A1CF gene

3.64 “cam” (degree 11) <no change from last year>
Except for ‘Cam, topical lotion’ and ‘CAM brand of Ephedrine Hydrochloride’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. Suppress ‘CAM brand of Ephedrine Hydrochloride’ (MetaMap only) because it is a brand name. The concepts involved are

1. C0007578| Cell Adhesion Molecules
2. C0054551| cyclophosphamide/doxorubicin/methotrexate protocol
3. C0178551| chorioallantoic membrane
4. C0678112| CAM brand of Ephedrine Hydrochloride
5. C0713465| Cam, topical lotion
6. C1148475| Complementary and alternative medicine
7. C1366910| Calmodulin I
8. C1366911| Cerebral Cavernous Malformations I
9. C1537503| KRIT1 gene
3. Higher Degree Metathesaurus Ambiguity

3.65 “car” (degree 11)
Except for ‘Automobiles’ and ‘Car - Mode of Arrival Code’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. ‘Car - Mode of Arrival Code’ should be suppressed because it is a specific kind of “car”. The concepts involved are

1. C0004381| Automobiles
2. C0406810| Atrial myxoma with lentigines
3. C1166663| actomyosin contractile ring
4. C1413828| CXADR gene
5. C1417827| NR1I3 gene
6. C1420354| SPG7 gene
7. C1542825| Car - Mode of Arrival Code
8. C1622899| car <invertebrate>
9. C1706434| RFP2 wt Allele
10. C1858724| Caronte Gene
11. C2239319| CXADR1 gene

3.66 “kit” (degree 11)
Except for ‘Kit device’, ‘Kit Component of Device’, and ‘Drug Kit’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. The concepts involved in this ambiguity are

1. C0072470| Proto-Oncogene Protein c-kit
2. C0812225| Kit device
3. C0920288| C-KIT Gene
4. C1416655| KIT gene
5. C1553450| Kit Code
6. C1690540| Kit Dosing Unit
7. C1704742| Kit Dosage Form
8. C1704888| KIT wt Allele
9. C1705212| Kit Component of Device
10. C1705213| Drug Kit
11. C2266503| KIT transmembrane receptor protein tyrosine kinase activity

3.67 “mac” (degree 11)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0009545| Complement Membrane Attack Complex
2. C0024403| Macao
3. C0026916| Mycobacterium avium-intracellulare Infection
4. C0065465| cyclophosphamide/dactinomycin/methotrexate protocol
5. C0083360| chlorambucil/dactinomycin/methotrexate protocol
6. C0279190| cyclophosphamide/doxorubicin/mitomycin protocol
3. Higher Degree Metathesaurus Ambiguity

7. C0451273| MacAndrew Alcoholism Scale
8. C0453947| Raincoat
9. C0969807| Methotrexate-Actinomycin-Chlorambucil Regimen
10. C1167383| membrane attack complex location
11. C1416956| MARCKS gene

3.68 “p14” (degree 11) <no change from last year>
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
1. C0054505| Calgranulin B
2. C0292779| activated RNA polymerase II transcription cofactor 4
3. C0525037| CDKN2A gene
4. C1335798| S100A9 gene
5. C1423800| CTNNBL1 gene
6. C1428962| RPP14 gene
7. C1540306| CDK2AP2 gene
8. C1704874| S100A9 wt Allele
9. C1709390| SUB1 gene
10. C1835861| MAPBP-INTERACTING PROTEIN GENE
11. C1842980| SPlicing FACTOR 3B, 14-KD SUBUNIT GENE

3.69 “patient” (degree 11) <no change from last year>
Except for ‘Patients’, the remaining cases should be suppressed because they are specific kinds of “patient”. The concepts involved are
1. C0030705| Patients
2. C1550655| Specimen Type - Patient
3. C1578478| Role Class - patient
4. C1578479| Role Code - Patient recipient
5. C1578480| Role Code - Patient specimen
6. C1578481| Mail Claim Party - Patient
7. C1578483| Report source - Patient
8. C1578484| Relationship modifier - Patient
9. C1578485| Specimen Source Codes - Patient
10. C1578486| Disabled Person Code - Patient
11. C1705908| Veterinary Patient

3.70 “ts” (degree 11)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
1. C0040517| Gilles de la Tourette's syndr.
2. C0040963| Tricuspid Valve Stenosis
3. C0041341| Tuberose Sclerosis
4. C1366824| TYMS gene
5. C1413057| CACNA1C gene
6. C1420620| TBXAS1 gene
7. C1552162| Supernumerary mandibular right second primary molar
8. C1704618| Trial Summary Domain
9. C1705746| TYMS wt Allele
10. C1832916| TIMOTHY SYNDROME
11. C1868676| GROWTH CONTROL, Y-CHROMOSOME INFLUENCED

3.71 “yes” (degree 11) <no change from last year>
Except for ‘YES1 gene’, ‘Yes (indicator)’ and ‘Yes - Yes/no indicator’, the remaining cases should be suppressed because they are specific kinds of “Yes”. Suppress ‘YES1 gene’ (MetaMap only) because it is abbreviatory. The concepts involved are
1. C0019479| YES1 gene
2. C1298907| Yes - Presence findings
3. C1546945| Yes - Event Seriousness
4. C1546947| Yes - Event Expected
5. C1546969| Yes - Identity May Be Divulged
6. C1548171| Yes - Release Information
7. C1549060| Yes - Expanded yes/no indicator
8. C1549065| Yes - Notify Clergy Code
9. C1549443| Yes - Assignment of Benefits
10. C1549445| Yes - Yes/no indicator
11. C1705108| Yes (indicator)

3.72 “at3” (degree 10) <no change from last year>
Except for ‘Antithrombin III’, the remaining cases should be suppressed because they are specific kinds of “Antithrombin III Deficiency”. Suppress ‘Antithrombin III’ (MetaMap only) because it is abbreviatory. The concepts involved are
1. C0003438| Antithrombin III
2. C1862776| Antithrombin III Deficiency PADUA 2
3. C1862777| Antithrombin III Deficiency ROMA [sic]
4. C1862778| Antithrombin III Deficiency TRENTO
5. C1862781| Antithrombin III Deficiency FONTAINBLEAU
6. C1862784| Antithrombin III Deficiency CLICHY
7. C1862786| Antithrombin III Deficiency Barcelona
8. C1862789| Antithrombin III Deficiency BARCELONA 2
9. C1862790| Antithrombin III Deficiency AVRANCHES
10. C1862797| Antithrombin III Deficiency Paris

3.73 “bar” (degree 10) <no change from last year>
Except for ‘External fixator bar’, ‘Taverns’, ‘Bar form’, and ‘bar unit of measure’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. The concepts involved are
1. C0001643| beta-2 Adrenergic Receptors
2. C0441233| External fixator bar
3. Higher Degree Metathesaurus Ambiguity

3. C0687760 Taverns
4. C0993613 Bar form
5. C1367657 ADRB2 Gene
6. C1417825 NR1H4 gene
7. C1425012 BFAR gene
8. C1551065 bar unit of measure
9. C1704463 ADRB2 wt Allele
10. C1704759 Bar Dosing Unit

3.74 “ec 2.7.1.37” (degree 10) <no change from last year>
All Enzyme Commission (EC) numbers (strings beginning “ec <integer>.”) are suppressed by MetaMap because they represent classes of enzymes and are consequently highly ambiguous. The concepts involved are
1. C0033640 PROTEIN KINASE
2. C0072402 Protein-Serine-Threonine Kinases
3. C0244987 glycogen synthase kinase 3 alpha
4. C0294209 LIM Domain Kinase 1
5. C0380146 activin receptor-like kinase 1
6. C0541150 3-Phosphoinositide Dependent Protein Kinase-1
7. C1314894 Col4A3 protein, human
8. C1332856 Casein Kinase 2, Alpha 1 Polypeptide
9. C1447968 ACVR1 protein, human
10. C1880254 Death-Associated Protein Kinase 1 Protein

3.75 “f” (degree 10)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are
1. C0015780 Female
2. C0016330 Fluorine
3. C0439109 Upper case eff
4. C0439132 Lower case eff
5. C0456628 Degrees fahrenheit
6. C0582515 farad
7. C1533615 Maxillary left central primary incisor
8. C1552648 Probability Distribution Type - F
9. C1553038 Femto
10. C2348266 Dietary Fluorine

3.76 “gas” (degree 10)
‘GALNS gene’, ‘GAST gene’, ‘Beta-hemolytic Streptococcus, group A’, ‘Gas Dosage Form’, and ‘germacrene-A synthase activity’ should be suppressed (MetaMap only) because they are abbreviatory. ‘Gas - Specimen Source Codes’ and ‘Gas - SpecimenType’ should be suppressed because they are specific kinds of “gas”. The concepts involved are
1. C0016204 [D]Flatulence
3. Higher Degree Metathesaurus Ambiguity

2. C0017110| Gases
3. C0596601| gastrointestinal gas
4. C1414950| GALNS gene
5. C1439341| GAST gene
6. C1541907| Beta-hemolytic Streptococcus, group A
7. C1546643| Gas - Specimen Source Codes
8. C1550641| Gas - SpecimenType
9. C1704673| Gas Dosage Form
10. C2266618| germacrene-A synthase activity

3.77 “ice” (degree 10)

Except for ‘Ice’, ‘cryotherapy using ice’, and ‘Ice Pharmaceutical’, the remaining cases should be suppressed (MetaMap only) because they are abbreviatory. ‘cryotherapy using ice’ should be suppressed because it is a specific kind of “ice”. The concepts involved are

1. C0020746| Ice
2. C0025611| Methamphetamine
3. C0249492| cytarabine/etoposide/idarubicin
4. C0280697| carboplatin/etoposide/ifosfamide
5. C0534519| Caspase-1
6. C0556917| cryotherapy using ice
7. C1366479| CASP1 gene
8. C1413348| CES2 gene
9. C1705786| CASP1 wt Allele
10. C1873773| Ice Pharmaceutical

3.78 “k” (degree 10)

All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are

1. C0032821| Potassium
2. C0162800| Dietary Potassium
3. C0202194| Potassium measurement
4. C0227104| Deciduous mandibular left second molar tooth
5. C0313040| Blood group antigen KEL 1
6. C0439112| Upper Case Kay
7. C0439137| Lower case kay
8. C0439239| Kelvin
9. C1553029| Kilo
10. C1883310| One Thousand

3.79 “no” (degree 10) <no change from last year>

Except for ‘Norway’, ‘no’, and ‘No - yes/no indicator’, the remaining cases should be suppressed because they are specific kinds of “no”. Suppress ‘Norway’ (MetaMap only) because it is abbreviatory. The concepts involved are

1. C0028423| Norway
3. Higher Degree Metathesaurus Ambiguity

2. C1298908 | no
3. C1546943 | No - Event Seriousness
4. C1546946 | No - Event Expected
5. C1546967 | No - Identity May Be Divulged
6. C1548170 | No - Release Information
7. C1549056 | No - Expanded yes/no indicator
8. C1549062 | No - Notify Clergy Code
9. C1549442 | No - Assignment of Benefits
10. C1549444 | No - yes/no indicator

3.80 “normal” (degree 10) <no change from last year>

Except for ‘Normal’ and ‘Normal assessment finding’, the remaining cases should be suppressed because they are specific kinds of “normal”. The concepts involved are

1. C0205307 | Normal
2. C1550457 | Normal Observation Interpretation
3. C1550469 | normal Confidentiality
4. C1551394 | normal Device Alert Level
5. C1553386 | normal Act Status
6. C1553399 | normal Managed Participation Status
7. C1553402 | normal Role Status
8. C1553406 | normal Entity Status
9. C1704701 | Normality-Based Dosing Unit
10. C1873497 | Normal assessment finding

3.81 “p40” (degree 10) <no change from last year>

Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0050854 | adjuvant P40
2. C0085424 | Interleukin-9
3. C1367780 | Laminin Receptor-1
4. C1412528 | ARHGEF2 gene
5. C1416795 | LANCL1 gene
6. C1419038 | PSMD7 gene
7. C1456382 | EBNA1BP2 gene
8. C1539696 | RPSA gene
9. C1705231 | RPSA wt Allele
10. C1826761 | RABEPK gene

3.82 “psa” (degree 10)

Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0138741 | Prostate-Specific Antigen
2. C0201544 | Prostate specific antigen measurement
3. C0687688 | public service announcement
3. Higher Degree Metathesaurus Ambiguity

4. C1366489| KLK3 gene
5. C1417779| NPEPPS gene
6. C1418948| PROS1 gene
7. C1426033| PSAT1 gene
8. C1519176| Salivary Gland Pleomorphic Adenoma
9. C1705954| KLK3 wt Allele
10. C2347427| PLAG1 wt Allele

3.83 “pt” (degree 10)
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are
1. C0030705| Patients
2. C0032207| Platinum
3. C0032729| Portugal
4. C0033707| Prothrombin time assay
5. C0175252| Paratenial Nucleus
6. C0560012| pint
7. C0949766| Physical therapy
8. C1442880| Point in time
9. C1705337| PT Term Type
10. C2347664| Preferred Term

3.84 “radiology” (degree 10) <no change from last year>
Except for ‘Radiology Specialty’, ‘Radiology studies’, and ‘Radiographic imaging procedure’, the remaining cases should be suppressed because they are specific kinds of “radiology”. The concepts involved are
1. C0034599| Radiology Specialty
2. C0807679| Radiology studies
3. C1405978| Encounter due to radiological examination
4. C1548000| Radiology Section ID
5. C1548429| radiology referral type
6. C1552284| Radiology Podiatrist
7. C1555923| Radiology Chiropractor
8. C1608525| Radiology - NUCCProvider Codes
9. C1610162| Radiology - Clinic/Center - NUCCProviderCodes
10. C1962945| Radiographic imaging procedure

3.85 “sports medicine” (degree 10) <no change from last year>
Except for ‘sports medicine specialty’, the remaining cases should be suppressed because they are specific kinds of “sports medicine”. The concepts involved are
1. C0038040| sports medicine specialty
2. C1552285| Podiatrist - Sports Medicine
3. C1555741| Emergency Medicine - Sports Medicine
4. C1555748| Family Practice - Sports Medicine
3. Higher Degree Metathesaurus Ambiguity

3.86 “tr” (degree 10) <no change from last year>
Suppress ambiguous form(s) (MetaMap only) because they are abbreviatory. The concepts involved are

1. C0040961 | Tricuspid Valve Insufficiency
2. C0041400 | Country of Turkey
3. C0332121 | Treatment required for
4. C1366448 | TERC gene
5. C1366449 | F2R gene
6. C1420775 | TMEFF2 gene
7. C1425351 | TXNRD2 gene
8. C1619635 | CD71 antigen
9. C1705312 | TERC wt Allele
10. C1705939 | F2R wt Allele

3.87 “transmitted along right sternal border” (degree 10)
All ten cases should be suppressed because they are specific kinds of “transmitted along right sternal border”. Their concepts are

1. C2071937 | murmurs left upper sternal border systolic transmitted along right sternal border
2. C2071985 | murmurs left upper sternal border diastolic transmitted along right sternal border
3. C2072031 | murmurs left upper sternal border continuous transmitted along right sternal border
4. C2072174 | murmurs right upper sternal border continuous transmit along right sternal border
5. C2072356 | murmurs left lower sternal border systolic transmitted along right sternal border
6. C2072400 | murmurs left lower sternal border diastolic transmitted along right sternal border
7. C2072443 | murmurs left lower sternal border continuous transmitted along right sternal border
8. C2072490 | murmurs apical systolic transmitted along right sternal border
9. C2072534 | murmurs apical diastolic transmitted along right sternal border
10. C2072577 | murmurs apical continuous transmitted along right sternal border

3.88 “u” (degree 10)
All single letters are suppressed by MetaMap because they are highly ambiguous. The concepts involved are
4. Appendix

Data contained in all tables in this report are obtained from the current year’s ambiguity study directory, `$NLS/specialist/module/metawordindex/data.XX/01Ambiguity`.

4.1 Populating Table 1

1. For concepts with one or more ambiguity:
   
   `wc -l ambiguity_cases.cuis`

2. For concepts with one or more non-suppressible ambiguity:
   
   `wc -l supp.ambiguity_cases.cuis`

3. For cases of ambiguity:
   
   `wc -l ambiguity_cases.unique`

4. For cases of non-suppressible ambiguity:
   
   `wc -l supp.ambiguity_cases.unique`

4.2 Populating Tables 2 and 3

To populate Table 2 simply fill in the values, adding new rows as necessary, from the file `ambiguity_cases.counts` in the ambiguity study directory; to populate Table 3 use the file `supp.ambiguity_cases.counts` instead.