

About Postal Code Conversion Files (PCCF): PCCF Single Link Identifier and PCCF Plus

A single postal code can occur in a small range of addresses along one side of a city block or even be assigned to one apartment building and be spread across large areas, especially in less densely populated regions and in rural areas. As a result, this means that one postal code can occur in one, or in several Dissemination Areas (DAs) – which is the smallest unit of Census geography.

The PCCF Single Link Identifier (SLI) and PCCF Plus (PCCF+) files, from Canada Post Corporation, are used by the OCHPP team (and others) to convert the locations of postal codes to DAs. DAs (containing postal codes) can then be aggregated to other areas of geography such as neighbourhoods (or local areas) and larger such as sub-regions.

PCCF Single Link Identifier: (PCCF SLI)

This is a simplified conversion file where each postal code is assigned to only one DA based on the majority of dwellings existing in the given PC's location. Each postal code can still have several entries in PCCF SLI corresponding to its different point locations defined by X&Y coordinates, but only one of those entries will have the value of 1 in the 'SLI' field indicating the best 1-to-1 match between the PC and DA. The value of '0' in the 'SLI' field indicates the other PC's point locations, which are not assigned to the areas based on SLI criterion.

The process is:

Postal Code (from source such as OHIP) – Use Postal Code Conversion File (PCCF SLI) to match each postal code with one DA, e.g. M4V 0A1 links to DA 35,202,801, M4V 1N5 links to DA 35,202,790.

Summary

If we use the straight PCCF SLI, one PC links to only one DA where most people living in this postal code happen to reside and despite the fact that this postal code may occur in different locations, ie different DAs.

For full info on PCCF SLI please see: <https://www150.statcan.gc.ca/n1/pub/92-154-g/92-154-g2017001-eng.htm>

PCCF Plus (PCCF+)

The PCCF+ conversion file uses population-weighted random allocation for PCs that link to more than one geographic area. PCCF+ resolves several issues related to multiple postal codes such as:

- 1) PCs serving several DAs or blocks (especially in rural areas);
- 2) PCs used by businesses or public institutions;
- 3) PCs which PCCF SLI only links to post office geography (rather than place of residence or business);
- 4) Defines linkages between historical PCs and geographic areas.

Every five years, after each census is undertaken, PCCF+ and the underlying population weight files are recalculated and aligned with the new set of census geographic areas.

PCCF+ can use partial parts of the PC (the first one, two, three, four, or five characters) of the postal code to impute or partially impute census geographic coding. The PCCF+ file assigns additional attributes to each postal code including income quintile and health region.

When a single postal code occurs in multiple locations across a geographic region, small areas such as DAs are assigned randomly to the records of this postal code and in proportion to the population with that postal code within them.

The process is:

Postal Codes (from source such as OHIP) -> Use Postal Code Conversion File+ -> Link to Dissemination Areas (DA) or other geographic units using probability values based on population weights. Population weights are created based on the proportions of people with the given postal code residing in different DAs (or other geographic units).

Summary/Example

If one PC occurs in three DAs, and the proportions of the population that resides in this PC for the three different DAs is DA1: 0.5, DA2: 0.3, and DA3: 0.2, then these are going to be the probabilities with which the postal code will be assigned to these three DAs.

As an example of how the probabilities/weighting works, if in one data set (e.g. hospitalizations) there are 10 occurrences (patients) with this one postal code, then 5 of those patients will be linked to DA1, three patients will be linked to DA2, and two patients will be assigned to DA3.

When we run the linkages another time, the number of patients assigned to each DA will be the same, but different patients may get assigned to different DAs based on ongoing changes and updates to postal codes which are provided through OHIP information. This is why we cannot compare different runs of PFFC+ with each other.

For full info on PCCF+ please see: <https://www150.statcan.gc.ca/n1/en/catalogue/82F0086X>.

For more information about how OCHPP generates health outcome data using PCCF+, send an email to healthprofiles@smh.ca