

Cancer Therapy RxCUI Phenotype Information

This phenotype includes RxNorm RxCUI codes for cancer therapies. These codes map to drug records in the PCORnet Common Data Model and other data sources.

Process for code list development

The initial list of drugs came from the Cancer Research Network's cancer therapy look-up tables that were available in July of 2018. These include National Drug Codes and Healthcare Common Procedure Coding System codes for cancer therapies. Their lookup tables can be found at this site:

<http://www.hcsrn.org/crn/en/RESEARCH/LookupTables/>

We added atezolizumab to this list, a newer cancer therapy that was of interest for one of our studies.

We then used a standard process developed by the PCORnet Distributed Research Network Operations Center (DRNOC) at Duke University to extract current and historical RxCUIs for these products from RxNorm resources. This used RxMix plus an additional step to capture deprecated RxCUIs. The records identified through this process are listed as having DRNOC as a source (including ALL, DRNOC, and DRNOC_CRG).

Dr. Carnahan used Google's Big Query system to identify RxCUIs that mapped to an ingredient RxCUI for one of the relevant drugs, since documentation indicates that this includes deprecated RxCUIs. The records identified through this process are indicated as having the Cancer CRG as a source (including ALL, DRNOC_CRG, CRG_only). CRG_only records were substantially spot checked using RxNav and found to be frequently for products that had been mapped to new RxCUIs or obsolete records.

Records indicated as sourced from Big Query were identified through a process tested by the DRNOC in which the results of an RxMix query were used to query Google's Big Query. Records that were only identified using this process and not the others were consistently found to be for irrelevant drugs after linking to code descriptions, e.g. drugs that were part of combination products that included a cancer therapy, so these have been deleted from this data set. Remaining records identified using this process are listed as having ALL or DNROC_BIG_QUERY as a source.

Process for code list refinement

DRNOC provided a data set that pooled records from all sources and linked to the drug input, which corresponds to the CHEMOCAT in the Cancer CRG code list, the code description from RxNorm (code_desc), the RxCUI status as available (current or deprecated), whether it was a combination product, and the route of administration if available (injectable and other route columns).

Dr. Carnahan reviewed individual products and recommended them for exclusion or retention as cancer therapies, based on the perceived likelihood that a particular product might be used as a cancer treatment. This is not possible for higher RxCUI levels such as ingredient, but some specific products were recommended for exclusion because their route of administration or additional ingredients suggested they were not likely to be used as cancer therapies.

This data set includes an exclusion flag variable, which is set to 1 if exclusion was recommended. Additional rationale is provided as deemed appropriate. Users can review the exclusions and rationale and determine whether exclusion as a cancer therapy is appropriate for their use.

Notes for users

Users should also consider updating this list with newer cancer therapies as needed for their studies and checking to see if new RxCUIs are available for their specific drugs of interest.

Please see the INTRO tab of the Excel spreadsheet for a data dictionary. The Ingredient Specification tab includes ingredient names and their corresponding CHEMOCAT values from the Cancer CRG data set and other notes about products. The codes spreadsheet includes the RxCUIs and associated information.

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