# Hypertension: Case Definition

**Goal:** Identify **prevalent and incident hypertension** in administrative data (Alberta Health and Wellness data April 1, 1994 to March 31, 2009)

**Validated Algorithm:** 1 hospital discharge OR 2 physician claims in 2 years of the ICD codes below 1

**Datasets:** Hospitalization discharge database (all fields) and physician claims (all fields).

**Case Definition:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Hypertension** | **ICD-9-CM Codes** | **ICD-9-CM Description** | **ICD-10-CA Codes** | **ICD-10-CA Description** |
| **Codes** | 401 | Essential hypertension | I10 | Essential (primary) hypertension |
|  | 402 | Hypertensive heart disease | I11 | Hypertensive heart disease |
|  | 403 | Hypertensive chronic kidney disease | I12 | Hypertensive renal disease |
|  | 404 | Hypertensive heart and chronic kidney disease | I13 | Hypertensive heart and renal disease |
|  | 405 | Secondary hypertension | I15 | Secondary hypertension |

*One* *hospitalization* (ICD-9-CM or ICD-10-CA) excluding gestational hypertension **OR** *Two physician claims* on separate dates with an ICD-9-CM code *within two years*. Hypertension hospitalizations are excluded **prior** to applying the case definition if those hospitalizations are found within 120 days before or 180 days after a gestational hospital record. Any diagnosis type, selected from all available fields, for both hypertension hospitalizations and gestational hospitalizations

Gestational Hypertension Exclusions:

ICD-9: substr(ICD9\_(i), **1**, **2**) in ('65','66')

ICD-10: substr(hos\_ICD10\_(i), **1**, **2**)='O6' or

substr(hos\_ICD10\_(i), **1**, **3**) in ('O13','O14','O29','O47','O48', 'O70','O71','O72','O73','O74','O75','O80','O81','O82','O83','O84')

Records where hypertension event is **150** days before gestational event (either hospitalization or physician claims) are excluded.

**Hypertension Onset Date:** the earliest of either the first date of hospitalization for hypertension (excluding gestational hypertension), or the former of the two physician claims

**Wash-out Period:** There will be a wash-out period of ***at least*** 3 years. At least one diagnosis code of hypertension present during the wash-out period excludes a patient as an incident case. If the date of onset hypertension (by case definition) occurs on or after April 1, 1997, hypertension will be classified as an **incident** case. If the date of onset hypertension (by case definition) occurs between April 1, 1994 and March 31, 1997, there will not be a wash-out period of at least 3 years available. In this case, hypertension will be considered **prevalent**.

**References to cite:**

1. Quan H, Khan N, Hemmelgarn BR, et al. Validation of a case definition to define hypertension using administrative data. Hypertension 2009; 54: 1423-1428.