

# CPRD Code Browser quick user guide

September 2022

# Purpose of the Code Browser

- This tool has been created to support the development of code lists for the **CPRD primary care databases**.
- The medical and product code dictionaries can be searched in order to generate code lists for use in the Define tool or for sharing with collaborators.

# Benefits of the Code Browser

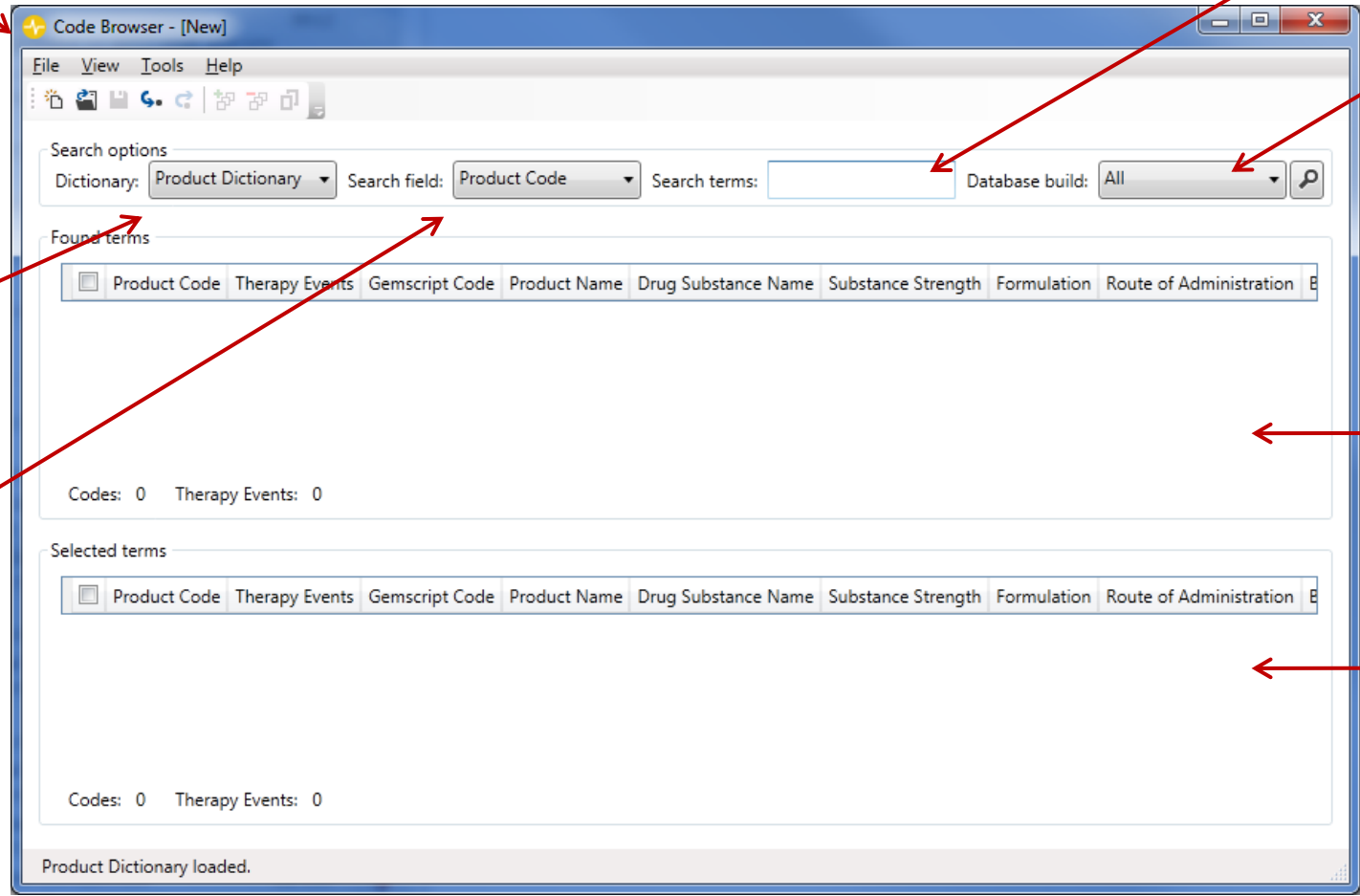
- Enables flexible searches of:
  - Read term/SNOMED description, Read/SNOMED code, CPRD medical code.
  - Drug substance, product name (dm+d), Gemscript code, BNF code/heading, CPRD product code.
- Allows fine tuning (can add/remove individual codes or groups of codes).
- Shows a simple standardised interface.
- Can sort by field of interest.
- Updated monthly with new codes used in primary care database build releases.

# How to search in the Code Browser

1. Open the CPRD GOLD or CPRD Aurum Code Browser

2. Select the **Dictionary** to use

3. Select the **Search field** to use



4. Enter the **search terms** (can use wildcards \* etc.)

5. Limit search results to codes added in a specific **Database build**

6. Results returned from current search will show here in **Found terms**

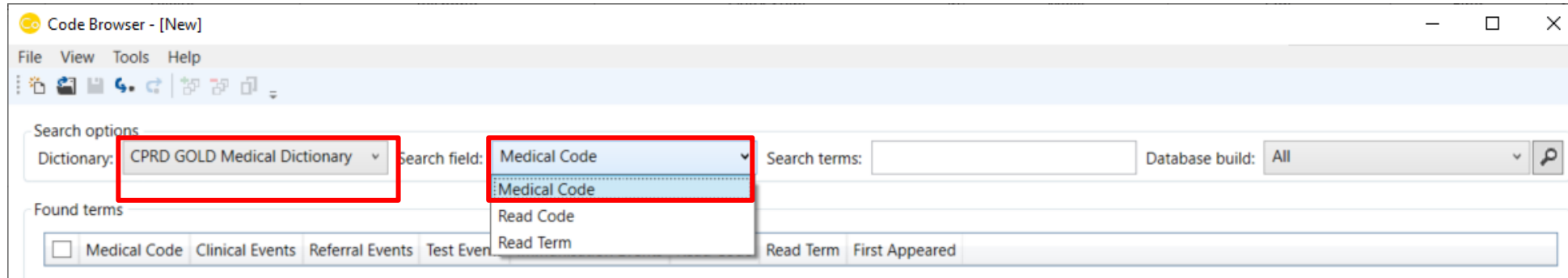
7. Unique codes selected from **Found terms** and added to master list will show here in **Selected terms**

# Tips when searching

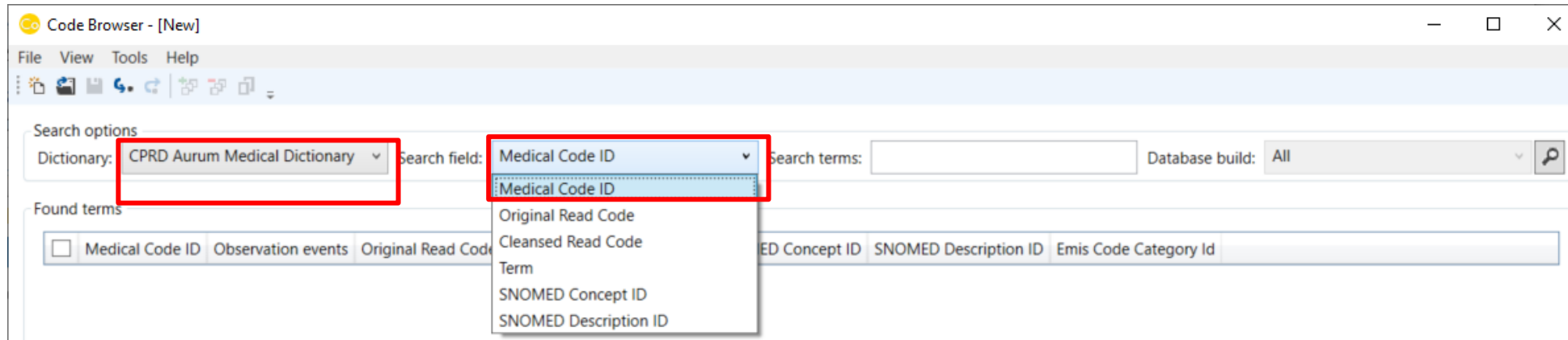
- Download the most recent version of the Code Browser.
- Consider search options:
  - Wildcard search using '\*' (e.g. \*diabet\*)
  - AND operator (e.g. \*diabet\*type\*, will search both word orders if only 2 terms)
  - OR operator ';' (e.g. \*kidney\*;\*renal\*)
- Take note of the **Search field** you are using to search terms in, e.g. searching the term '\*gastro\*' in the CPRD Aurum medical dictionary, will only work using the **Search field 'Term'**.
- Read codes are case-sensitive and you may toggle case-sensitive searches on or off (Tools → Case Sensitive)
  - e.g. Searching "66a..00" with case-sensitivity **off** returns two results (66a..00 and 66A.00) whereas with case-sensitivity **on** only returns the exact match (66a..00)
- Use the current search results shown in **Found terms** to interactively build and manage the master list shown in **Selected terms**.

# Search field options in the medical browser

## CPRD GOLD



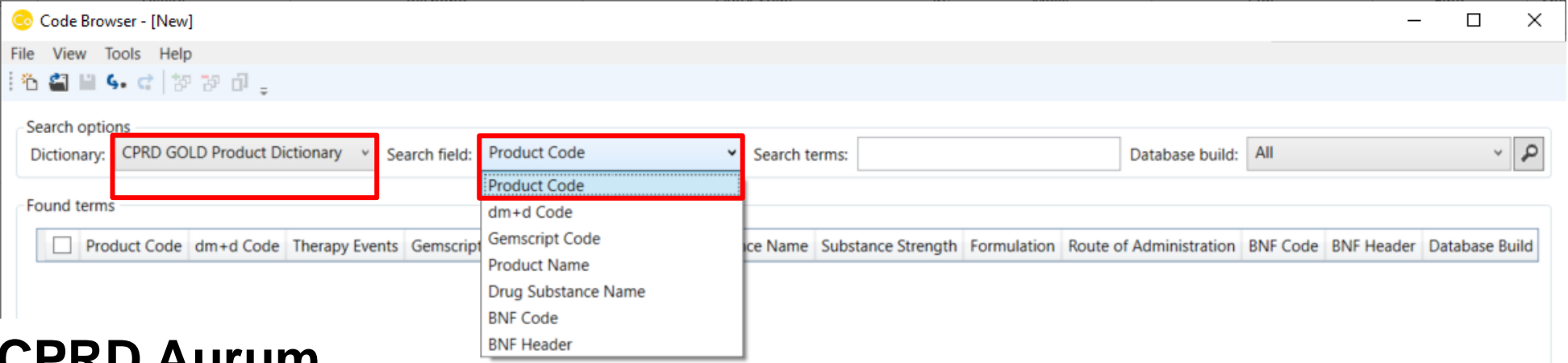
## CPRD Aurum



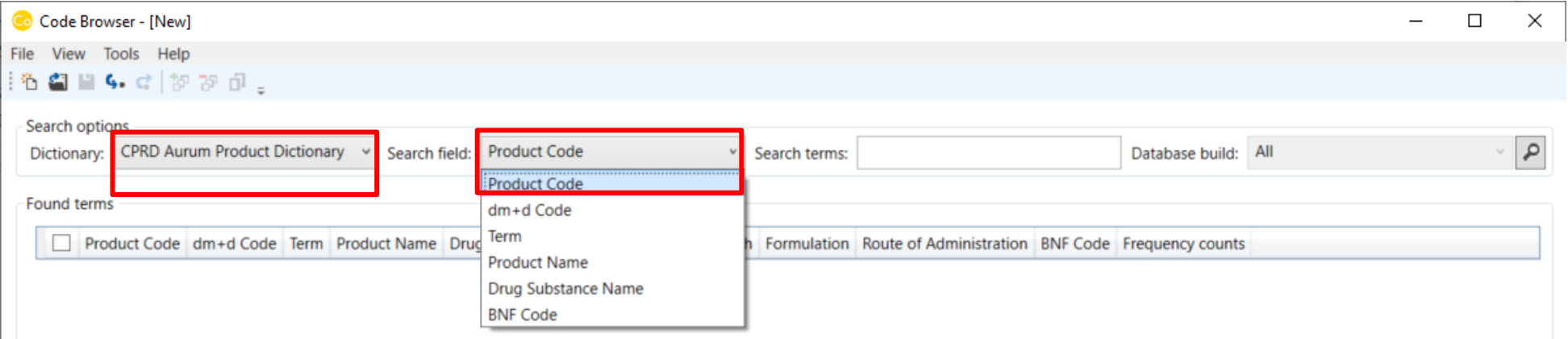
There are different options within the **Search fields** for CPRD GOLD and CPRD Aurum medical dictionaries

# Search field options in the product browser

## CPRD GOLD



## CPRD Aurum



There are different options within the **Search fields** for CPRD GOLD and CPRD Aurum product dictionaries

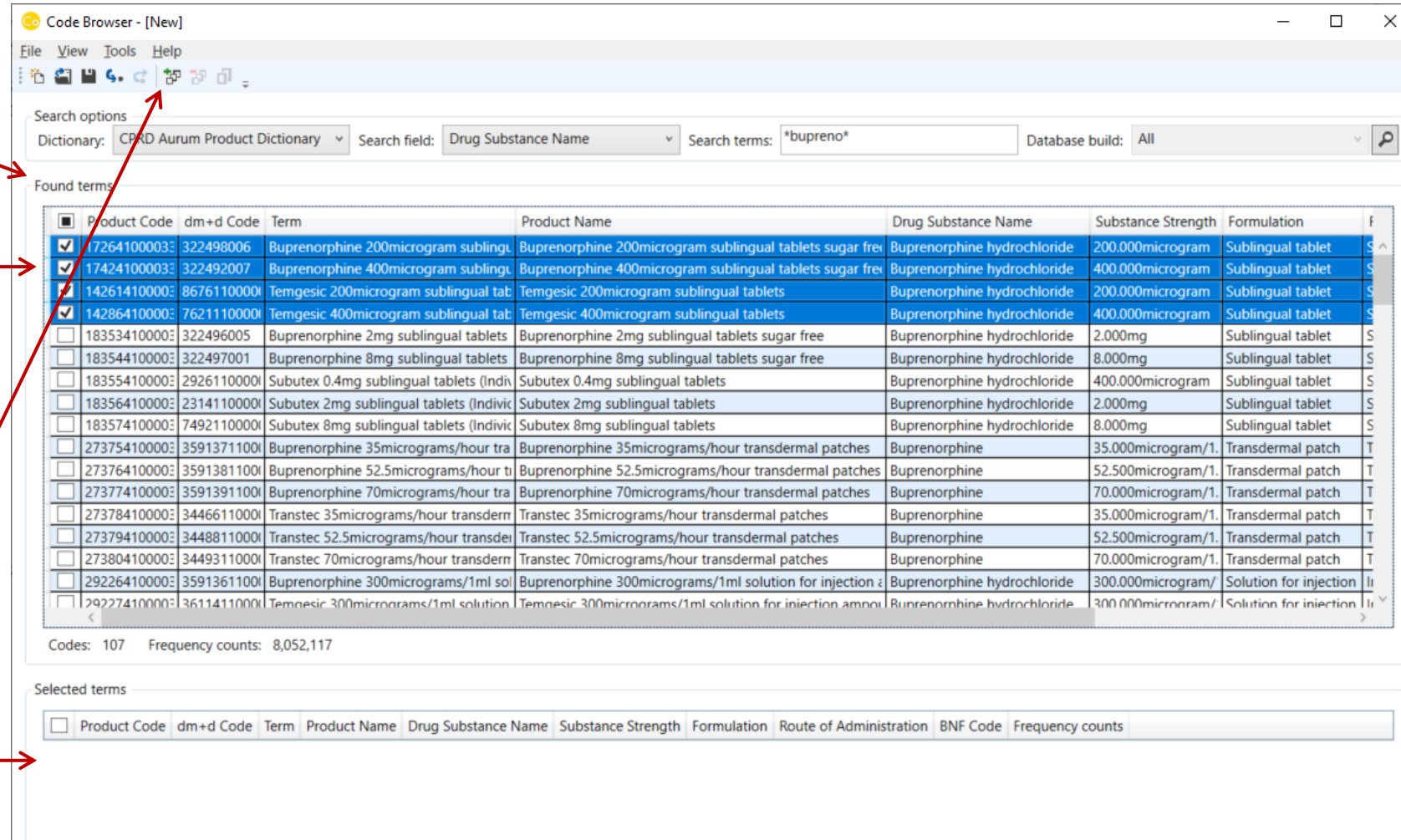
# Selecting codes for the master list

1. Once you have run your search, the **Found terms** shows your results

2. Select codes by ticking the box next to the relevant code

3. Add these codes to the master list by clicking the  icon

4. The **Selected terms** shows the unique codes added to master list



Code Browser - [New]

File View Tools Help

Search options  
Dictionary: CPD Aurum Product Dictionary Search field: Drug Substance Name Search terms: \*bupreno\* Database build: All

Found terms

<input type="checkbox"/>	Product Code	dm+d Code	Term	Product Name	Drug Substance Name	Substance Strength	Formulation	F
<input checked="" type="checkbox"/>	17264100003	322498006	Buprenorphine 200microgram sublingu	Buprenorphine 200microgram sublingual tablets sugar free	Buprenorphine hydrochloride	200.000microgram	Sublingual tablet	S
<input checked="" type="checkbox"/>	17424100003	322492007	Buprenorphine 400microgram sublingu	Buprenorphine 400microgram sublingual tablets sugar free	Buprenorphine hydrochloride	400.000microgram	Sublingual tablet	S
<input checked="" type="checkbox"/>	14261410000	8676110000	Temgesic 200microgram sublingual tab	Temgesic 200microgram sublingual tablets	Buprenorphine hydrochloride	200.000microgram	Sublingual tablet	S
<input checked="" type="checkbox"/>	14286410000	7621110000	Temgesic 400microgram sublingual tab	Temgesic 400microgram sublingual tablets	Buprenorphine hydrochloride	400.000microgram	Sublingual tablet	S
<input type="checkbox"/>	18353410000	322496005	Buprenorphine 2mg sublingual tablets	Buprenorphine 2mg sublingual tablets sugar free	Buprenorphine hydrochloride	2.000mg	Sublingual tablet	S
<input type="checkbox"/>	18354410000	322497001	Buprenorphine 8mg sublingual tablets	Buprenorphine 8mg sublingual tablets sugar free	Buprenorphine hydrochloride	8.000mg	Sublingual tablet	S
<input type="checkbox"/>	18355410000	2926110000	Subutex 0.4mg sublingual tablets (Indiv	Subutex 0.4mg sublingual tablets	Buprenorphine hydrochloride	400.000microgram	Sublingual tablet	S
<input type="checkbox"/>	18356410000	2314110000	Subutex 2mg sublingual tablets (Indiv	Subutex 2mg sublingual tablets	Buprenorphine hydrochloride	2.000mg	Sublingual tablet	S
<input type="checkbox"/>	18357410000	7492110000	Subutex 8mg sublingual tablets (Indiv	Subutex 8mg sublingual tablets	Buprenorphine hydrochloride	8.000mg	Sublingual tablet	S
<input type="checkbox"/>	27375410000	3591371100	Buprenorphine 35micrograms/hour tra	Buprenorphine 35micrograms/hour transdermal patches	Buprenorphine	35.000microgram/1.	Transdermal patch	T
<input type="checkbox"/>	27376410000	3591381100	Buprenorphine 52.5micrograms/hour ti	Buprenorphine 52.5micrograms/hour transdermal patches	Buprenorphine	52.500microgram/1.	Transdermal patch	T
<input type="checkbox"/>	27377410000	3591391100	Buprenorphine 70micrograms/hour tra	Buprenorphine 70micrograms/hour transdermal patches	Buprenorphine	70.000microgram/1.	Transdermal patch	T
<input type="checkbox"/>	27378410000	3446611000	Transtec 35micrograms/hour transderm	Transtec 35micrograms/hour transdermal patches	Buprenorphine	35.000microgram/1.	Transdermal patch	T
<input type="checkbox"/>	27379410000	3448811000	Transtec 52.5micrograms/hour transdei	Transtec 52.5micrograms/hour transdermal patches	Buprenorphine	52.500microgram/1.	Transdermal patch	T
<input type="checkbox"/>	27380410000	3449311000	Transtec 70micrograms/hour transderm	Transtec 70micrograms/hour transdermal patches	Buprenorphine	70.000microgram/1.	Transdermal patch	T
<input type="checkbox"/>	29226410000	3591361100	Buprenorphine 300micrograms/1ml sol	Buprenorphine 300micrograms/1ml solution for injection	Buprenorphine hydrochloride	300.000microgram/	Solution for injection	li
<input type="checkbox"/>	29227410000	3611411000	Temgesic 300micrograms/1ml solution	Temgesic 300micrograms/1ml solution for injection	Buprenorphine hydrochloride	300.000microgram/	Solution for injection	li

Codes: 107 Frequency counts: 8,052,117

Selected terms

<input type="checkbox"/>	Product Code	dm+d Code	Term	Product Name	Drug Substance Name	Substance Strength	Formulation	Route of Administration	BNF Code	Frequency counts
--------------------------	--------------	-----------	------	--------------	---------------------	--------------------	-------------	-------------------------	----------	------------------



# Example using the CPRD GOLD medical dictionary

- Create a code list for Myocardial Infarction (MI)
  1. Search the Read term for a string, e.g. \*myocardial\*
    - However, some MI-related terms may not contain the string 'myocardial'
  2. Search the Read code for the relevant hierarchy identified in (1), e.g. G30\* (most common code is G30..00 Acute Myocardial Infarction)
    - ✓ G30..14 – Heart attack
    - ✓ G30..12 – Coronary thrombosis etc...
- Note: Read codes are hierarchical, therefore you can search by whole chapters relating to particular diseases and their management. SNOMED is not hierarchical and EMIS, who supply CPRD Aurum data, have added some of their own SNOMED codes. Advice on creating code lists can be found in the CPRD Aurum FAQs document on our website <https://cprd.com/primary-care-data-public-health-research>.

# Example using the CPRD GOLD product dictionary

- Create a code list for prozac
  1. Search the product name for a string, e.g. \*Prozac\*
  2. Search the drug substance for a string, e.g. \*fluoxetine hydrochloride\*
  3. Search the BNF
    - By header, e.g. \*Selective Serotonin Re-Uptake Inhibitors (SSRI)\*
    - By chapter, e.g. 4.3.3 = \*040403\*

## A note on notation

- Be careful when translating a Read code list from other sources as the notation may be different:
  - For example, the Quality and Outcomes Framework (QOF) specify wildcard terms as follows: G58..% (heart failure).
  - However in the CPRD Code browser we would use: G58\*

# Copying your master list to the Define/ Refine tool

To copy codes from your **Selected terms** list to the Define or Refine tool, select **Tool** from the Menu bar and click **Copy Codes**

The screenshot shows the 'Code Browser - [New]' application window. The 'Tools' menu is open, and the 'Copy Codes' option is selected. A tooltip above the 'Copy Codes' button reads 'Copy codes from the selected terms view to clipboard.' The 'Found terms' table below contains 10 rows of data, including columns for Product Code, Therapy Events, Gemscript Code, Product Name, Drug Substance Name, Substance Strength, Formulation, Route of Administration, BNF Code, BNF Header, and Database Build. The 'Selected terms' table below it contains 5 rows of data with the same columns. The status bar at the bottom indicates 'Search finished.'

Product Code	Therapy Events	Gemscript Code	Product Name	Drug Substance Name	Substance Strength	Formulation	Route of Administration	BNF Code	BNF Header	Database Bui
320	46	64276020	Buprenorphine	Buprenorphine Hydroc	300micrograms/ml	Injection	Intravenous Injection	04070200	Opioid Analc	February 2009
396	98837	64275020	Buprenorphine	Buprenorphine hydrocl	200microgram	Sublingual tz	Oromucosal sublingual	04070200/	Opioid Analc	February 2009
3064	33369	64277020	Buprenorphine	Buprenorphine hydrocl	400microgram	Sublingual tz	Oromucosal sublingual	04070200/	Opioid Analc	February 2009
3522	98408	51848020	Temgesic 200m	Buprenorphine hydrocl	200microgram	Sublingual tz	Oromucosal sublingual	04070200/	Opioid Analc	February 2009
5936	26555	80250020	Transtec 35mic	Buprenorphine	35microgram/1hour	Transdermal	Transdermal	04070200	Opioid Analc	February 2009
6040	17017	84669020	Transtec 52.5m	Buprenorphine	52.5microgram/1ho	Transdermal	Transdermal	04070200	Opioid Analc	February 2009
6056	18754	52972020	Buprenorphine	Buprenorphine hydrocl	8mg	Sublingual tz	Oromucosal sublingual	04070200/	Opioid Analc	February 2009
6181	13849	84671020	Transtec 70mic	Buprenorphine	70microgram/1hour	Transdermal	Transdermal	04070200	Opioid Analc	February 2009




Codes: 47    Therapy Events: 1,284,054

Product Code	Therapy Events	Gemscript Code	Product Name	Drug Substance Name	Substance Strength	Formulation	Route of Administration	BNF Code	BNF Hea
35169	6240	92297020	Suboxone 8mg/2mg sublingual tabl	Buprenorphine Hydroc	8mg + 2mg	Sublingual T	Sublingual	04105200	Drugs Us
35170	6784	92295020	Suboxone 2mg/500microgram sublii	Naloxone hydrochlorid	500microgram + 2r	Sublingual tz	Oromucosal sublingual	04105200	Drugs Us
35681	474	92283020	Buprenorphine 2mg / Naloxone 500	Naloxone hydrochlorid	500microgram + 2r	Sublingual tz	Oromucosal sublingual	04105200	Drugs Us
35682	385	92291020	Buprenorphine 8mg / Naloxone 2mc	Buprenorphine Hydroc	8mg + 2mg	Sublingual T	Sublingual	04105200	Drugs Us
38311	16	92293020	Naloxone hc 2mg + 8mg Tablet	Buprenorphine Hydroc	2mg + 8mg	Tablet	Sublingual	04070200/	Opioid A

Codes: 5    Therapy Events: 13,899

Search finished.

## Code Browser outputs

- Copy code list from the master list to the clipboard for pasting into Define, our cohort selection tool.  
(Tools → Copy Codes or  )
- Save the master list and current search to a file (name.pmb or name.ppb) for later reuse
- (File → Save, Ctrl + S, or  )
- Export to a file (name.txt), for later reuse
- (File → Export, Ctrl + E, or  )

## Note on codes in CPRD Aurum

- Medical, Product and SNOMED codes should always be stored as 'string' (text), not as integers.
  - For CPRD Aurum, these codes can be up to 18 digits in length.
  - Software packages such as R/Stata/SPSS/Excel cannot store such long integers without loss of precision.
- The CPRD tools have been designed to overcome this limitation by importing, storing, and exporting using text files.

# CPRD GOLD vs CPRD Aurum Code Browser

- The CPRD GOLD dictionaries display event counts by event type:
  - Clinical / Referral / Test / Immunisation
  - Therapy
- The CPRD Aurum dictionaries display counts, rounded to one significant figure

# ICD-10 and OPCS codes

- The Code Browser cannot be used to search ICD-10 or OPCS codes.
- Many of the linked datasets available through CPRD contain the 3- or 4-character ICD or OPCS codes so longer codes will not match any records. Information regarding the coding used in each linked data source and the format of the codes can be found in the relevant documentation on our website: <https://cprd.com/cprd-linked-data>
- The ICD-10 and OPCS dictionaries can be downloaded from NHS digital TRUD: <https://isd.digital.nhs.uk/trud3/user/guest/group/0/home>)



# Full user guide

- The full user guide contains further information about how to use the Code Browser tool.
- Can be requested by emailing [enquiries@cprd.com](mailto:enquiries@cprd.com)

**© Crown copyright 2022**

Produced by the Medicines and Healthcare products Regulatory Agency

You may re-use this information (excluding logos) with the permission from the Medicines and Healthcare products Regulatory Agency, under a Delegation of Authority. To view the guideline, visit <https://www.gov.uk/government/publications/reproduce-or-re-use-mhra-information/reproduce-or-re-use-mhra-information> or email: [copyright@mhra.gov.uk](mailto:copyright@mhra.gov.uk).

Where we have identified any third-party copyright material you will need to obtain permission from the copyright holders concerned.

The names, images and logos identifying the Medicines and Healthcare products Regulatory Agency are proprietary marks. All the Agency's logos are registered trademarks and cannot be used without the Agency's explicit permission.