# **Inventory of terms and relationship types to be used in the FIRST iteration of SOLOR.** (This iteration will not address PIN or MIN)

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| **RxNorm Terms:** | **SNOMED Terms:** |
| * IN | * Ingredient (substance) AND Ingredient (product) |
| * SCD | * Clinical drug equivalent (product) |
| * SCDF (eventually I think these will not be needed) |  |
| * SCDG | * Dose group equivalent (product) |
| * DF | * Dose form (qualifier value) |
| * SBD |  |
| * BN |  |
|  | * Class concept (substance), Class concept (product) |
|  |  |
| **RxNorm Relationships:** | **SNOMED CT Relationships:** |
| * Is\_a | * Has\_active\_ingredient |
| * Has\_dose\_form | * Is\_a |
| * Has\_ingredient |  |
| * Tradename\_of |  |
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1. **RxNorm SOLOR Rules:**

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| **RxNorm Rules for initiation in SOLOR - assume Dan has created some subset of RxNorm** | **Source of concepts and relationships** | **SQL statements** | **Outstanding issues** |
| **o   Hierarchy position** |  |  | Identify and do not use obsolete or inactive concepts |
|   Merge RxNorm IN with SCT Substance | from RxNCONSO find all RxCUI with TTY = IN and SAB = SNOMED CT\_US with STR = "\*(substance)" - that is, all RxCUI with TTY = IN and there is an equivalent SNOMEDCT\_US concept in the Substance hierarchy | SELECT r1.rxcui, r1.str, r2.code, r2.str FROM rxnconso r1, rxnconso r2 where r1.sab = 'RXNORM' and r1.TTY='IN' and  r2.rxcui = r1.rxcui and r2.sab='SNOMEDCT\_US' and r2.STR like '% (substance)' | >1 concept to merge. See RxCUIs: 313002 and 888 |
|   Merge RxNorm SCD with SCT Product | from RxNCONSO find all RxCUI with TTY = SCD and SAB = SNOMED CT\_US with STR = "\*(product)" - that is, all RxCUI with TTY = SCD and there is an equivalent SNOMEDCT\_US concept in the Product hierarchy | see above | does not include PIN or MIN |

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| **RxNorm Rules for initiation in SOLOR - assume Dan has created some subset of RxNorm** | **Source of concepts and relationships** | **SQL statements** | **Outstanding issues** |
|   Convert RxNorm Tradename\_of to is\_a between RxNorm SBD and RxNorm SCD | from RxNREL find all RxCUI where TTY=SBD and the relationship "tradename\_of" (inverse of "has\_tradename") exists. Convert SBD "tradename\_of" SCD to SBD "is\_a" SCD. | **Not limited to SCD with SCT equivalent:** select c\_scd.STR as SCD, c\_scd.RXCUI as SCD\_CUI, c\_sbd.STR as BrandName, c\_sbd.RXCUI as Brand\_CUI from rxnconso c\_scd, rxnrel r1, rxnconso c\_sbd where  c\_scd.rxcui = r1.rxcui2 and c\_sbd.rxcui = r1.rxcui1 and r1.rela = 'has\_tradename' and c\_scd.SAB= 'RXNORM' and c\_scd.TTY= 'SCD' and c\_sbd.SAB= 'RXNORM' and c\_sbd.TTY= 'SBD' **OR Limited to include only SCD with a value for SAB=SNOMEDCT\_US and STR includes "(product)":** select c\_scd.STR as SCD, c\_scd.RXCUI as SCD\_CUI, c\_sbd.STR as BrandName, c\_sbd.RXCUI as Brand\_CUI from rxnconso c\_scd, rxnrel r1, rxnconso c\_sbd where  c\_scd.rxcui = r1.rxcui2 and c\_sbd.rxcui = r1.rxcui1 and r1.rela = 'has\_tradename' and c\_scd.SAB= 'RXNORM' and c\_scd.TTY= 'SCD' and c\_sbd.SAB= 'RXNORM' and c\_sbd.TTY= 'SBD' and exists (select 1 from rxnconso c\_sct where c\_sct.rxcui = c\_scd.rxcui and c\_sct.sab='SNOMEDCT\_US' and c\_sct.STR like '% (product)') |  |

| **RxNorm Rules for initiation in SOLOR - assume Dan has created some subset of RxNorm** | **Source of concepts and relationships** | **SQL statements** | **Outstanding issues** |
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|   Create is\_a relationship from RxNorm SCDG to SNOMED [ingredient] product concept, WHERE no SNOMED equivalent exists per RxNCONSO file for the SCDG. | (a) from RxNCONSO identify the SCDG that do NOT have an SCT equivalent concept in the product hierarchy. (b) from RxNREL identify the IN targets of SCDG (found in (a) where "has\_ingredient" relationship exists. (c ) in RxNCONSO find the SCT product equivalent of the RxCUI TTY=IN found in (a); OR in RxNCONSO find the SCT substance equivalent of the RxCUI TTY=IN found in (a), then find the SCT product using the SCT "active ingredient\_of" (which is the inverse of "has\_active\_ingredient" relationship) between substance and product. (d) Create a SOLOR is\_a relationship between the SCDG (with no SCT equivalent in RxNCONSO) and the SCT [ingredient type] product concept. | select c\_scdg.STR as SCDG, c\_scdg.RXCUI as SCDG\_CUI, c\_in.STR as INGR, c\_in.RXCUI as INGR\_CUI, c\_sct.STR as FSN, c\_sct.CODE as SCT\_ID from rxnconso c\_scdg, rxnrel r1, rxnconso c\_in, rxnconso c\_sct where  c\_scdg.rxcui = r1.rxcui2 and c\_in.rxcui = r1.rxcui1 and c\_sct.rxcui = c\_in.rxcui and r1.rela = 'has\_ingredient' and c\_scdg.SAB= 'RXNORM' and c\_scdg.TTY= 'SCDG' and not exists (select 1 from rxnconso c2 where c2.rxcui = c\_scdg.rxcui and c2.SAB= 'SNOMEDCT\_US') and c\_in.SAB= 'RXNORM' and c\_in.TTY= 'IN' and c\_sct.SAB= 'SNOMEDCT\_US' and c\_sct.TTY= 'FN' and c\_sct.STR like '%(product)' |  |
|   Create hierarchy within RxNorm SCDG (e.g., tablet is\_a pill is\_a oral product, etc.) – this is low priority |  |  |  |
| **o   AMT Concept Model** |  |  |  |
|   Map RxNorm DF concepts to SNOMED CT Qualifier value concepts | Mapped DF to SCT "qualifier value" using TermWorks |  |  |
|   Has\_dose\_form – from RxNorm SCD and DF mapping to SNOMED CT |  |  |  |
|   Has\_active\_ingredient – from merged SNOMED CT substance |  |  |  |
|   Has\_strength - TBD |  |  |  |

# **Diagram Example**

