Australian Government

IP Australia

Pharmaceutical Patent-PBS Data

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Getting started

This document is the first step for new users for the Pharmaceutical Patent-PBS Data released by IP Australia.

What is Pharmaceutical Patent-PBS Data?

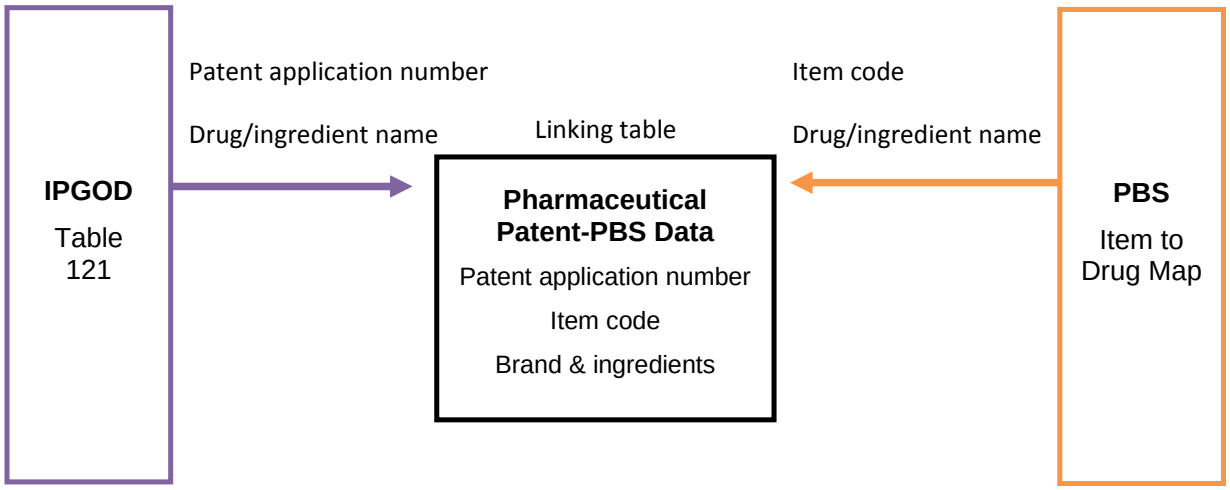
The Pharmaceutical Patent-PBS Data is a linking table between IPGOD (Intellectual Property Government Open Data) and PBS (Pharmaceutical Benefit Scheme) data sets. It describes the relationship between pharmaceutical patent application numbers listed in IPGOD and item code for drugs listed in the PBS.

How do I use Pharmaceutical Patent-PBS Data?

The Pharmaceutical Patent-PBS Data can be linked to any PBS data sets through item code and can be linked to any tables in IPGOD data set through patent application number. We provide a sample use case where we use the linking table to extend Section 85 Date of Processing Data in the later section of this document.

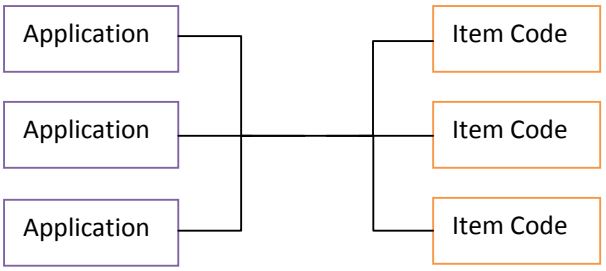
Technical information about the data set

Merging PBS data with patent applications is made possible using drug names. The process is described in the diagram below. Table 121 of IPGOD 2017[1] contains pharmaceutical patents that have applied for an extension of term beyond the standard twenty years. The drug/ingredient names are recorded as part of the patent application process. For the PBS data, drug names can be derived for each item code using the Item Code to Drug Map[2] file. Using drug/ingredient name, it is possible to merge the two data sets together to generate the linking table.



What is in the linking table?

The linking table contains 7,909 matches between item code and patent application number. This covers 2,079 item codes across 572 patent applications. It is important to note that a single item code can have many patents and it is also possible for a single patent to appear in many item codes. For instance, the lipid regulating drug Atorvastatin appears on the PBS using seven different item codes and Nanoparticle Albumin-bound Paclitaxel appears on three patent applications. This forms a many-to-many relationship between patent application and item code as illustrated below.



[1] Using IPGOD 2017: https://data.gov.au/dataset/intellectual-property-government-open-data-2017

[2] The Item Code to Drug Map file was downloaded on September 2017: http://www.pbs.gov.au/info/statistics/dos-and-dop/dos-and-dop

A data dictionary is also provided to help users navigate the linking table. The data dictionary includes a description of each variable in the table.

Section 85 Date of Processing Data

As a sample use case, IP Australia utilises the linking table to derive patent applications of item codes listed in Section 85 Date of Processing (DoP) Data from the financial years 2008-09 to 2016-17.

What is Section 85 Date of Processing Data?

The Australian Department of Health releases the data on PBS and RPBS Section 85 prescriptions supplied in Australia on the pbs.gov.au website and updates it monthly. The data set is presented at item code level. It contains:

- Monthly number of prescriptions (*prescriptions*)
- Monthly total cost of the prescriptions (*total_cost*)

  This cost is the total amount received by pharmacies / firms for the supply of the item, excluding additional premiums paid by the patient. This consists of:

  - The portion of the total cost paid by the Government (*govt_contrib*)
  - The portion of the total cost paid by patients (*patient_contrib*)

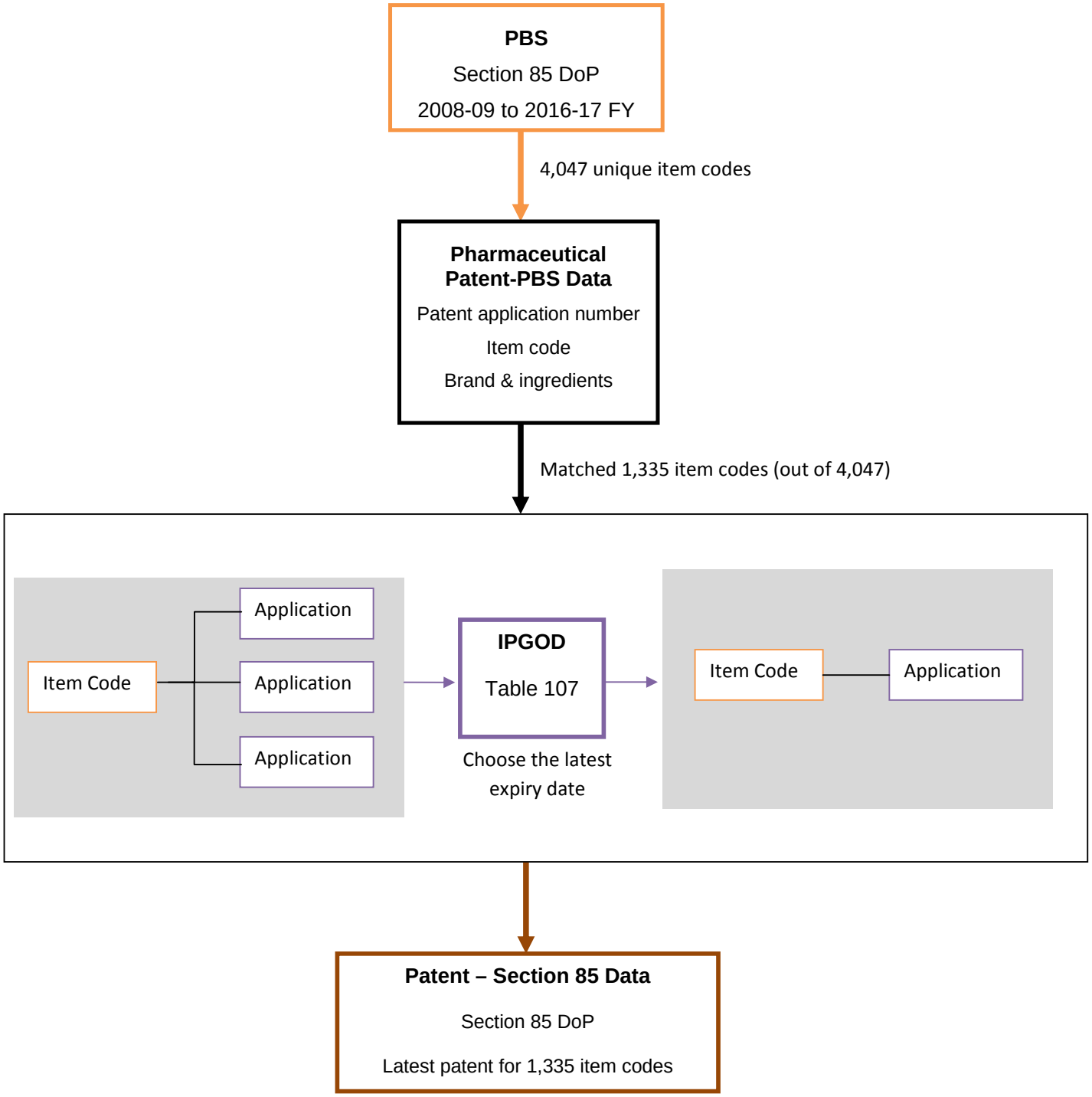
A full definition of each field in the data set and further information can be found in the Explanatory Notes on the PBS website: http://www.pbs.gov.au/info/statistics/dos-and-dop/dos-and-dop

How does IP Australia use the linking table?

Using the linking table, we derive patent applications associated with each item code in the Section 85 DoP Data. The primary challenge of this exercise lies in the data structure where one item code can have many patents, as described in the previous section. For illustrative purposes, we derive both the latest patent and the earliest patent associated to each of the item codes in the Section 85 DoP Data.

The latest patent for each item code is derived by looking at the latest *expiry_date* in IPGOD Table 107. We merge the Section 85 DoP Data with the linking table to derive all patent application numbers for each item code. If an item code has many patent applications, we then look at IPGOD Table 107 to choose the application with the latest expiry date.[3] This process is illustrated in a diagram on the next page.

[3] In the case of one item code that has multiple patent applications with the same expiry date, we select the most recent application within this group.



Using the same approach, we also derive the earliest patent for each item code by choosing the earliest application date in IPGOD Table 107. Depending on research purpose, one approach may be superior to another. This merged data set (along with the Data Dictionary) is also publicly available to use. Note that this is just one example of how the linking table can be utilised as there are many other possible approaches in merging PBS data with IPGOD data through the linking table.

What support exists

Who do I contact about the data set?

Any queries / questions about the data set should be directed to the ipgod@ipaustralia.gov.au mailbox. If you have a question, please do not hesitate to ask. We are looking to work with our end users to continually improve our data product.

Where can I find more information about PBS / IPGOD?

IPGOD, or Intellectual Property Government Open Data, includes over 100 years of data on all IP rights administered by IP Australia, comprising patents, trademarks, designs and plant breeder's rights. The data is highly detailed, including information on each aspect of the application process from application through to the granting of IP rights. More information about the location and description of IPGOD can be found via this link: https://data.gov.au/dataset/intellectual-property-government-open-data-2017

The PBS has been in existence since 1948 and is governed by the *National Health Act 1953* (Commonwealth). The PBS Schedule lists all of the medicines available to be dispensed to patients at a Government-subsidised price. The Schedule is part of the wider Pharmaceutical Benefits Scheme managed by the Department of Health and administered by Department of Human Services.[4] More information about PBS Statistics can be found via this link: http://www.pbs.gov.au/info/browse/statistics

[4] http://www.pbs.gov.au/info/about-the-pbs