

# Health Regions: Boundaries and Correspondence with Census Geography



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- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- <sup>P</sup> preliminary
- <sup>r</sup> revised
- X suppressed to meet the confidentiality requirements of the *Statistics Act*
- <sup>E</sup> use with caution
- F too unreliable to be published
- \* significantly different from reference category ( $p < 0.05$ )

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## Statistics Canada

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### Health Regions: Boundaries and Correspondence with Census Geography

This issue describes in detail the health region limits as of December 2014<sup>\*</sup> and their correspondence with the 2011 and 2006 Census geography. Health regions are defined by the provinces and represent administrative areas or regions of interest to health authorities. This product contains correspondence files (linking health regions to census geographic codes) and digital boundary files. User documentation provides an overview of health regions, sources, methods, limitations and product description (file format and layout).

#### Notes

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\* Note that changes for Nova Scotia come into effect as of April 1, 2015.

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## What's new?

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This issue contains the health region limits as of December 2014 and their correspondence with 2011 Census geography.

- As of April 1, 2015, Nova Scotia has one Provincial Health Authority, with four management zones. These management zones are an aggregation of the nine former health authorities:
  - South Shore (1211), South West Nova (1212), and Annapolis Valley (1223) merged to form Zone 1 - Western (1201);
  - Colchester East Hants (1234), Cumberland (1235), and Pictou County (1246) merged to form Zone 2 - Northern (1202);
  - Guysborough Antigonish Strait (1247) and Cape Breton (1258) merged to form Zone 3 - Eastern (1203);
  - Capital (1269) forms Zone 4 - Central (1204). In addition, there is a small shift of Dissemination Areas 12080119 and 12080120 which will be associated with Zone 4 - Central.
- In Newfoundland and Labrador, there was a reassignment of three communities (Castor River North, Castor River South, and Bartlett's Harbour) from Labrador-Grenfell Regional Integrated Health Authority to Western Regional Integrated Health Authority.

The boundaries, health region codes and health region names in the remaining provinces and territories have not changed.

Health region peer groups have been redefined based on data from the 2011 Census of Population and the 2011 National Household Survey. Selected indicators from these sources can be found via the following tables:

- [Census indicator profile, Canada, provinces, territories, health regions \(2014 boundaries\) and peer groups](#)
- [National Household Survey indicator profile, Canada, provinces, territories, health regions \(2014 boundaries\) and peer groups](#)



# User guide

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## Appendices and tables

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- [Table 5 Census subdivisions linked to more than one health region](#)

## Background

In recent years there has been an increasing demand for relevant health information at a 'community' level. As a result, health regions have become an important geographic unit by which health and health-related data are produced.

Health regions are legislated administrative areas defined by provincial ministries of health. These administrative areas represent geographic areas of responsibility for hospital boards or regional health authorities. Health regions, being provincial administrative areas, are subject to change.

The 2014 Health Regions: Boundaries and Correspondence with Census Geography reflects the boundaries as of December 2014 and provides the geographic linkage to 2011 and 2006 Censuses.

## Description

The generic term "health region" applies to a variety of administrative areas across Canada that are defined by provincial ministries of health. To complete the Canadian coverage, each northern territory is represented as health region.

The following table describes the health regions, by province, with reference to the provincial legislation under which these areas have been defined.

[Table 1 Health regions and relevant legislation, by province 2014](#)

## Health region code structure

A four digit numeric code is used to uniquely identify health regions. The first two digits represent the province, and the second two digits represent the health region. These codes reflect the same codes used by the provincial ministries of health. For those provinces where a numeric code is not applicable, a two-digit code was assigned. Ontario uses a 4-digit code for public health units. This code was truncated to the last two digits for consistency in the national health region code structure. Since Ontario has two sets of health regions, which do not entirely relate hierarchically, their codes are unique within the province.

The names of the health regions also represent the official names used by the provinces.

See [Appendix 1: Health regions in Canada, 2014](#) (names and codes).

## Correspondence files

Production of health region level data requires geographic coding tools. Since census geography does not recognize provincial health region boundaries, a health region-to-census geography correspondence file provides the linkage between health regions and their component census geographic units. These correspondence files use the smallest relevant census geographic unit.

To accommodate various data sources producing health region level data, linkage has been created for both 2011 and 2006 Census geographies. The layout of these correspondence files includes the seven-digit Standard geographic classification (SGC) code. The SGC code uniquely represents census subdivisions (CSD).

Most health regions comprise entire CSDs (see Table 2). However, there are some cases where health regions do not conform with municipalities. The 2006 Census linkage was created at the dissemination area (DA) level and block level for British Columbia, Alberta, Saskatchewan, Manitoba, and Ontario (LHINs). Even these smaller geographic areas (DA/blocks) sometimes straddle health region boundaries. In those cases, the entire DA (or block) was assigned, in conjunction with the affected province, to just one health region and therefore represents a 'best fit' with census geography.

Other data sources use postal codes to geographically reference data records. These data are first converted to census geographic units using the Statistics Canada postal code conversion file, then linked to health regions based on the correspondence file.

### [Table 2 Census geography definitions](#)

The dissemination area/block-to-health region (DA/block-to-HR) correspondence files provided in this publication are available in CSV format.

## Record layout

The record layout of the files is shown in the following tables.

### [Table 3 2011 Census health region correspondence file layout](#)

### [Table 4 2006 Census health region correspondence file layout](#)

## Health regions and standard geography

For the most part, health regions can be described as groupings of counties (census divisions) or municipalities (census subdivisions). This description holds especially true in the Atlantic provinces, Quebec, and Ontario (with minor exceptions in northern Ontario). In the western provinces, health regions are less likely to follow census division or census subdivision boundaries.

The following table provides a count, by province, of census subdivisions that fall in more than one health region.

### [Table 5 Census subdivisions linked to more than one health region](#)

## Boundary files

The health region boundaries provided in this product are based on 2011 and 2006 Census geographic units. The smallest geographic unit available has been used as the building block to define health regions. In general, the legislated limits respect these units, but they do not respect DA's or blocks once the legislated boundaries are digitized. In all provinces except British Columbia, Alberta, Saskatchewan, Manitoba and Ontario (LHINs), the dissemination area was used to define health regions. However, in several instances, the actual physical legal limits split DAs. In the Prairie provinces and B.C. the dissemination block (DB) was used to improve the accuracy of these boundaries. **Even with this, the physical legal boundaries do not always reflect the legislated limits recognized by the provinces thus creating many instances of split dissemination blocks.**

The limits that did not respect STC geometry (the splits) were digitized by utilizing maps, spatial layers and/or descriptions supplied by and with the cooperation of the authority for each province.

## Method used to create health region 2014 boundary files

All processes and procedures to update the digital boundary files were carried out using ESRI Inc.® ArcGIS TM 10.0, Safe Software Inc. FME ® Desktop 2012, Pitney Bowes Software Inc.® MapInfo 11.5.1, Microsoft ® 2007, and Microsoft ® Excel 2007.

## Boundary file formats

All digital health region boundaries in this publication are available in two formats: An ESRI ® shapefile format and MapInfo® table format.

The ESRI ® shapefile is supplied in a zip file. This file expands to provide four files of different extensions which are: (DBF, SHP, PRJ and SHX).

The MapInfo® format, ©Pitney Bowes Software Inc., is supplied in a zip file. This file expands to provide four files of different extensions which are: (TAB, DAT, ID, and MAP).

Boundary files are provided as a national boundary file and are provided as individual provincial boundary files.

## **Projection information**

The disseminated projection coordinate system of the health region boundary files is as follows:

Lambert Conformal Conic

Datum = NAD83

Units = meters

Spheroid = GRS 1980

Parameters:

1st standard parallel: 49° 00' 00"

2nd standard parallel: 77° 00' 00"

Central Meridian: -91° 52' 00"

Latitude of Projection Origin: 63° 23' 26.43"

False Easting: 6200000

False Northing: 3000000

## **Acknowledgements**

Health Statistics Division worked closely with the provincial Ministries of Health and the Geography Division of Statistics Canada to produce this product. BC Stats, Alberta Treasury, le ministère de la Santé et des Services sociaux du Québec and Manitoba Health also contributed directly to this work by providing health region-to-census geography correspondence files.



# Appendix 1

## Health regions in Canada, 2014

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### Newfoundland and Labrador

1011 Eastern Regional Integrated Health Authority  
1012 Central Regional Integrated Health Authority  
1013 Western Regional Integrated Health Authority  
1014 Labrador-Grenfell Regional Integrated Health Authority

### Prince Edward Island

1100 Prince Edward Island

### Nova Scotia

#### Zones

1201 Zone 1 - Western  
1202 Zone 2 - Northern  
1203 Zone 3 - Eastern  
1204 Zone 4 - Central

### New Brunswick

1301 Zone 1 (Moncton area)  
1302 Zone 2 (Saint John area)  
1303 Zone 3 (Fredericton area)  
1304 Zone 4 (Edmundston area)  
1305 Zone 5 (Campbellton area)  
1306 Zone 6 (Bathurst area)  
1307 Zone 7 (Miramichi area)

### Quebec

2401 Région du Bas-Saint-Laurent  
2402 Région du Saguenay — Lac-Saint-Jean  
2403 Région de la Capitale-Nationale  
2404 Région de la Mauricie et du Centre-du-Québec  
2405 Région de l'Estrie  
2406 Région de Montréal  
2407 Région de l'Outaouais  
2408 Région de l'Abitibi-Témiscamingue  
2409 Région de la Côte-Nord  
2410 Région du Nord-du-Québec  
2411 Région de la Gaspésie — Îles-de-la-Madeleine  
2412 Région de la Chaudière-Appalaches  
2413 Région de Laval  
2414 Région de Lanaudière  
2415 Région des Laurentides  
2416 Région de la Montérégie  
2417 Région du Nunavik  
2418 Région des Terres-Cries-de-la-Baie-James



## Ontario

### Local Health Integrated Networks (LHINs)

3501 Erie St. Clair  
3502 South West  
3503 Waterloo Wellington  
3504 Hamilton Niagara Haldimand Brant  
3505 Central West  
3506 Mississauga Halton  
3507 Toronto Central  
3508 Central  
3509 Central East  
3510 South East  
3511 Champlain  
3512 North Simcoe Muskoka  
3513 North East  
3514 North West

### Public Health Units

3526 The District of Algoma Health Unit  
3527 Brant County Health Unit  
3530 Durham Regional Health Unit  
3531 Elgin-St Thomas Health Unit  
3533 Grey Bruce Health Unit  
3534 Haldimand-Norfolk Health Unit  
3535 Haliburton, Kawartha, Pine Ridge District Health Unit  
3536 Halton Regional Health Unit  
3537 City of Hamilton Health Unit  
3538 Hastings and Prince Edward Counties Health Unit  
3539 Huron County Health Unit  
3540 Chatham-Kent Health Unit  
3541 Kingston, Frontenac and Lennox and Addington Health Unit  
3542 Lambton Health Unit  
3543 Leeds, Grenville and Lanark District Health Unit  
3544 Middlesex-London Health Unit  
3546 Niagara Regional Area Health Unit  
3547 North Bay Parry Sound District Health Unit  
3549 Northwestern Health Unit  
3551 City of Ottawa Health Unit  
3552 Oxford County Health Unit  
3553 Peel Regional Health Unit  
3554 Perth District Health Unit  
  
3555 Peterborough County-City Health Unit  
3556 Porcupine Health Unit  
3557 Renfrew County and District Health Unit  
3558 The Eastern Ontario Health Unit  
3560 Simcoe Muskoka District Health Unit  
3561 Sudbury and District Health Unit  
3562 Thunder Bay District Health Unit  
3563 Timiskaming Health Unit  
3565 Waterloo Health Unit  
3566 Wellington-Dufferin-Guelph Health Unit  
3568 Windsor-Essex County Health Unit  
3570 York Regional Health Unit  
3595 City of Toronto Health Unit

## **Manitoba**

4601 Winnipeg Regional Health Authority  
4602 Prairie Mountain Health  
4603 Interlake-Eastern Regional Health  
4604 Northern Regional Health Authority  
4605 Southern Health

## **Saskatchewan**

4701 Sun Country Regional Health Authority  
4702 Five Hills Regional Health Authority  
4703 Cypress Regional Health Authority  
4704 Regina Qu'Appelle Regional Health Authority  
4705 Sunrise Regional Health Authority  
4706 Saskatoon Regional Health Authority  
4707 Heartland Regional Health Authority  
4708 Kelsey Trail Regional Health Authority  
4709 Prince Albert Parkland Regional Health Authority  
4710 Prairie North Regional Health Authority  
4711 Mamawetan Churchill River Regional Health Authority  
4712 Keewatin Yatthé Regional Health Authority  
4713 Athabasca Health Authority  
  
4714 Mamawetan/Keewatin/Athabasca Regional Health Authorities

## **Alberta**

4831 South Zone  
4832 Calgary Zone  
4833 Central Zone  
4834 Edmonton Zone  
4835 North Zone

## **British Columbia**

5911 East Kootenay Health Service Delivery Area  
5912 Kootenay-Boundary Health Service Delivery Area  
5913 Okanagan Health Service Delivery Area  
5914 Thompson/Cariboo Health Service Delivery Area  
5921 Fraser East Health Service Delivery Area  
5922 Fraser North Health Service Delivery Area  
5923 Fraser South Health Service Delivery Area  
5931 Richmond Health Service Delivery Area  
5932 Vancouver Health Service Delivery Area  
5933 North Shore/Coast Garibaldi Health Service Delivery Area  
5941 South Vancouver Island Health Service Delivery Area  
5942 Central Vancouver Island Health Service Delivery Area  
5943 North Vancouver Island Health Service Delivery Area  
5951 Northwest Health Service Delivery Area  
5952 Northern Interior Health Service Delivery Area  
5953 Northeast Health Service Delivery Area

## **Yukon**

6001 Yukon

## **Northwest Territories**

6101 Northwest Territories

## **Nunavut**

6201 Nunavut



## Appendix 2 Summary of changes to health regions, 2013 and 2014

Province/Territory	Health regions 2013	Units	Health regions 2014	Units	Comments
Newfoundland and Labrador	Regional Integrated Health Authorities (RIHAs)	4	Regional Integrated Health Authorities (RIHAs)	4	No change
Prince Edward Island	Health Regions	1	Health Regions	1	No change
Nova Scotia	Zones	6	Zones	4	As of April 1, 2015, Nova Scotia has one Provincial Health Authority, with four management zones. These management zones are an aggregation of the nine former health authorities. In addition, there is a small shift of Dissemination Areas 12080119 and 12080120 which will be associated with Zone 4-Central.
	District Health Authorities	9	District Health Authorities	0	
New Brunswick	Zones	7	Zones	7	No change
Quebec	<i>Régions sociosanitaires</i>	18	<i>Régions sociosanitaires</i>	18	No change
Ontario	Public Health Units (PHUs)	36	Public Health Units (PHUs)	36	No change
	Local Health Integrated Network (LHIN)	14	Local Health Integrated Network (LHIN)	14	No change
Manitoba	Regional Health Authorities	5	Regional Health Authorities	5	No change
Saskatchewan	Regional Health Authorities	13	Regional Health Authorities	13	No change
Alberta	Zones	5	Zones	5	No change
British Columbia	Home Service Delivery Areas (HSDA)	16	Home Service Delivery Areas (HSDA)	16	No change
Yukon	Territory	1	Territory	1	No change
Northwest Territories	Territory	1	Territory	1	No change
Nunavut	Territory	1	Territory	1	No change

Source: Statistics Canada.



## Appendix 3 Detailed list of census subdivisions split by two or more health regions, 2014

Census subdivisions	Health region codes	Health region names	Population	% population split in census subdivisions
<b>Newfoundland and Labrador</b>				
1009021	1013	Western	424	15.5
	1014	Labrador–Grenfell	2,305	84.5
	Subtotal		2,729	100
<b>Nova Scotia</b>				
1208008	1204	Zone 4 - Central	1,680	7.6
	1202	Zone 2 - Northern	20,431	92.4
	Subtotal		22,111	100
<b>Ontario – Local Health Integration Network</b>				
3519028	3505	Central West	30,476	10.6
	3508	Central	257,825	89.4
	Subtotal		288,301	100
3520005	3505	Central West	130,193	5
	3506	Mississauga Halton	109,344	4.2
	3507	Toronto Central	1,149,993	44
	3508	Central	631,372	24.1
	3509	Central East	594,158	22.7
	Subtotal		2,615,060	100
3521005	3505	Central West	39,123	5.5
	3506	Mississauga Halton	674,320	94.5
	Subtotal		713,443	100
3521024	3505	Central West	59,460	100
	3508	Central	0	0
	Subtotal		59,460	100
3528052	3502	South West	13,416	21.2
	3504	Hamilton Niagara Haldimand Brant	49,759	78.8
	Subtotal		63,175	100
3542004	3502	South West	11,487	93.5
	3503	Waterloo Wellington	799	6.5
	Subtotal		12,286	100
3542015	3502	South West	6,871	72.2
	3512	North Simcoe Muskoka	2,649	27.8
	Subtotal		9,520	100
3542045	3502	South West	3,866	59.9
	3512	North Simcoe Muskoka	2,587	40.1
	Subtotal		6,453	100
3543003	3508	Central	10,564	99.6
	3512	North Simcoe Muskoka	39	0.4
	Subtotal		10,603	100
3543021	3508	Central	1,063	5.7
	3512	North Simcoe Muskoka	17,442	94.3
	Subtotal		18,505	100
3560090	3513	North East	0	0
	3514	North West	7,031	100
	Subtotal		7,031	100
<b>Ontario - Public Health Units</b>				
3554094	3556	Porcupine Health Unit	89	3
	3563	Timiskaming Health Unit	2,836	97
	Subtotal		2,925	100
3557095	3526	The District of Algoma Health Unit	5,482	99.3
	3556	Porcupine Health Unit	36	0.7

	Subtotal		5,518	100
3558090	3549	Northwestern Health Unit	64	1.1
	3562	Thunder Bay District Health Unit	5,845	98.9
	Subtotal		5,909	100
3560090	3549	Northwestern Health Unit	7,031	100
	3556	Porcupine Health Unit	0	0
	3562	Thunder Bay District Health Unit	0	0
	Subtotal		7,031	100
<b>Manitoba</b>				
4601094	4603	Interlake-Eastern Regional Health Authority	610	63.1
	4605	Southern Health	357	36.9
	Subtotal		967	100
4608031	4602	Prairie Mountain Health	1,125	100
	4605	Southern Health	0	0
	Subtotal		1,125	100
4617026	4602	Prairie Mountain Health	937	73.8
	4605	Southern Health	333	26.2
	Subtotal		1,270	100
4618057	4602	Prairie Mountain Health	0	0
	4603	Interlake-Eastern Regional Health Authority	1,360	100
	Subtotal		1,360	100
4618093	4603	Interlake-Eastern Regional Health Authority	0	0
	4605	Southern Health	0	0
	Subtotal		0	100
4619045	4602	Prairie Mountain Health	1,864	63.1
	4603	Interlake-Eastern Regional Health Authority	1,089	36.9
	4604	Northern Regional Health Authority	0	0
	Subtotal		2,953	100
<b>Saskatchewan</b>				
4701091	4701	Sun Country Regional Health Authority	288	85.2
	4704	Regina Qu'Appelle Regional Health Authority	50	14.8
	Subtotal		338	100
4701094	4701	Sun Country Regional Health Authority	257	80.6
	4704	Regina Qu'Appelle Regional Health Authority	62	19.4
	Subtotal		319	100
4702800	4701	Sun Country Regional Health Authority	0	0
	4702	Five Hills Regional Health Authority	0	0
	4704	Regina Qu'Appelle Regional Health Authority	0	0
	Subtotal		0	100
4703001	4701	Sun Country Regional Health Authority	264	100
	4702	Five Hills Regional Health Authority	0	0
	Subtotal		264	100
4703006	4701	Sun Country Regional Health Authority	95	47.5
	4702	Five Hills Regional Health Authority	105	52.5
	Subtotal		200	100
4703064	4702	Five Hills Regional Health Authority	130	63.4
	4703	Cypress Regional Health Authority	75	36.6
	Subtotal		205	100
4705011	4701	Sun Country Regional Health Authority	168	36.1
	4704	Regina Qu'Appelle Regional Health Authority	298	63.9
	Subtotal		466	100
4705014	4701	Sun Country Regional Health Authority	386	91.7
	4704	Regina Qu'Appelle Regional Health Authority	35	8.3
	Subtotal		421	100
4705018	4701	Sun Country Regional Health Authority	258	69.2
	4704	Regina Qu'Appelle Regional Health Authority	115	30.8
	Subtotal		373	100
4705041	4704	Regina Qu'Appelle Regional Health Authority	5	1.4
	4705	Sunrise Regional Health Authority	361	98.6
	Subtotal		366	100
4705050	4704	Regina Qu'Appelle Regional Health Authority	17	100
	4705	Sunrise Regional Health Authority	0	0
	Subtotal		17	100
4705051	4704	Regina Qu'Appelle Regional Health Authority	5	0.6
	4705	Sunrise Regional Health Authority	811	99.4

	Subtotal		816	100
4705057	4704	Regina Qu'Appelle Regional Health Authority	31	6.3
	4705	Sunrise Regional Health Authority	464	93.7
	Subtotal		495	100
4705063	4704	Regina Qu'Appelle Regional Health Authority	196	43.9
	4705	Sunrise Regional Health Authority	250	56.1
	Subtotal		446	100
4705804	4704	Regina Qu'Appelle Regional Health Authority	518	99
	4705	Sunrise Regional Health Authority	5	1
	Subtotal		523	100
4705807	4704	Regina Qu'Appelle Regional Health Authority	116	87.9
	4705	Sunrise Regional Health Authority	16	12.1
	Subtotal		132	100
4706021	4702	Five Hills Regional Health Authority	250	53.1
	4704	Regina Qu'Appelle Regional Health Authority	221	46.9
	Subtotal		471	100
4706059	4702	Five Hills Regional Health Authority	50	9.8
	4704	Regina Qu'Appelle Regional Health Authority	462	90.2
	Subtotal		512	100
4706063	4702	Five Hills Regional Health Authority	35	13.2
	4704	Regina Qu'Appelle Regional Health Authority	231	86.8
	Subtotal		266	100
4706071	4704	Regina Qu'Appelle Regional Health Authority	98	17
	4706	Saskatoon Regional Health Authority	477	83
	Subtotal		575	100
4706099	4704	Regina Qu'Appelle Regional Health Authority	200	90.9
	4705	Sunrise Regional Health Authority	20	9.1
	Subtotal		220	100
4706818	4704	Regina Qu'Appelle Regional Health Authority	196	97.5
	4705	Sunrise Regional Health Authority	5	2.5
	Subtotal		201	100
4709060	4705	Sunrise Regional Health Authority	288	56.4
	4708	Kelsey Trail Regional Health Authority	223	43.6
	Subtotal		511	100
4710024	4704	Regina Qu'Appelle Regional Health Authority	150	26.5
	4706	Saskatoon Regional Health Authority	417	73.5
	Subtotal		567	100
4710027	4704	Regina Qu'Appelle Regional Health Authority	568	100
	4706	Saskatoon Regional Health Authority	0	0
	Subtotal		568	100
4710031	4704	Regina Qu'Appelle Regional Health Authority	170	38
	4706	Saskatoon Regional Health Authority	277	62
	Subtotal		447	100
4710036	4705	Sunrise Regional Health Authority	582	99.1
	4706	Saskatoon Regional Health Authority	5	0.9
	Subtotal		587	100
4710041	4705	Sunrise Regional Health Authority	0	0
	4706	Saskatoon Regional Health Authority	432	100
	Subtotal		432	100
4710071	4706	Saskatoon Regional Health Authority	603	73.7
	4708	Kelsey Trail Regional Health Authority	215	26.3
	Subtotal		818	100
4711018	4702	Five Hills Regional Health Authority	60	17.3
	4707	Heartland Regional Health Authority	286	82.7
	Subtotal		346	100
4711039	4704	Regina Qu'Appelle Regional Health Authority	100	48.8
	4706	Saskatoon Regional Health Authority	95	46.3
	4707	Heartland Regional Health Authority	10	4.9
	Subtotal		205	100
4711042	4704	Regina Qu'Appelle Regional Health Authority	35	23.3
	4706	Saskatoon Regional Health Authority	115	76.7
	Subtotal		150	100
4712029	4706	Saskatoon Regional Health Authority	75	33.5
	4707	Heartland Regional Health Authority	149	66.5

	Subtotal		224	100
4712050	4706	Saskatoon Regional Health Authority	90	19.4
	4707	Heartland Regional Health Authority	373	80.6
	Subtotal		463	100
4712069	4707	Heartland Regional Health Authority	219	82
	4710	Prairie North Regional Health Authority	48	18
	Subtotal		267	100
4713068	4707	Heartland Regional Health Authority	395	78.1
	4710	Prairie North Regional Health Authority	111	21.9
	Subtotal		506	100
4714035	4706	Saskatoon Regional Health Authority	0	0
	4708	Kelsey Trail Regional Health Authority	611	100
	Subtotal		611	100
4715048	4706	Saskatoon Regional Health Authority	239	44.6
	4708	Kelsey Trail Regional Health Authority	297	55.4
	Subtotal		536	100
4715054	4706	Saskatoon Regional Health Authority	87	13.4
	4708	Kelsey Trail Regional Health Authority	143	22
	4709	Prince Albert Parkland Regional Health Authority	421	64.7
	Subtotal		651	100
4715057	4706	Saskatoon Regional Health Authority	594	61.3
	4709	Prince Albert Parkland Regional Health Authority	375	38.7
	Subtotal		969	100
4715061	4706	Saskatoon Regional Health Authority	383	44.2
	4709	Prince Albert Parkland Regional Health Authority	484	55.8
	Subtotal		867	100
4715071	4708	Kelsey Trail Regional Health Authority	241	45.4
	4709	Prince Albert Parkland Regional Health Authority	290	54.6
	Subtotal		531	100
4716005	4706	Saskatoon Regional Health Authority	59	15.2
	4710	Prairie North Regional Health Authority	330	84.8
	Subtotal		389	100
4717001	4709	Prince Albert Parkland Regional Health Authority	0	0
	4710	Prairie North Regional Health Authority	936	100
	Subtotal		936	100
4717812	4709	Prince Albert Parkland Regional Health Authority	29	3.9
	4710	Prairie North Regional Health Authority	719	96.1
	Subtotal		748	100
4718090	4708	Kelsey Trail Regional Health Authority	317	19.3
	4709	Prince Albert Parkland Regional Health Authority	80	4.9
	4710	Prairie North Regional Health Authority	0	0
	4711	Mamawetan Churchill River Regional Health Authority	624	38
	4712	Keewatin Yatthé Regional Health Authority	492	30
	4713	Athabasca Health Authority	128	7.8
	Subtotal		1,641	100
<b>Alberta</b>				
4803018	4831	South Zone	2,278	44.6
	4832	Calgary Zone	2,829	55.4
	Subtotal		5,107	100
4803021	4831	South Zone	437	97.8
	4832	Calgary Zone	10	2.2
	Subtotal		447	100
4804004	4831	South Zone	698	34.5
	4833	Central Zone	1,327	65.5
	Subtotal		2,025	100
4806028	4832	Calgary Zone	6,018	48.7

	4833	Central Zone	6,341	51.3
	Subtotal		12,359	100
4811032	4833	Central Zone	7,201	100
	4835	North Zone	0	0
	Subtotal		7,201	100
4814003	4833	Central Zone	0	0
	4834	Edmonton Zone	3,117	29.8
	4835	North Zone	7,352	70.2
	Subtotal		10,469	100
<b>British Columbia</b>				
5903010	5911	East Kootenay Health Service Delivery Area	982	48.4
	5912	Kootenay-Boundary Health Service Delivery Area	1,048	51.6
	Subtotal		2,030	100
5903017	5911	East Kootenay Health Service Delivery Area	1,372	100
	5912	Kootenay-Boundary Health Service Delivery Area	0	0
	Subtotal		1,372	100
5907055	5913	Okanagan Health Service Delivery Area	1,768	100
	5914	Thompson/Cariboo Health Service Delivery Area	0	0
	Subtotal		1,768	100
5909014	5914	Thompson/Cariboo Health Service Delivery Area	114	25.8
	5921	Fraser East Health Service Delivery Area	328	74.2
	Subtotal		442	100
5909060	5921	Fraser East Health Service Delivery Area	1,209	92.8
	5922	Fraser North Health Service Delivery Area	94	7.2
	Subtotal		1,303	100
5915020	5922	Fraser North Health Service Delivery Area	50	0.4
	5923	Fraser South Health Service Delivery Area	137	1.1
	5932	Vancouver Health Service Delivery Area	12,777	98
	5933	North Shore/Coast Garibaldi Health Service Delivery Area	71	0.5
	Subtotal		13,035	100
5926021	5942	Central Vancouver Island Health Service Delivery Area	0	0
	5943	North Vancouver Island Health Service Delivery Area	6,899	100
	Subtotal		6,899	100
5931017	5914	Thompson/Cariboo Health Service Delivery Area	0	0
	5933	North Shore/Coast Garibaldi Health Service Delivery Area	1,804	100
	Subtotal		1,804	100
5933008	5913	Okanagan Health Service Delivery Area	0	0
	5914	Thompson/Cariboo Health Service Delivery Area	1,823	100
	Subtotal		1,823	100
5933012	5914	Thompson/Cariboo Health Service Delivery Area	749	100
	5921	Fraser East Health Service Delivery Area	0	0
	Subtotal		749	100
5935012	5912	Kootenay-Boundary Health Service Delivery Area	0	0
	5913	Okanagan Health Service Delivery Area	3,795	100
	Subtotal		3,795	100
5939023	5912	Kootenay-Boundary Health Service Delivery Area	63	11.4
	5914	Thompson/Cariboo Health Service Delivery Area	489	88.6
	Subtotal		552	100
5939806	5913	Okanagan Health Service Delivery Area	5	11.1
	5914	Thompson/Cariboo Health Service Delivery Area	40	88.9



	Subtotal		45	100
5941010	5914	Thompson/Cariboo Health Service Delivery Area	2,907	97.3
	5952	Northern Interior Health Service Delivery Area	81	2.7
	Subtotal		2,988	100
5941039	5914	Thompson/Cariboo Health Service Delivery Area	340	56.7
	5933	North Shore/Coast Garibaldi Health Service Delivery Area	260	43.3
	Subtotal		600	100
5941041	5914	Thompson/Cariboo Health Service Delivery Area	494	100
	5952	Northern Interior Health Service Delivery Area	0	0
	Subtotal		494	100
5951028	5951	Northwest Health Service Delivery Area	26	1.2
	5952	Northern Interior Health Service Delivery Area	2,076	98.8
	Subtotal		2,102	100
5951053	5951	Northwest Health Service Delivery Area	761	78.1
	5952	Northern Interior Health Service Delivery Area	214	21.9
	Subtotal		975	100
5955040	5952	Northern Interior Health Service Delivery Area	0	0
	5953	Northeast Health Service Delivery Area	5,552	100
	Subtotal		5,552	100
5957022	5951	Northwest Health Service Delivery Area	402	100
	5953	Northeast Health Service Delivery Area	0	0
	Subtotal		402	100

Source: Statistics Canada.

## Table 1 Health regions and relevant legislation, by province, 2014

Province/Territory	Health regions 2014	Units	Relevant Legislation
Newfoundland and Labrador	Regional Integrated Health Authorities (RIHAs)	4	Regional Integrated Health Authorities Order under s.4 and s.21 of the Hospitals Act (O.C.) 2005-052)
Prince Edward Island	...	1 <sup>1</sup>	In November 2005 Prince Edward Island officially disbanded the four health regions.
Nova Scotia	Zones	4	Health Authorities Act
New Brunswick	Zones	7	Regional Health Authorities Act (Chapter R-5.05) – Schedule A
Quebec	<i>Régions sociosanitaires (RSS)</i>	18	<i>Article 339 de la Loi sur les services de santé et les services sociaux (L.R.Q., chapitre S-4.2); la Loi sur les services de santé et les services sociaux (L.R.Q., chapitre S-5); les décrets 1213-78, 1813-91, 1815-91, 1816-91, 1817-91, 1818-91, 1819-91, 1820-91, 1821-91, 1822-91, 1823-91, 1824-91, 1825-91, 1826-91, 1827-91, 1828-91, 655-94.</i>
Ontario	Public Health Units	36	Regulation 553 (Revised Regulations of Ontario), pursuant to Health Protection and Promotion Act R.S.O. 1990, Amended to O. Reg. 64/05.
	Local Health Integration Networks	14	Local Health System Integration Act, 2006
Manitoba	Regional Health Authorities	5	Amalgamation of Regional Health Authorities Regulation, 2012, pursuant to The Regional Health Authorities Act (C.C.S.M. c. R34); amended Regulations 99/2002 and 169/2002.
Saskatchewan	Regional Health Authorities	14	The Regional Health Services Act, Chapter R-8.2; The Regional Health Services Administration Regulations, Chapter R-8.2 Reg 1
Alberta	Zones	5	...
British Columbia	Health Service Delivery Areas (HSDA)	16	Health Authorities Amendment Act, Statutes of British Columbia, 2002 (see B.C. Regulation 225/2003 also); Health Authorities Act, Chapter 180 (and associated Regulations)
Yukon	...	1 <sup>1</sup>	An Act To Amend the Public Health Act, Statutes of the Yukon, 1997. Effective October 20, 2008, the names "Yukon Territory" in English and "Territoire du Yukon" in French become "Yukon" in English and in French, as per the Yukon Act (Chapter 7, assented March 27, 2002).
Northwest Territories	...	1 <sup>1</sup>	Consolidation of Northwest Territories Health District Establishment Order, R-080-2000 (pursuant to Public Health Act)
Nunavut	...	1 <sup>1</sup>	Public Health Act (Statutes of Northwest Territories 1998 chapter 5)

... not applicable

<sup>1</sup> Entire province/territory represents a health region.

Source: Statistics Canada.



## Table 2 Census geography definitions

Geographic term	Definition
Census Subdivision (CSD)	Area that is a municipality or an area that is deemed to be equivalent to a municipality for statistical reporting purposes (for example, as an Indian reserve or an unorganized territory). Municipal status is defined by laws in effect in each province and territory in Canada.
Dissemination area (DA)	Small area composed of one or more neighbouring blocks, with a population of 400 to 700 persons. All of Canada is divided into dissemination areas.
Dissemination block (DB)	An area equivalent to a city block bounded by intersecting streets. These areas cover all of Canada.

Source: Statistics Canada.



## Table 3 2011 Census health region correspondence file layout

Variable name	Comments
DAUID / BLKUID <sup>1</sup>	(dissemination area unique ID / block unique ID) PR-CD-DA (province, census division, dissemination area, census block <sup>1</sup> )
CSDUID	(Standard geographical classification [SGC] code) PR-CD-CSD (province, census division, census subdivision)
PR-HRUID	(health region code) PR-HR (province, health region) unique ID
HRNAME_ENGLISH	(health region name, English)
HRNAME_FRENCH	(health region name, French)
POP2011	(unadjusted 2011 Census population count)
<p>1. 10-digit census block ID (BLKUID) applies to the provinces of Ontario, Manitoba, Saskatchewan, Alberta and British Columbia only. The first 8 digits comprise the <u>DA</u> (Dissemination area) code (DAUID) for these provinces.</p> <p>Source: Statistics Canada.</p>	



## Table 4 2006 Census health region correspondence file layout

Variable name	Comments
DAUID / BLKUID <sup>1</sup>	(dissemination area unique ID / block unique ID) PR-CD-DA (province, census division, dissemination area, census block <sup>1</sup> )
CSDUID	(Standard geographical classification [SGC] code) PR-CD-CSD (province, census division, census subdivision)
PR-HRUID	(health region code) PR-HR (province, health region) unique ID
HRNAME	(health region name)
POP2006	(unadjusted 2006 Census population count)
<p>1. 10-digit census block ID (BLKUID) applies to the provinces of Manitoba, Saskatchewan, and Alberta only. The first 8 digits comprise the <u>DA (Dissemination area)</u> code (DAUID) for these provinces.</p> <p>Source: Statistics Canada.</p>	



## Table 5

### Census subdivisions linked to more than one health region

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Provinces with splits	2006 Census subdivisions	2011 Census subdivisions
Nova Scotia – District Health Authorities	1	0
Ontario – Local Health Integration Networks	9	11
Ontario – Public Health Units	1	4
Manitoba	7	6
Saskatchewan	45	46
Alberta	9	6
British Columbia	6	20

Source: Statistics Canada.

## Health regions and peer groups

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"Health region" refers to administrative areas defined by the provincial ministries of health. For complete Canadian coverage, each of the northern territories also represents a health region.

See [Table 6 Health regions in Canada - by province and territory](#)

See [Map 14 Health Regions and Peer Groups in Canada, 2014](#)

### Health region boundary changes

- As of April 1, 2015, Nova Scotia has one Provincial Health Authority, with four management zones. These management zones are an aggregation of the nine former health authorities:
  - South Shore (1211), South West Nova (1212), and Annapolis Valley (1223) merged to form Zone 1 - Western (1201);
  - Colchester East Hants (1234), Cumberland (1235), and Pictou County (1246) merged to form Zone 2 - Northern (1202);
  - Guysborough Antigonish Strait (1247) and Cape Breton (1258) merged to form Zone 3 - Eastern (1203);
  - Capital (1269) forms Zone 4 - Central (1204). In addition, there is a small shift of Dissemination Areas 12080119 and 12080120 which will be associated with Zone 4 - Central.
- In Newfoundland and Labrador, there was a reassignment of three communities (Castor River North, Castor River South, and Bartlett's Harbour) from Labrador-Grenfell Regional Integrated Health Authority to Western Regional Integrated Health Authority.

The boundaries, health region codes and health region names in the remaining provinces and territories have not changed.

See the following tables for history of changes since 2000:

[Table 7-f Summary of changes to health region codes, names and boundaries, 2013 and 2014](#)

[Table 7-e Summary of changes to health region codes, names and boundaries, 2011 and 2013](#)

[Table 7-d Summary of changes to health region codes, names and boundaries, 2007 and 2011](#)

[Table 7-c Summary of changes to health region codes, names and boundaries, 2005 and 2007](#)

[Table 7-b Summary of changes to health region codes, names and boundaries, 2003 and 2005](#)

[Table 7-a Summary of Changes to health region codes, names and boundaries, 2000 and 2003](#)

### Health region peer groups

In order to effectively compare health regions with similar socio-economic characteristics, health regions have been grouped into 'peer groups'.

Statistics Canada used a statistical method to achieve maximum statistical differentiation between health regions. Twenty-four variables were chosen to cover as many of the social and economic determinants of health as possible, using data collected at the health region level mostly from the Census of

Canada. Concepts covered include:

- basic demographics (for example, population change and demographic structure),
- living conditions (for example, socio-economic characteristics, housing, and income inequality), and

- working conditions (for example, labour market conditions).

Peer groups based on 2014 health region boundaries and 2011 Census of Population and 2011 National Household Survey data are now available. There are currently nine peer groups identified by letters A through I.

See [Table 8 Health regions 2014 by peer group](#)

See [Table 9 Summary table of peer groups and principal characteristics](#)

A more detailed discussion on the rationale and methods involved in the development of peer groups is available in [Health Region \(2014\) Peer Groups – User guide](#).

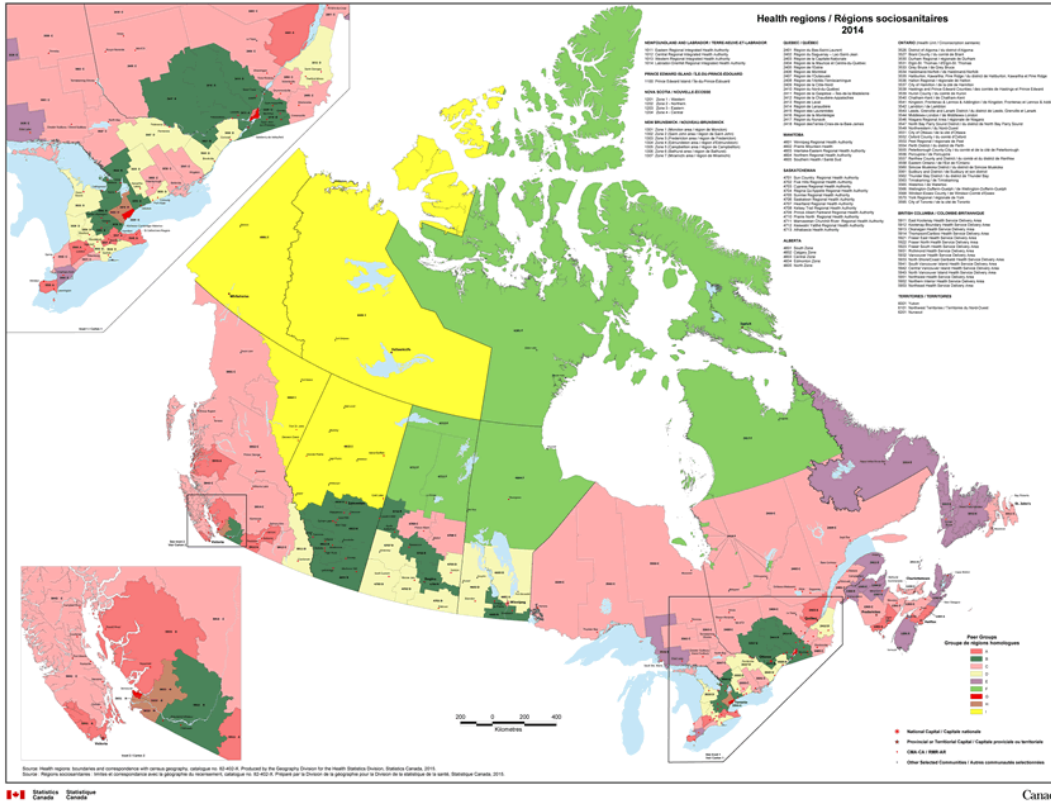


## Table 6 Health regions in Canada - by province and territory

Province	2014	
	Health regions and maps	Units
Newfoundland and Labrador	Regional Integrated Health Authorities	4
Prince Edward Island	Health Region	1
Nova Scotia <sup>1</sup>	Zones	4
New Brunswick	Health Regions	7
Quebec	Régions sociosanitaires (RSS)	18
Ontario	Public Health Units (PHU)	36
	Local Health Integration Networks (LHIN)	14
Manitoba	Regional Health Authorities	5
Saskatchewan <sup>2</sup>	Regional Health Authorities	13
Alberta	Zones	5
British Columbia	Health Service Delivery Areas	16
<b>Territory</b>		
Yukon	The Northern Territories Health Regions	1
Northwest Territories	The Northern Territories Health Regions	1
Nunavut	The Northern Territories Health Regions	1
1	<p>As of April 1, 2015, Nova Scotia has one Provincial Health Authority, with four management zones. These management zones are an aggregation of the nine former health authorities:</p> <p>South Shore (1211), South West Nova (1212), and Annapolis Valley (1223) merged to form Zone 1 - Western (1201);            Colchester East Hants (1234), Cumberland (1235), and Pictou County (1246) merged to form Zone 2 - Northern (1202);            Guysborough Antigonish Strait (1247) and Cape Breton (1258) merged to form Zone 3 - Eastern (1203);            Capital (1269) forms Zone 4 - Central (1204). In addition, there is a small shift of Dissemination Areas 12080119 and 12080120 which will be associated with Zone 4 - Central.</p>	
2	<p>For most data sources (with the exception of Census and Demographic population estimates), health region level data are not available for some northern health regions in Saskatchewan which have small populations. To avoid suppression in these areas where small numbers or sample size impact on data quality, data have been grouped with neighbouring regions, as follows: Athabasca Health Authority, Saskatchewan (4713) is combined with Mamawetan Churchill River Regional Health Authority (4711) and Keewatin Yatthé Regional Health Authority (4712) and referred to as "Athabasca/Keewatin/Mamawetan" (4714).</p>	

Source: Statistics Canada.

# Map 14 Health Regions and Peer Groups in Canada, 2014





**Table 7-f**  
**Summary of changes to health region codes, names and boundaries, 2013 and 2014**

2013	2014
<b>Newfoundland and Labrador</b>	
1011, Eastern Regional Integrated Health Authority	no change
1012, Central Regional Integrated Health Authority	no change
1013, Western Regional Integrated Health Authority	In Newfoundland and Labrador, there was a reassignment of three communities (Castor River North, Castor River South, and Bartlett's Harbour) from Labrador-Grenfell Regional Integrated Health Authority to Western Regional Integrated Health Authority.
1014, Labrador-Grenfell Regional Integrated Health Authority	In Newfoundland and Labrador, there was a reassignment of three communities (Castor River North, Castor River South, and Bartlett's Harbour) from Labrador-Grenfell Regional Integrated Health Authority to Western Regional Integrated Health Authority.
<b>Prince Edward Island</b>	
1100, Prince Edward Island	no change
<b>Nova Scotia<sup>1</sup></b>	
1210, South Shore / South West Nova	...
1211, South Shore District Health Authority	...
1212, South West Nova District Health Authority	...
1223, Annapolis Valley District Health Authority	...
1223, Annapolis Valley District Health Authority	...
1230, Colchester East Hants / Cumberland	...
1234, Colchester East Hants Health Authority	...
1235, Cumberland Health Authority	...
1240, Pictou County / Guysborough Antigonish Strait	...
1246, Pictou County Health Authority	...
1247, Guysborough Antigonish Strait Health Authority	...
1258, Cape Breton District Health Authority	...
1258, Cape Breton District Health Authority	...
1269, Capital District Health Authority	...
1269, Capital District Health Authority	...
...	1201, Zone 1 - Western
...	1202, Zone 2 - Northern
...	1203, Zone 3 - Eastern
...	1204, Zone 4 - Central
<b>New Brunswick</b>	
1301, Zone 1 (Moncton area)	no change
1302, Zone 2 (Saint John area)	no change
1303, Zone 3 (Fredericton area)	no change
1304, Zone 4 (Edmundston area)	no change
1305, Zone 5 (Campbellton area)	no change

1306, Zone 6 (Bathurst area)	no change
1307, Zone 7 (Miramichi area)	no change
<b>Quebec</b>	
2401, Région du Bas-Saint-Laurent	no change
2402, Région du Saguenay—Lac-Saint-Jean	no change
2403, Région de la Capitale-Nationale	no change
2404, Région de la Mauricie et Centre-du-Québec	no change
2405, Région de l'Estrie	no change
2406, Région de Montréal	no change
2407, Région de l'Outaouais	no change
2408, Région de l'Abitibi-Témiscamingue	no change
2409, Région de la Côte-Nord	no change
2410, Région du Nord-du-Québec	no change
2411, Région de la Gaspésie—Îles-de-la-Madeleine	no change
2412, Région de la Chaudière-Appalaches	no change
2413, Région de Laval	no change
2414, Région de Lanaudière	no change
2415, Région de Laurentides	no change
2416, Région de la Montérégie	no change
2417, Région du Nunavik	no change
2418, Région des Terres-Cries-de-la-Baie-James	no change
<b>Ontario, Local Health Integration Networks (LHIN)</b>	
3501, Erie St. Clair	no change
3502, South West	no change
3503, Waterloo Wellington	no change
3504, Hamilton Niagara Haldimand Brant	no change
3505, Central West	no change
3506, Mississauga Halton	no change
3507, Toronto Central	no change
3508, Central	no change
3509, Central East	no change
3510, South East	no change
3511, Champlain	no change
3512, North Simcoe Muskoka	no change
3513, North East	no change
3514, North West	no change
<b>Ontario, Health Units</b>	
3526, The District of Algoma Health Unit	no change
3527, Brant County Health Unit	no change
3530, Durham Regional Health Unit	no change
3531, Elgin-St Thomas Health Unit	no change
3533, Grey Bruce Health Unit	no change
3534, Haldimand-Norfolk Health Unit	no change
3535, Haliburton, Kawartha, Pine Ridge District Health Unit	no change
3536, Halton Regional Health Unit	no change
3537, City of Hamilton Health Unit	no change

3538, Hastings and Prince Edward Counties Health Unit	no change
3539, Huron County Health Unit	no change
3540, Chatham-Kent Health Unit	no change
3541, Kingston, Frontenac and Lennox and Addington Health Unit	no change
3542, Lambton Health Unit	no change
3543, Leeds, Grenville and Lanark District Health Unit	no change
3544, Middlesex-London Health Unit	no change
3546, Niagara Regional Area Health Unit	no change
3547, North Bay Parry Sound District Health Unit	no change
3549, Northwestern Health Unit	no change
3551, City of Ottawa Health Unit	no change
3552, Oxford County Health Unit	no change
3553, Peel Regional Health Unit	no change
3554, Perth District Health Unit	no change
3555, Peterborough County-City Health Unit	no change
3556, Porcupine Health Unit	no change
3557, Renfrew County and District Health Unit	no change
3558, The Eastern Ontario Health Unit	no change
3560, Simcoe Muskoka District Health Unit	no change
3561, Sudbury and District Health Unit	no change
3562, Thunder Bay District Health Unit	no change
3563, Timiskaming Health Unit	no change
3565, Waterloo Health Unit	no change
3566, Wellington-Dufferin-Guelph Health Unit	no change
3568, Windsor-Essex County Health Unit	no change
3570, York Regional Health Unit	no change
3595, City of Toronto Health Unit	no change
<b>Manitoba</b>	
4601, Winnipeg Regional Health Authority	no change
4602, Prairie Mountain Health	no change
4603, Interlake-Eastern Regional Health Authority	no change
4604, Northern Regional Health Authority	no change
4605, Southern Health	no change
<b>Saskatchewan</b>	
4701, Sun Country Regional Health Authority	no change
4702, Five Hills Regional Health Authority	no change
4703, Cypress Regional Health Authority	no change
4704, Regina Qu'Appelle Regional Health Authority	no change
4705, Sunrise Regional Health Authority	no change
4706, Saskatoon Regional Health Authority	no change
4707, Heartland Regional Health Authority	no change

4708, Kelsey Trail Regional Health Authority	no change
4709, Prince Albert Parkland Regional Health Authority	no change
4710, Prairie North Regional Health Authority	no change
4714, Mamawetan/Keewatin/Athabasca Regional Health Authority <sup>2</sup>	no change
4711, Mamawetan Churchill River Regional Health Authority	no change
4712, Keewatin Yatthé Regional Health Authority	no change
4713, Athabasca Health Authority	no change
<b>Alberta, Zones</b>	
4831, South Zone	no change
4832, Calgary Zone	no change
4833, Central Zone	no change
4834, Edmonton Zone	no change
4835, North Zone	no change
<b>British Columbia</b>	
<b>591, Interior Health Authority</b>	
5911, East Kootenay Health Service Delivery Area	no change
5912, Kootenay-Boundary Health Service Delivery Area	no change
5913, Okanagan Health Service Delivery Area	no change
5914, Thompson/Cariboo Health Service Delivery Area	no change
<b>592, Fraser Health Authority</b>	
5921, Fraser East Health Service Delivery Area	no change
5922, Fraser North Health Service Delivery Area	no change
5923, Fraser South Health Service Delivery Area	no change
<b>593, Vancouver Coastal Health Authority</b>	
5931, Richmond Health Service Delivery Area	no change
5932, Vancouver Health Service Delivery Area	no change
5933, North Shore/Coast Garibaldi Health Service Delivery Area	no change
<b>594, Vancouver Island Health Authority</b>	
5941, South Vancouver Island Health Service Delivery Area	no change
5942, Central Vancouver Island Health Service Delivery Area	no change
5943, North Vancouver Island Health Service Delivery Area	no change
<b>595, Northern Health Authority</b>	
5951, North West Health Service Delivery Area	no change
5952, Northern Interior Health Service Delivery Area	no change
5953, Northeast Health Service Delivery Area	no change
<b>Territories</b>	
6001, Yukon	no change

6101, Northwest Territories	no change
6201, Nunavut	no change
... not applicable	
1	<p>As of April 1, 2015, Nova Scotia has one Provincial Health Authority, with four management zones. These management zones are an aggregation of the nine former health authorities:</p> <p>South Shore (1211), South West Nova (1212), and Annapolis Valley (1223) merged to form Zone 1 - Western (1201);  Colchester East Hants (1234), Cumberland (1235), and Pictou County (1246) merged to form Zone 2 - Northern (1202);  Guysborough Antigonish Strait (1247) and Cape Breton (1258) merged to form Zone 3 - Eastern (1203);  Capital (1269) forms Zone 4 - Central (1204). In addition, there is a small shift of Dissemination Areas 12080119 and 12080120 which will be associated with Zone 4 - Central.</p>
2	<p>For most data sources (with the exception of Census and Demographic population estimates), health region level data are not available for some northern health regions in Saskatchewan which have small populations. To avoid suppression in these areas where small numbers or sample size impact on data quality, data have been grouped with neighbouring regions, as follows: Athabasca Health Authority, Saskatchewan (4713) is combined with Mamawetan Churchill River Regional Health Authority (4711) and Keewatin Yatthé Regional Health Authority (4712) and referred to as "Mamawetan/Keewatin/Athabasca Regional Health Authorities (4714)"</p>
<b>Source:</b> Statistics Canada.	



**Table 7-e**  
**Summary of changes to health region codes, names and boundaries, 2011 and 2013**

2011	2013
<b>Newfoundland and Labrador</b>	
1011, Eastern Regional Integrated Health Authority	no change
1012, Central Regional Integrated Health Authority	no change
1013, Western Regional Integrated Health Authority	no change
1014, Labrador-Grenfell Regional Integrated Health Authority	no change
<b>Prince Edward Island</b>	
1100, Prince Edward Island <sup>1</sup>	no change
1101, Kings County	...
1102, Queens County	...
1103, Prince County	...
<b>Nova Scotia</b>	
1210, South Shore / South West Nova <sup>2</sup>	no change
1211, South Shore District Health Authority	no change
1212, South West Nova District Health Authority	no change
1223, Annapolis Valley District Health Authority	no change
1223, Annapolis Valley District Health Authority	no change
1230, Colchester East Hants / Cumberland <sup>2</sup>	no change
1234, Colchester East Hants Health Authority	no change
1235, Cumberland Health Authority	no change
1240, Pictou County / Guysborough Antigonish Strait <sup>2</sup>	no change
1246, Pictou County Health Authority	no change
1247, Guysborough Antigonish Strait Health Authority	no change
1258, Cape Breton District Health Authority	no change
1258, Cape Breton District Health Authority	no change
1269, Capital District Health Authority	no change
1269, Capital District Health Authority	no change
<b>New Brunswick</b>	
1301, Zone 1 (Moncton area)	no change
1302, Zone 2 (Saint John area)	no change
1303, Zone 3 (Fredericton area)	no change
1304, Zone 4 (Edmunston area)	no change
1305, Zone 5 (Campbellton area)	no change
1306, Zone 6 (Bathurst area)	no change
1307, Zone 7 (Miramichi area)	no change
<b>Quebec</b>	
2401, Région du Bas-Saint-Laurent	no change
2402, Région du Saguenay—Lac-Saint-Jean	no change
2403, Région de la Capitale-Nationale	no change
2404, Région de la Mauricie et Centre-du-Québec	no change
2405, Région de l'Estrie	no change
2406, Région de Montréal	no change
2407, Région de l'Outaouais	no change
2408, Région de l'Abitibi-Témiscamingue	no change
2409, Région de la Côte-Nord	no change
2410, Région du Nord-du-Québec	no change
2411, Région de la Gaspésie—Îles-de-la-Madeleine	no change
2412, Région de la Chaudière-Appalaches	no change
2413, Région de Laval	no change
2414, Région de Lanaudière	no change
2415, Région de Laurentides	no change
2416, Région de la Montérégie	no change
2417, Région du Nunavik	no change
2418, Région des Terres-Cries-de-la-Baie-James	no change



<b>Ontario, Local Health Integration Networks (LHIN)</b>	
3501, Erie St. Clair	no change
3502, South West	no change
3503, Waterloo Wellington	no change
3504, Hamilton Niagara Haldimand Brant	no change
3505, Central West	no change
3506, Mississauga Halton	no change
3507, Toronto Central	no change
3508, Central	no change
3509, Central East	no change
3510, South East	no change
3511, Champlain	no change
3512, North Simcoe Muskoka	no change
3513, North East	no change
3514, North West	no change
<b>Ontario, Health Units</b>	
3526, The District of Algoma Health Unit	no change
3527, Brant County Health Unit	no change
3530, Durham Regional Health Unit	no change
3531, Elgin-St Thomas Health Unit	no change
3533, Grey Bruce Health Unit	no change
3534, Haldimand-Norfolk Health Unit	no change
3535, Haliburton, Kawartha, Pine Ridge District Health Unit	no change
3536, Halton Regional Health Unit	no change
3537, City of Hamilton Health Unit	no change
3538, Hastings and Prince Edward Counties Health Unit	no change
3539, Huron County Health Unit	no change
3540, Chatham-Kent Health Unit	no change
3541, Kingston, Frontenac and Lennox and Addington Health Unit	no change
3542, Lambton Health Unit	no change
3543, Leeds, Grenville and Lanark District Health Unit	no change
3544, Middlesex-London Health Unit	no change
3546, Niagara Regional Area Health Unit	no change
3547, North Bay Parry Sound District Health Unit	no change
3549, Northwestern Health Unit	no change
3551, City of Ottawa Health Unit	no change
3552, Oxford County Health Unit	no change
3553, Peel Regional Health Unit	no change
3554, Perth District Health Unit	no change
3555, Peterborough County-City Health Unit	no change
3556, Porcupine Health Unit	no change
3557, Renfrew County and District Health Unit	no change
3558, The Eastern Ontario Health Unit	no change
3560, Simcoe Muskoka District Health Unit	no change
3561, Sudbury and District Health Unit	no change
3562, Thunder Bay District Health Unit	no change
3563, Timiskaming Health Unit	no change
3565, Waterloo Health Unit	no change
3566, Wellington-Dufferin-Guelph Health Unit	no change
3568, Windsor-Essex County Health Unit	no change
3570, York Regional Health Unit	no change
3595, City of Toronto Health Unit	no change
<b>Manitoba<sup>3</sup></b>	
4610, Winnipeg Regional Health Authority	...
4615, Brandon Regional Health Authority	...
4620, North Eastman Regional Health Authority	...
4625, South Eastman Regional Health Authority	...
4630, Interlake Regional Health Authority	...
4640, Central Regional Health Authority	...
4645, Assiniboine Regional Health Authority	...
4660, Parkland Regional Health Authority	...
4670, NOR-MAN Regional Health Authority	...
4685, Burntwood/Churchill Regional Health Authority	...
4680, Burntwood Regional Health Authority	...

4690, Churchill Regional Health Authority	...
...	4601, Winnipeg Regional Health Authority
...	4602, Prairie Mountain Health
...	4603, Interlake-Eastern Regional Health Authority
...	4604, Northern Regional Health Authority
...	4605, Southern Health
<b>Saskatchewan</b>	
4701, Sun Country Regional Health Authority	no change
4702, Five Hills Regional Health Authority	no change
4703, Cypress Regional Health Authority	no change
4704, Regina Qu'Appelle Regional Health Authority	no change
4705, Sunrise Regional Health Authority	no change
4706, Saskatoon Regional Health Authority	no change
4707, Heartland Regional Health Authority	no change
4708, Kelsey Trail Regional Health Authority	no change
4709, Prince Albert Parkland Regional Health Authority	no change
4710, Prairie North Regional Health Authority	no change
4714, Mamawetan/Keewatin/Athabasca Regional Health Authority <sup>2</sup>	no change
4711, Mamawetan Churchill River Regional Health Authority	no change
4712, Keewatin Yatthé Regional Health Authority	no change
4713, Athabasca Health Authority	no change
<b>Alberta, Zones</b>	
4831, South Zone	no change
4832, Calgary Zone	no change
4833, Central Zone	no change
4834, Edmonton Zone	no change
4835, North Zone	no change
<b>British Columbia</b>	
<b>591, Interior Health Authority</b>	
5911, East Kootenay Health Service Delivery Area	no change
5912, Kootenay-Boundary Health Service Delivery Area	no change
5913, Okanagan Health Service Delivery Area	no change
5914, Thompson/Cariboo Health Service Delivery Area	no change
<b>592, Fraser Health Authority</b>	
5921, Fraser East Health Service Delivery Area	no change
5922, Fraser North Health Service Delivery Area	no change
5923, Fraser South Health Service Delivery Area	no change
<b>593, Vancouver Coastal Health Authority</b>	
5931, Richmond Health Service Delivery Area	no change
5932, Vancouver Health Service Delivery Area	no change
5933, North Shore/Coast Garibaldi Health Service Delivery Area	no change
<b>594, Vancouver Island Health Authority</b>	
5941, South Vancouver Island Health Service Delivery Area	no change
5942, Central Vancouver Island Health Service Delivery Area	no change
5943, North Vancouver Island Health Service Delivery Area	no change
<b>595, Northern Health Authority</b>	
5951, North West Health Service Delivery Area	no change
5952, Northern Interior Health Service Delivery Area	no change
5953, Northeast Health Service Delivery Area	no change
<b>Territories</b>	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change

... not applicable

- 1 Prince Edward Island restructured and collapsed the four administrative areas into one in November 2005. As of May 2012, data for Prince Edward Island are disseminated at the provincial level only.
- 2 For most data sources (with the exception of Census and Demographic population estimates), health region level data are not available for some regions in Nova Scotia as well as some northern health regions in Saskatchewan which have small populations. To avoid suppression in these areas where small numbers or sample size impact on data quality, data have been grouped with neighbouring regions, as follows:  
 South Shore District Health Authority, Nova Scotia (1211) is combined with South West Nova District Health Authority (1212) and referred to as 'South Shore—South West Nova (1210)'  
 Colchester East Hants Health Authority, Nova Scotia (1234) is combined with Cumberland Health Authority (1235) and referred to as 'Colchester East Hants—Cumberland (1230)'  
 Pictou County Health Authority, Nova Scotia (1246) is combined with Guysborough Antigonish Strait Health Authority (1247) and referred to as 'Pictou County—Guysborough Antigonish Strait (1240)'

Athabasca Health Authority, Saskatchewan (4713) is combined with Mamawetan Churchill River Regional Health Authority (4711) and Keewatin Yatthé Regional Health Authority (4712) and referred to as "Mamawetan/Keewatin/Athabasca Regional Health Authorities (4714)".

3 As a result of changes to Health Region geography in Manitoba in 2012, data from 2012 onward will be presented by Regional Health Authority (RHA). The 11 Health Regions in Manitoba were merged into 5 RHA's as follows:

Winnipeg RHA (4610A) and Churchill RHA (4690 F) were merged to form Winnipeg RHA (4601 A);

Assiniboine RHA (4645 D), Parkland RHA (4660 D) and Brandon RHA (4615 A) were merged to form Prairie Mountain Health (4602 D);

Interlake RHA (4630 E) and North Eastman RHA (4620 E) were merged to form Interlake-Eastern RHA (4603 E);

NOR-MAN RHA, (4670 H) and Burntwood RHA (4680 F) were merged to form 4604 F Northern RHA;

Central RHA (4640 D) and South Eastman RHA (4625 E) were merged to form Southern Health (4605 D).

**Source:** Statistics Canada.



**Table 7-d**  
**Summary of changes to health region codes, names and boundaries, 2007 and 2011**

2007	2011
<b>Newfoundland and Labrador</b>	
1011, Eastern Regional Integrated Health Authority	no change
1012, Central Regional Integrated Health Authority	no change
1013, Western Regional Integrated Health Authority	no change
1014, Labrador-Grenfell Regional Integrated Health Authority	no change
<b>Prince Edward Island<sup>1</sup></b>	
1100, Prince Edward Island	no change
1101, Kings County	no change
1102, Queens County	no change
1103, Prince County	no change
<b>Nova Scotia<sup>2</sup></b>	
1201, Zone 1	1210 South Shore / South West Nova <sup>4</sup>
1211, District Health Authority (DHA) 1	South Shore District Health Authority
1212, District Health Authority (DHA) 2	South West Nova District Health Authority
1202, Zone 2	1223 Annapolis Valley District Health Authority
1213, District Health Authority (DHA) 3	1223 Annapolis Valley District Health Authority
1203, Zone 3	1230 Colchester East Hants / Cumberland <sup>4</sup>
1214, District Health Authority (DHA) 4	1234 Colchester East Hants Health Authority
1215, District Health Authority (DHA) 5	1235 Cumberland Health Authority
1204, Zone 4	1240 Pictou County / Guysborough Antigonish Strait <sup>4</sup>
1216, District Health Authority (DHA) 6	1246 Pictou County Health Authority
1217, District Health Authority (DHA) 7	1247 Guysborough Antigonish Strait Health Authority
1205, Zone 5	1258 Cape Breton District Health Authority
1218, District Health Authority (DHA) 8	1258 Cape Breton District Health Authority
1206, Zone 6	1269 Capital District Health Authority
1219, District Health Authority (DHA) 9	1269 Capital District Health Authority
<b>New Brunswick<sup>3</sup></b>	
1301, Region 1	Zone 1 (Moncton area)
1302, Region 2	Zone 2 (Saint John area)
1303, Region 3	Zone 3 (Fredericton area)
1304, Region 4	Zone 4 (Edmunston area)
1305, Region 5	Zone 5 (Campbellton area)
1306, Region 6	Zone 6 (Bathurst area)
1307, Region 7	Zone 7 (Miramichi area)
<b>Quebec</b>	
2401, Région du Bas-Saint-Laurent	no change
2402, Région du Saguenay—Lac-Saint-Jean	no change
2403, Région de la Capitale-Nationale	no change
2404, Région de la Mauricie et Centre-du-Québec	no change
2405, Région de l'Estrie	no change
2406, Région de Montréal	no change
2407, Région de l'Outaouais	no change
2408, Région de l'Abitibi-Témiscamingue	no change
2409, Région de la Côte-Nord	no change
2410, Région du Nord-du-Québec	no change
2411, Région de la Gaspésie—Îles-de-la-Madeleine	no change
2412, Région de la Chaudière-Appalaches	no change
2413, Région de Laval	no change
2414, Région de Lanaudière	no change
2415, Région de Laurentides	no change
2416, Région de la Montérégie	no change
2417, Région du Nunavik	no change
2418, Région des Terres-Cries-de-la-Baie-James	no change

<b>Ontario, Local Health Integration Networks (LHIN)</b>	
3501, Erie St. Clair	no change
3502, South West	no change
3503, Waterloo Wellington	no change
3504, Hamilton Niagara Haldimand Brant	no change
3505, Central West	no change
3506, Mississauga Halton	no change
3507, Toronto Central	no change
3508, Central	no change
3509, Central East	no change
3510, South East	no change
3511, Champlain	no change
3512, North Simcoe Muskoka	no change
3513, North East	no change
3514, North West	no change
<b>Ontario, Health Units</b>	
3526, The District of Algoma Health Unit	no change
3527, Brant County Health Unit	no change
3530, Durham Regional Health Unit	no change
3531, Elgin-St Thomas Health Unit	no change
3533, Grey Bruce Health Unit	no change
3534, Haldimand-Norfolk Health Unit	no change
3535, Haliburton, Kawartha, Pine Ridge District Health Unit	no change
3536, Halton Regional Health Unit	no change
3537, City of Hamilton Health Unit	no change
3538, Hastings and Prince Edward Counties Health Unit	no change
3539, Huron County Health Unit	no change
3540, Chatham-Kent Health Unit	no change
3541, Kingston, Frontenac and Lennox and Addington Health Unit	no change
3542, Lambton Health Unit	no change
3543, Leeds, Grenville and Lanark District Health Unit	no change
3544, Middlesex-London Health Unit	no change
3546, Niagara Regional Area Health Unit	no change
3547, North Bay Parry Sound District Health Unit	no change
3549, Northwestern Health Unit	no change
3551, City of Ottawa Health Unit	no change
3552, Oxford County Health Unit	no change
3553, Peel Regional Health Unit	no change
3554, Perth District Health Unit	no change
3555, Peterborough County-City Health Unit	no change
3556, Porcupine Health Unit	no change
3557, Renfrew County and District Health Unit	no change
3558, The Eastern Ontario Health Unit	no change
3560, Simcoe Muskoka District Health Unit	no change
3561, Sudbury and District Health Unit	no change
3562, Thunder Bay District Health Unit	no change
3563, Timiskaming Health Unit	no change
3565, Waterloo Health Unit	no change
3566, Wellington-Dufferin-Guelph Health Unit	no change
3568, Windsor-Essex County Health Unit	no change
3570, York Regional Health Unit	no change
3595, City of Toronto Health Unit	no change
<b>Manitoba</b>	
4610, Winnipeg Regional Health Authority	no change
4615, Brandon Regional Health Authority	no change
4620, North Eastman Regional Health Authority	no change
4625, South Eastman Regional Health Authority	no change
4630, Interlake Regional Health Authority	no change
4640, Central Regional Health Authority	no change
4645, Assiniboine Regional Health Authority	no change
4660, Parkland Regional Health Authority	no change
4670, Norman Regional Health Authority	4670, NOR-MAN Regional Health Authority
4685, Burntwood/Churchill Regional Health Authority <sup>4</sup>	no change
4680, Burntwood Regional Health Authority	no change

4690, Churchill Regional Health Authority	no change
<b>Saskatchewan</b>	
4701, Sun Country Regional Health Authority	no change
4702, Five Hills Regional Health Authority	no change
4703, Cypress Regional Health Authority	no change
4704, Regina Qu'Appelle Regional Health Authority	no change
4705, Sunrise Regional Health Authority	no change
4706, Saskatoon Regional Health Authority	no change
4707, Heartland Regional Health Authority	no change
4708, Kelsey Trail Regional Health Authority	no change
4709, Prince Albert Parkland Regional Health Authority	no change
4710, Prairie North Regional Health Authority	no change
4714, Mamawetan/Keewatin/Athabasca Regional Health Authority <sup>4</sup>	no change
4711, Mamawetan Churchill River Regional Health Authority	no change
4712, Keewatin Yatthé Regional Health Authority	no change
4713, Athabasca Health Authority	no change
<b>Alberta, Region Health Authorities<sup>5</sup></b>	
4821, Chinook Regional Health Authority	no change
4822, Palliser Health Region	no change
4823, Calgary Health Region	no change
4824, David Thompson Regional Health Authority	no change
4825, East Central Health Authority	no change
4826, Capital Health	no change
4827, Aspen Regional Health Authority	no change
4828, Peace Country Health	no change
4829, Northern Lights Regional Health Authority	no change
<b>Alberta, Zones</b>	
...	4831, South Zone <sup>5</sup>
...	4832, Calgary Zone <sup>5</sup>
...	4833, Central Zone <sup>5</sup>
...	4834, Edmonton Zone <sup>5</sup>
...	4835, North Zone <sup>5</sup>
<b>British Columbia</b>	
<b>591 Interior Health Authority</b>	
5911, East Kootenay Health Service Delivery Area	no change
5912, Kootenay-Boundary Health Service Delivery Area	no change
5913, Okanagan Health Service Delivery Area	no change
5914, Thompson/Cariboo Health Service Delivery Area	no change
<b>592 Fraser Health Authority</b>	
5921, Fraser East Health Service Delivery Area	no change
5922, Fraser North Health Service Delivery Area	no change
5923, Fraser South Health Service Delivery Area	no change
<b>593 Vancouver Coastal Health Authority</b>	
5931, Richmond Health Service Delivery Area	no change
5932, Vancouver Health Service Delivery Area	no change
5933, North Shore/Coast Garibaldi Health Service Delivery Area	no change
<b>594 Vancouver Island Health Authority</b>	
5941, South Vancouver Island Health Service Delivery Area	no change
5942, Central Vancouver Island Health Service Delivery Area	no change
5943, North Vancouver Island Health Service Delivery Area	no change
<b>595 Northern Health Authority</b>	
5951, North West Health Service Delivery Area	no change
5952, Northern Interior Health Service Delivery Area	no change
5953, Northeast Health Service Delivery Area	no change
<b>Territories</b>	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change

... not applicable

- 1 Prince Edward Island restructured and collapsed the four administrative areas into one in November 2005. As of May 2012, data for Prince Edward Island are disseminated at the provincial level only.
- 2 Minor name and code changes have been made to Nova Scotia health regions.
- 3 The province of New Brunswick has made minor name changes to its health regions. The Regions are now referred to as Zones.
- 4 For most data sources (with the exception of Census and Demographic population estimates), health region level data are not available for some regions in Nova Scotia as well as some northern health regions in Manitoba and Saskatchewan which have small populations. To avoid suppression in these areas where small numbers or sample size impact on data quality, data have been grouped with neighbouring regions, as follows:

South Shore District Health Authority, Nova Scotia (1211) is combined with South West Nova District Health Authority (1212) and referred to as "South Shore—South West Nova (1210)"

Colchester East Hants Health Authority, Nova Scotia (1234) is combined with Cumberland Health Authority (1235) and referred to as "Colchester East Hants—Cumberland (1230)"

Pictou County Health Authority, Nova Scotia (1246) is combined with Guysborough Antigonish Strait Health Authority (1247) and referred to as "Pictou County—Guysborough Antigonish Strait (1240)"

Churchill Regional Health Authority, Manitoba (4690) is combined with Burntwood Regional Health Authority (4680) and referred to as "Burntwood/Churchill Regional Health Authorities (4685)"

Athabasca Health Authority, Saskatchewan (4713) is combined with Mamawetan Churchill River Regional Health Authority (4711) and Keewatin Yatthé Regional Health Authority (4712) and referred to as "Mamawetan/Keewatin/Athabasca Regional Health Authorities (4714)".

5 In November 2010, five new zones were approved for use in Alberta by the Joint Alberta Health Services - Alberta Health and Wellness Geographies Committee. These five zones are aggregations of the previous nine Regional Health Authorities.

South Zone is a merger of the two former south health regions-Chinook RHA (4821) and Palliser (4822).

Calgary Zone is the former Calgary Health Region (4823).

Central Zone is a merger of the former David Thompson (4824) and East Central (4825) Health Regions.

Edmonton Zone is the former Capital Health Region (4826).

North Zone is a merger of the three former northern health regions Aspen (4827), Peace Country Health (4828) and Northern Lights Health Region (4829).

**Source:** Statistics Canada.



**Table 7-c**  
**Summary of changes to health region codes, names and boundaries, 2005 and 2007**

2005	2007
<b>Newfoundland and Labrador</b>	
1011, Eastern Regional Integrated Health Authority	no change
1012, Central Regional Integrated Health Authority	no change
1013, Western Regional Integrated Health Authority	no change
1014, Labrador–Grenfell Regional Integrated Health Authority	no change
<b>Prince Edward Island<sup>1</sup></b>	
...	1111, Prince Edward Island
1101, West Prince	...
1102, East Prince	...
1103, Queens	...
1104, Kings	...
...	1101, Kings County
...	1102, Queens County
...	1103, Prince County
<b>Nova Scotia<sup>2</sup></b>	
1201, Zone 1	no change
1202, Zone 2	no change
1203, Zone 3	no change
1204, Zone 4	no change
1205, Zone 5	no change
1206, Zone 6	no change
1211, District Health Authority (DHA) 1	no change
1212, District Health Authority (DHA) 2	no change
1213, District Health Authority (DHA) 3	no change
1214, District Health Authority (DHA) 4	no change
1215, District Health Authority (DHA) 5	no change
1216, District Health Authority (DHA) 6	no change
1217, District Health Authority (DHA) 7	no change
1218, District Health Authority (DHA) 8	no change
1219, District Health Authority (DHA) 9	no change
<b>New Brunswick</b>	
1301, Region 1	no change
1302, Region 2	1302, Region 2 <sup>3</sup>
1303, Region 3	1303, Region 3 <sup>3</sup>
1304, Region 4	no change
1305, Region 5	no change
1306, Region 6	no change
1307, Region 7	no change
<b>Quebec</b>	
2401, Région du Bas–Saint–Laurent	no change
2402, Région du Saguenay–Lac–Saint–Jean	no change
2403, 2403, Région de la Capitale–Nationale	no change
2404, Région de la Mauricie et Centre–du–Québec	no change
2405, Région de l'Estrie	no change
2406, Région de Montréal	no change
2407, Région de l'Outaouais	no change
2408, Région de l'Abitibi–Témiscamingue	no change
2409, Région de la Côte–Nord	no change
2410, Région du Nord–du–Québec	no change
2411, Région de la Gaspésie–Îles–de–la–Madeleine	no change
2412, Région de la Chaudière–Appalaches	no change
2413, Région de Laval	no change
2414, Région de Lanaudière	no change



2415, Région de Laurentides	no change
2416, Région de la Montérégie	no change
2417, Région du Nunavik	no change
2418, Région des Terres-Cries-de-la-Baie-James	no change
<b>Ontario, Local Health Integration Networks (LHIN)</b>	
3501, Erie St. Clair	no change
3502, South West	no change
3503, Waterloo Wellington	no change
3504, Hamilton Niagara Haldimand Brant	no change
3505, Central West	no change
3506, Mississauga Halton	no change
3507, Toronto Central	no change
3508, Central	no change
3509, Central East	no change
3510, South East	no change
3511, Champlain	no change
3512, North Simcoe Muskoka	no change
3513, North East	no change
3514, North West	no change
<b>Ontario, Health Units</b>	
3526, The District of Algoma Health Unit	no change
3527, Brant County Health Unit	no change
3530, Durham Regional Health Unit	no change
3531, Elgin-St Thomas Health Unit	no change
3533, Grey Bruce Health Unit	no change
3534, Haldimand-Norfolk Health Unit	no change
3535, Haliburton, Kawartha, Pine Ridge District Health Unit	no change
3536, Halton Regional Health Unit	no change
3537, City of Hamilton Health Unit	no change
3538, Hastings and Prince Edward Counties Health Unit	no change
3539, Huron County Health Unit	no change
3540, Chatham-Kent Health Unit	no change
3541, Kingston, Frontenac and Lennox and Addington Health Unit	no change
3542, Lambton Health Unit	no change
3543, Leeds, Grenville and Lanark District Health Unit	no change
3544, Middlesex-London Health Unit	no change
3546, Niagara Regional Area Health Unit	no change
3547, North Bay Parry Sound District Health Unit	no change
3549, Northwestern Health Unit	no change
3551, City of Ottawa Health Unit	no change
3552, Oxford County Health Unit	no change
3553, Peel Regional Health Unit	no change
3554, Perth District Health Unit	no change
3555, Peterborough County-City Health Unit	no change
3556, Porcupine Health Unit	no change
3557, Renfrew County and District Health Unit	no change
3558, The Eastern Ontario Health Unit	no change
3560, Simcoe Muskoka District Health Unit	no change
3561, Sudbury and District Health Unit	no change
3562, Thunder Bay District Health Unit	no change
3563, Timiskaming Health Unit	no change
3565, Waterloo Health Unit	no change
3566, Wellington-Dufferin-Guelph Health Unit	no change
3568, Windsor-Essex County Health Unit	no change
3570, York Regional Health Unit	no change
3595, City of Toronto Health Unit	no change
<b>Manitoba</b>	
4610, Winnipeg Regional Health Authority	no change
4615, Brandon Regional Health Authority	no change
4620, North Eastman Regional Health Authority	no change
4625, South Eastman Regional Health Authority	no change
4630, Interlake Regional Health Authority	no change
4640, Central Regional Health Authority	no change
4645, Assiniboine Regional Health Authority	no change

4660, Parkland Regional Health Authority	no change
4670, Norman Regional Health Authority	no change
4685, Burntwood/Churchill Regional Health Authority <sup>4</sup>	no change
<b>Saskatchewan</b>	
4701, Sun Country Regional Health Authority	no change
4702, Five Hills Regional Health Authority	no change
4703, Cypress Regional Health Authority	no change
4704, Regina Qu'Appelle Regional Health Authority	no change
4705, Sunrise Regional Health Authority	no change
4706, Saskatoon Regional Health Authority	no change
4707, Heartland Regional Health Authority	no change
4708, Kelsey Trail Regional Health Authority	no change
4709, Prince Albert Parkland Regional Health Authority	no change
4710, Prairie North Regional Health Authority	no change
4714, Mamawetan/Keewatin/Athabasca Regional Health Authority <sup>4</sup>	no change
<b>Alberta<sup>5</sup></b>	
4820, Chinook Regional Health Authority	4821, Chinook Regional Health Authority
4821, Palliser Health Region	4822, Palliser Health Region
4822, Calgary Health Region	4823, Calgary Health Region
4823, David Thompson Regional Health Authority	4824, David Thompson Regional Health Authority
4824, East Central Health Authority	4825, East Central Health
4825, Capital Health	4826, Capital Health
4826, Aspen Regional Health Authority	4827, Aspen Regional Health Authority
4827, Peace Country Health	4828 Peace Country Health
4828, Northern Lights Regional Health Authority	4829, Northern Lights Region Health Authority
<b>British Columbia</b>	
<b>591 Interior Health Authority</b>	
5911, East Kootenay	no change
5912, Kootenay-Boundary	no change
5913, Okanagan	no change
5914, Thompson/Cariboo	no change
<b>592 Fraser Health Authority</b>	
5921, Fraser East	no change
5922, Fraser North	no change
5923, Fraser South	no change
<b>593 Vancouver Coastal Health Authority</b>	
5931, Richmond	no change
5932, Vancouver	no change
5933, North Shore/Coast Garibaldi	no change
<b>594 Vancouver Island Health Authority</b>	
5941, South Vancouver Island	no change
5942, Central Vancouver Island	no change
5943, North Vancouver Island	no change
<b>595 Northern Health Authority</b>	
5951, North West	no change
5952, Northern Interior	no change
5953, Northeast	no change
<b>Territories</b>	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change

... not applicable

- 1 In November 2005 Prince Edward Island officially disbanded the four health regions. The three existing counties (census divisions) provide an alternative set of boundaries to retain relevant subprovincial CCHS data, commencing June 2008.
- 2 The six zones are aggregations of the nine District Health Authorities (DHA). Zones 1, 3 and 4 are each comprised of two DHAs. The remaining three zones change in name only with the following small exception. Mount Uniacke area, previously part of Zone 3 is cut-off by new DHA 4 boundary. Statistics for this area (population 1,114) will be included with DHA 9 (Halifax area). As a result, there is high comparability between Zone 6 and DHA 9 and between Zone 3 and DHA 4/5.  
Zone 1 = 1211 District Health Authority (DHA) 1, 1212 District Health Authority (DHA) 2  
Zone 2 = 1213 District Health Authority (DHA) 3  
Zone 3 = 1214 District Health Authority (DHA) 4, 1215 District Health Authority (DHA) 5  
Zone 4 = 1216 District Health Authority (DHA) 6, 1217 District Health Authority (DHA) 7  
Zone 5 = 1218 District Health Authority (DHA) 8  
Zone 6 = 1219 District Health Authority (DHA) 9.

- 3 On February 14, 2006 Cambridge-Narrows Village (population 717) was reassigned from Region 2 to Region 3.
- 4 For most data sources (with the exception of Census and Demographic population estimates), health region level data are not available for some northern health regions in Manitoba and Saskatchewan which have small populations. To avoid suppression in these areas where small numbers or sample size impact on data quality, data have been grouped with neighbouring regions, as follows:  
Churchill Regional Health Authority, Manitoba (4690) is combined with Burntwood Regional Health Authority (4680) and referred to as "Burntwood/Churchill Regional Health Authorities (4685)"; and,  
Athabasca Health Authority (4713) Saskatchewan is combined with Mamawetan Churchill River Regional Health Authority (4711) and Keewatin Yatthé Regional Health Authority (4712) and referred to as "Mamawetan/Keewatin/Athabasca Regional Health Authorities (4714)".
- 5 Alberta health region codes have been updated to align with the provincial codes. Alberta Health and Wellness uses codes R1-R9 to identify the Health Regions.

**Source:** Statistics Canada.

## Table 7-b Summary of changes to health region codes, names and boundaries, 2003 and 2005

2003	2005
<b>Newfoundland and Labrador</b> <sup>1</sup>	
1001, Health and Community Services St. John's Region	1011, Eastern Regional Integrated Health Authority <sup>7, 8</sup>
1002, Health and Community Services Eastern Region	1011, Eastern Regional Integrated Health Authority <sup>7, 8</sup>
1003, Health and Community Services Central Region	1012, Central Regional Integrated Health Authority <sup>8</sup>
1004, Health and Community Services Western Region	1013, Western Regional Integrated Health Authority <sup>8</sup>
1005, Grenfell Regional Health Services Board	1014, Labrador-Grenfell Regional Integrated Health Authority <sup>7, 8</sup>
1006, Health Labrador Corporation	1014, Labrador-Grenfell Regional Integrated Health Authority <sup>7, 8</sup>
<b>Prince Edward Island</b>	
1101, West Prince	no change
1102, East Prince	no change
1103, Queens	no change
1104, Kings	no change
<b>Nova Scotia</b> <sup>2, 3</sup>	
1201, Zone 1	no change
1202, Zone 2	no change
1203, Zone 3	no change
1204, Zone 4	no change
1205, Zone 5	no change
1206, Zone 6	no change
...	1211, District health authority 1
...	1212, District health authority 2
...	1213, District health authority 3
...	1214, District health authority 4
...	1215, District health authority 5
...	1216, District health authority 6
...	1217, District health authority 7
...	1218, District health authority 8
...	1219, District health authority 9
<b>New Brunswick</b>	
1301, Region 1	no change
1302, Region 2	no change
1303, Region 3	no change
1304, Region 4	no change
1305, Region 5	no change
1306, Region 6	no change
1307, Region 7	no change
<b>Quebec</b>	
2401, Région du Bas-Saint-Laurent	no change
2402, Région du Saguenay - Lac-Saint-Jean	no change
2403, Région de Québec	2403, Région de la Capitale-Nationale <sup>8</sup>
2404, Région de la Mauricie et Centre-du-Québec	no change
2405, Région de l'Estrie	no change
2406, Région de Montréal-Centre	2406, Région de Montréal <sup>8</sup>
2407, Région de l'Outaouais	no change
2408, Région de l'Abitibi-Témiscamingue	no change
2409, Région de la Côte-Nord	no change
2410, Région du Nord-du-Québec	no change
2411, Région de la Gaspésie-Îles-de-la-Madeleine	no change
2412, Région de la Chaudière-Appalaches	no change
2413, Région de Laval	no change
2414, Région de Lanaudière	no change
2415, Région de Laurentides	no change
2416, Région de la Montérégie	no change

2417, Région du Nunavik	no change
2418, Région des Terres-Cries-de-la-Baie- James	no change
<b>Ontario<sup>5</sup></b>	
3501, Champlain DHC	...
3502, Southeastern Ontario DHC	...
3503, Durham-Haliburton-Kawartha and Pine Ridge DHC	...
3504, Toronto DHC	...
3505, Simcoe York DHC	...
3506, Halton-Peel DHC	...
3507, Waterloo Region-Wellington-Dufferin DHC	...
3508, Hamilton DHC	...
3509, Niagara DHC	...
3510, Grand River DHC	...
3511, Thames Valley DHC	...
3512, Essex-Kent and Lambton DHC	...
3513, Grey Bruce Huron Perth DHC	...
3514, Northern Shores DHC	...
3515, Algoma-Cochrane-Manitoulin and Sudbury DHC	...
3516, Northwestern Ontario DHC	...
...	3501, Erie St. Clair
...	3502, South West
...	3503, Waterloo Wellington
...	3504, Hamilton Niagara Haldimand Brant
...	3505, Central West
...	3506, Mississauga Halton
...	3507, Toronto Central
...	3508, Central
...	3509, Central East
...	3510, South East
...	3511, Champlain
...	3512, North Simcoe Muskoka
...	3513, North East
...	3514, North West
3526, The District of Algoma Health Unit	no change
3527, Brant County Health Unit	no change
3530, Durham Regional Health Unit	no change
3531, Elgin-St Thomas Health Unit	no change
3533, Grey Bruce Health Unit	no change
3534, Haldimand-Norfolk Health Unit	no change
3535, Haliburton, Kawartha, Pine Ridge District Health Unit	no change
3536, Halton Regional Health Unit	no change
3537, City of Hamilton Health Unit	no change
3538, Hastings and Prince Edward Counties Health Unit	no change
3539, Huron County Health Unit	no change
3540, Chatham-Kent Health Unit	no change
3541, Kingston, Frontenac and Lennox and Addington Health Unit	no change
3542, Lambton Health Unit	no change
3543, Leeds, Grenville and Lanark District Health Unit	no change
3544, Middlesex-London Health Unit	no change
3545, Muskoka-Parry Sound Health Unit <sup>4</sup>	...
3546, Niagara Regional Area Health Unit	no change
3547, North Bay and District Health Unit	3547, North Bay Parry Sound District Health Unit <sup>7, 8</sup>
3549, Northwestern Health Unit	no change
3551, City of Ottawa Health Unit	no change
3552, Oxford County Health Unit	no change
3553, Peel Regional Health Unit	no change
3554, Perth District Health Unit	no change
3555, Peterborough County-City Health Unit	no change
3556, Porcupine Health Unit	no change
3557, Renfrew County and District Health Unit	no change
3558, The Eastern Ontario Health Unit	no change
3560, Simcoe County District Health Unit	3560, Simcoe Muskoka District Health Unit <sup>7, 8</sup>
3561, Sudbury and District Health Unit	no change
3562, Thunder Bay District Health Unit	no change

3563, Timiskaming Health Unit	no change
3565, Waterloo Health Unit	no change
3566, Wellington-Dufferin-Guelph Health Unit	no change
3568, Windsor-Essex County Health Unit	no change
3570, York Regional Health Unit	no change
3595, City of Toronto Health Unit	no change
<b>Manitoba</b>	
4610, Winnipeg	no change
4615, Brandon	no change
4620, North Eastman	no change
4625, South Eastman	no change
4630, Interlake	no change
4640, Central	no change
4645, Assiniboine	no change
4660, Parkland	no change
4670, Norman	no change
4685, Burntwood/Churchill <sup>5</sup>	no change
<b>Saskatchewan</b>	
4701, Sun Country	no change
4702, Five Hills	no change
4703, Cypress	no change
4704, Regina Qu'Appelle	no change
4705, Sunrise	no change
4706, Saskatoon	no change
4707, Heartland	no change
4708, Kelsey Trail	no change
4709, Prince Albert Parkland	no change
4710, Prairie North	no change
4714, Mamawetan/Keewatin/Athabasca <sup>5</sup>	no change
<b>Alberta<sup>6, 7, 8</sup></b>	
4820 Chinook Regional Health Authority	no change
4821 Palliser Health Region	no change
4822 Calgary Health Region	4822 Calgary Health Region <sup>Z</sup>
4823 David Thompson Regional Health Authority	4823 David Thompson Regional Health Authority <sup>Z</sup>
4824 East Central Health	no change
4825 Capital Health	no change
4826 Aspen Regional Health Authority	no change
4827 Peace Country Health	no change
4828 Northern Lights Health Region	no change
<b>British Columbia</b>	
5911, East Kootenay	no change
5912, Kootenay-Boundary	no change
5913, Okanagan	no change
5914, Thompson/Cariboo	no change
5921, Fraser East	no change
5922, Fraser North	no change
5923, Fraser South	no change
5931, Richmond	no change
5932, Vancouver	no change
5933, North Shore/Coast Garibaldi	no change
5941, South Vancouver Island	no change
5942, Central Vancouver Island	no change
5943, North Vancouver Island	no change
5951, Northwest	no change
5952, Northern Interior	no change
5953, Northeast	no change
<b>Territories</b>	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change

... not applicable

<sup>1</sup> In Newfoundland and Labrador, six community health regions were reduced to four Regional Integrated Health Authorities (RIHAs). Boundaries are unchanged for two RIHAs and the other four have been collapsed into two. Name and code changes in effect as of March 1st, 2005.

<sup>2</sup> The six zones are aggregations of the nine District Health Authorities (DHA). Zones 1, 3 and 4 are each comprised of two DHAs. The remaining three zones change in name only with the following small exception. Mount Uniacke area, previously part of Zone 3 is cut-off by new DHA 4 boundary. Statistics for this area (population 1,114) will be included with DHA 9 (Halifax area). As a result, there is high comparability between Zone 6 and DHA 9 and between Zone 3 and DHA 4/5.

Zone 1 = 1211 District Health Authority (DHA) 1, 1212 District Health Authority (DHA) 2  
Zone 2 = 1213 District Health Authority (DHA) 3  
Zone 3 = 1214 District Health Authority (DHA) 4, 1215 District Health Authority (DHA) 5  
Zone 4 = 1216 District Health Authority (DHA) 6, 1217 District Health Authority (DHA) 7  
Zone 5 = 1218 District Health Authority (DHA) 8  
Zone 6 = 1219 District Health Authority (DHA) 9.

- 3 District health councils (DHC) were dissolved. 14 Local Health Integration Networks (LHINs) came into effect April 1st, 2005.
- 4 As of April 1, 2005 Muskoka-Parry Sound Health Unit dissolved. The Muskoka part of this region was combined with Simcoe County District increasing the population by 14%, and the Parry Sound part joined North Bay and District, increasing the population by 30%.
- 5 For most data sources (with the exception of Census and Demographic population estimates), health region level data are not available for some northern health regions in Manitoba and Saskatchewan which have small populations. To avoid suppression in these areas where small numbers or sample size impact on data quality, data have been grouped with neighbouring regions, as follows: Churchill Regional Health Authority, Manitoba (4690) is combined with Burntwood Regional Health Authority (4680) and referred to as "Burntwood/Churchill (4685)"; and, Athabasca Health Authority (4713) Saskatchewan is combined with Mamawetan Churchill River Regional Health Authority (4711) and Keewatin Yatthé Regional Health Authority (4712) and referred to as "Athabasca/Keewatin/Mamawetan (4714)"
- 6 In December 2003 Calgary Health Region gained a population of approximately 13,000 (or 1.2%) from David Thompson Regional Health Authority which lost 4.4% total population.
- 7 Indicates where boundaries have changed, affecting comparability with previous year's data.
- 8 Represents health region name change.

**Source:** Statistics Canada.



**Table 7-a**  
**Summary of changes to health region codes, names and boundaries, 2000 and 2003**

2000	2003
<b>Newfoundland and Labrador</b>	
1001, Health and Community Services St. John's Region	1001, Health and Community Services St. John's Region
1002, Health and Community Services Eastern Region	1002, Health and Community Services Eastern Region
1003, Health and Community Services Central Region	1003, Health and Community Services Central Region
1004, Health and Community Services Western Region	1004, Health and Community Services Western Region
1005, Grenfell Regional Health Services Board	1005, Grenfell Regional Health Services Board
1006, Health Labrador Corporation	1006, Health Labrador Corporation
<b>Prince Edward Island<sup>1</sup></b>	
1101, Urban Health Region	...
1102, Rural Health Region	...
...	1101, West Prince <sup>2</sup>
...	1102, East Prince <sup>2</sup>
...	1103, Queens <sup>2</sup>
...	1104, Kings <sup>2</sup>
<b>Nova Scotia</b>	
1201, Zone 1	1201, Zone 1
1202, Zone 2	1202, Zone 2
1203, Zone 3	1203, Zone 3
1204, Zone 4	1204, Zone 4
1205, Zone 5	1205, Zone 5
1206, Zone 6	1206, Zone 6
<b>New Brunswick</b>	
1301, Region 1	1301, Region 1
1302, Region 2	1302, Region 2
1303, Region 3	1303, Region 3
1304, Region 4	1304, Region 4
1305, Region 5	1305, Region 5
1306, Region 6	1306, Region 6
1307, Region 7	1307, Region 7
<b>Quebec</b>	
2401, Région du Bas-Saint-Laurent	2401, Région du Bas-Saint-Laurent
2402, Région du Saguenay - Lac-Saint-Jean	2402, Région du Saguenay - Lac-Saint-Jean
2403, Région de Québec	2403, Région de Québec
2404, Région de la Mauricie et Centre-du-Québec	2404, Région de la Mauricie et Centre-du-Québec
2405, Région de l'Estrie	2405, Région de l'Estrie
2406, Région de Montréal-Centre	2406, Région de Montréal-Centre
2407, Région de l'Outaouais	2407, Région de l'Outaouais
2408, Région de l'Abitibi-Témiscamingue	2408, Région de l'Abitibi-Témiscamingue
2409, Région de la Côte-Nord	2409, Région de la Côte-Nord
2410, Région du Nord-du-Québec	2410, Région du Nord-du-Québec
2411, Région de la Gaspésie-Îles-de-la-Madeleine	2411, Région de la Gaspésie-Îles-de-la-Madeleine
2412, Région de la Chaudière-Appalaches	2412, Région de la Chaudière-Appalaches
2413, Région de Laval	2413, Région de Laval
2414, Région de Lanaudière	2414, Région de Lanaudière
2415, Région de Laurentides	2415, Région de Laurentides
2416, Région de la Montérégie	2416, Région de la Montérégie
2417, Région du Nunavik	2417, Région du Nunavik
2418, Région des Terres-Cries-de-la-Baie-James	2418, Région des Terres-Cries-de-la-Baie-James
<b>Ontario</b>	
3501, Champlain District Health Council	3501, Champlain District Health Council
3502, Quinte-Kingston and Rideau District Health Council	3502, Southeastern Ontario District Health Council <sup>3</sup>
3503, Durham-Haliburton-Kawartha and Pine Ridge District Health Council	3503, Durham-Haliburton-Kawartha and Pine Ridge District Health Council



3504, Toronto District Health Council	3504, Toronto District Health Council
3505, Simcoe-York District Health Council	3505, Simcoe York District Health Council <sup>3</sup>
3506, Halton-Peel District Health Council	3506, Halton-Peel District Health Council
3507, Waterloo-Wellington-Dufferin District Health Council	3507, Waterloo Region-Wellington-Dufferin District Health Council <sup>3</sup>
3508, Hamilton-Wentworth District Health Council	3508, Hamilton District Health Council <sup>2</sup>
3509, Niagara District Health Council	3509, Niagara District Health Council
3510, Grand River District Health Council	3510, Grand River District Health Council
3511, Thames Valley District Health Council	3511, Thames Valley District Health Council
3512, Essex-Kent and Lambton District Health Council	3512, Essex-Kent and Lambton District Health Council
3513, Grey-Bruce-Huron and Perth District Health Council	3513, Grey Bruce Huron Perth District Health Council <sup>3</sup>
3514, Muskoka-Nipissing and Parry Sound District Health Council	3514, Northern Shores District Health Council <sup>3</sup>
3515, Algoma-Cochrane-Manitoulin and Sudbury District Health Council	3515, Algoma-Cochrane-Manitoulin and Sudbury District Health Council
3516, Northwestern Ontario District Health Council	3516, Northwestern Ontario District Health Council
3526, Algoma Public Health Unit	3526, The District of Algoma Health Unit <sup>3</sup>
3527, Brant Public Health Unit	3527, Brant County Health Unit <sup>3</sup>
3530, Durham Public Health Unit	3530, Durham Regional Health Unit <sup>3</sup>
3531, Elgin-St Thomas Public Health Unit	3531, Elgin-St Thomas Health Unit <sup>3</sup>
3533, Bruce-Grey-Owen Sound Public Health Unit	3533 Grey Bruce Health Unit <sup>3</sup>
3534, Haldimand-Norfolk Public Health Unit	3534, Haldimand-Norfolk Health Unit <sup>3</sup>
3535, Haliburton-Kawartha-Pine Ridge Public Health Unit	3535, Haliburton, Kawartha, Pine Ridge District Health Unit <sup>3</sup>
3536, Halton Public Health Unit	3536, Halton Regional Health Unit <sup>3</sup>
3537, Hamilton-Wentworth Public Health Unit	3537, City of Hamilton Health Unit <sup>3</sup>
3538, Hastings and Prince Edward Public Health Unit	3538, Hastings and Prince Edward Counties Health Unit <sup>3</sup>
3539, Huron Public Health Unit	3539, Huron County Health Unit <sup>3</sup>
3540, Kent-Chatham Public Health Unit	3540, Chatham-Kent Health Unit <sup>3</sup>
3541, Kingston-Frontenac-Lennox and Addington Public Health Unit	3541, Kingston, Frontenac and Lennox and Addington Health Unit <sup>3</sup>
3542, Lambton Public Health Unit	3542, Lambton Health Unit <sup>3</sup>
3543, Leeds-Grenville-Lanark Public Health Unit	3543, Leeds, Grenville and Lanark District Health Unit <sup>3</sup>
3544, Middlesex-London Public Health Unit	3544, Middlesex-London Health Unit <sup>3</sup>
3545, Muskoka-Parry Sound Public Health Unit	3545, Muskoka-Parry Sound Health Unit <sup>3</sup>
3546, Niagara Public Health Unit	3546, Niagara Regional Area Health Unit <sup>3</sup>
3547, North Bay Public Health Unit	3547, North Bay and District Health Unit <sup>3</sup>
3549, Northwestern Public Health Unit	3549, Northwestern Health Unit <sup>3</sup>
3551, Ottawa Carleton Public Health Unit	3551, City of Ottawa Health Unit <sup>3</sup>
3552, Oxford Public Health Unit	3552, Oxford County Health Unit <sup>3</sup>
3553, Peel Public Health Unit	3553, Peel Regional Health Unit <sup>3</sup>
3554, Perth Public Health Unit	3554, Perth District Health Unit <sup>3</sup>
3555, Peterborough Public Health Unit	3555, Peterborough County-City Health Unit <sup>3</sup>
3556, Porcupine Public Health Unit	3556, Porcupine Health Unit <sup>3</sup>
3557, Renfrew Public Health Unit	3557, Renfrew County and District Health Unit <sup>3</sup>
3558, Eastern Ontario Public Health Unit	3558, The Eastern Ontario Health Unit <sup>3</sup>
3560, Simcoe Public Health Unit	3560, Simcoe County District Health Unit <sup>3</sup>
3561, Sudbury Public Health Unit	3561, Sudbury and District Health Unit <sup>3</sup>
3562, Thunder Bay Public Health Unit	3562, Thunder Bay District Health Unit <sup>3</sup>
3563, Timiskaming Public Health Unit	3563, Timiskaming Health Unit <sup>3</sup>
3565, Waterloo Public Health Unit	3565, Waterloo Health Unit <sup>3</sup>
3566, Wellington-Dufferin-Guelph Public Health Unit	3566, Wellington-Dufferin-Guelph Health Unit <sup>3</sup>
3568, Windsor-Essex Public Health Unit	3568, Windsor-Essex County Health Unit <sup>3</sup>
3570, York Public Health Unit	3570, York Regional Health Unit <sup>3</sup>
3595, City of Toronto Public Health Unit	3595, City of Toronto Health Unit <sup>3</sup>
<b>Manitoba</b>	
4610, Winnipeg	4610, Winnipeg
4615, Brandon	4615, Brandon
4620, North Eastman	4620, North Eastman
4625, South Eastman	4625, South Eastman
4630, Interlake	4630, Interlake
4640, Central	4640, Central <sup>2, 4</sup>
4650, Marquette	4645, Assiniboine <sup>2, 3, 5</sup>
4655, South Westman	...
4660, Parkland	4660, Parkland <sup>2</sup>
4670, Norman	4670, Norman
4685, Burntwood/Churchill	4685, Burntwood/Churchill
<b>Saskatchewan</b>	
4701, Weyburn (A) Service Area	4701, Sun Country <sup>3</sup>
4702, Moose Jaw (B) Service Area	4702, Five Hills <sup>3</sup>

4703, Swift Current (C) Service Area	4703, Cypress <sup>3</sup>
4704, Regina (D) Service Area	4704, Regina Qu'Appelle <sup>3</sup>
4705, Yorkton (E) Service Area	4705, Sunrise <sup>3</sup>
4706, Saskatoon (F) Service Area	4706, Saskatoon <sup>3</sup>
4707, Rosetown (G) Service Area	4707, Heartland <sup>3</sup>
4708, Melfort (H) Service Area	4708, Kelsey Trail <sup>3</sup>
4709, Prince Albert (I) Service Area	4709, Prince Albert Parkland <sup>3</sup>
4710, North Battleford (J) Service Area	4710, Prairie North <sup>3</sup>
4711, Northern Health Services Branch (K) Service Area	4714, Mamawetan/Keewati...thabasca <sup>3</sup>
<b>Alberta<sup>5</sup></b>	
4801, Chinook Regional Health Authority	4820, Chinook Regional Health Authority
4802, Palliser Health Authority	...
4803, Headwaters Health Authority	...
4804, Calgary Regional Health Authority	...
4805, Health Authority #5	...
4806, David Thompson Regional Health Authority	...
4807, East Central Health Authority	...
4808, WestView Regional Health Authority	...
4809, Crossroads Regional Health Authority	...
4810, Capital Health Authority	...
4811, Aspen Regional Health Authority	...
4812, Lakeland Regional Health Authority	...
4813, Mistahia Regional Health Authority	...
4814, Peace Regional Health Authority	...
4815, Keeweenok Lakes Regional Health Authority	...
...	4821, Palliser Health Region <sup>2</sup>
...	4822, Calgary Health Region <sup>2</sup>
...	4823, David Thompson Regional Health Authority <sup>2</sup>
...	4824, East Central Health Authority <sup>2</sup>
...	4825, Capital Health <sup>2</sup>
...	4826, Aspen Regional Health Authority <sup>2</sup>
...	4827, Peace Country Health <sup>2</sup>
4816, Northern Lights Regional Health Authority	4828, Northern Lights Regional Health Authority <sup>2</sup>
4817, Northwestern Regional Health Authority	4828, Northern Lights Regional Health Authority <sup>2</sup>
<b>British Columbia<sup>7</sup></b>	
5911, East Kootenay	5911, East Kootenay
5912, Kootenay-Boundary	5912, Kootenay-Boundary
5913, Okanagan	5913, Okanagan
5914, Thompson/Cariboo	5914, Thompson/Cariboo
5921, Fraser Valley	5921, Fraser East <sup>3</sup>
5922, Simon Fraser	5922, Fraser North <sup>3</sup>
5923, South Fraser	5923, Fraser South <sup>3</sup>
5931, Richmond	5931, Richmond
5932, Vancouver	5932, Vancouver
5933, North Shore/Coast Garibaldi	5933, North Shore/Coast Garibaldi
5941, South Vancouver Island	5941, South Vancouver Island
5942, Central Vancouver Island	5942, Central Vancouver Island
5943, North Vancouver Island	5943, North Vancouver Island
5951, North West	5951, Northwest <sup>3</sup>
5952, Northern Interior	5952, Northern Interior
5953, Northeast	5953, Northeast
<b>Territories</b>	
6001, Yukon	6001, Yukon
6101, Northwest Territories	6101, Northwest Territories
6201, Nunavut	6201, Nunavut
... not applicable	
<sup>1</sup> In Prince Edward Island, two statistical areas (urban and rural) were replaced by the four administrative areas for 2003.	
<sup>2</sup> Indicates where boundaries have changed, affecting data comparability in these regions.	
<sup>3</sup> Health region name change.	
<sup>4</sup> Central, Manitoba (4640) lost 449 or .5 per cent (1996 Census pop.) to Parkland (4660).	
<sup>5</sup> Assiniboine, Manitoba (4645) is comprised of the old regions of Marquette (4650) and South Westman (4655).	
<sup>6</sup> Complete restructuring of health region boundaries in Alberta , with the following exceptions: Chinook Regional Health Authority boundaries have not changed (code change only from 4801 to 4820); and Northern Lights (4816) and Northwestern (4817) regional health authorities combined to become the new Northern Lights Regional Health Authority (4828).	

Z Boundary changes within the Vancouver Island Health Authority of British Columbia occurred in 2003 affecting the following regions: South Vancouver Island (5941) reduced by 56,313 population or 14.7% (1996 Census); Central Vancouver Island (5942) gained 999 pop. or 4 %, and; North Vancouver (5943) gained 55,314 population, an increase of 102.6%.

**Source:** Statistics Canada.



## Table 8 Health regions 2014 by peer group

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### Peer Group A

1204 Zone 4 - Central  
1302 Zone 2 (Saint John area)  
2403 Région de la Capitale-Nationale  
2413 Région de Laval  
3527 Brant County Health Unit  
3537 City of Hamilton Health Unit  
3544 Middlesex-London Health Unit  
3546 Niagara Regional Area Health Unit  
3568 Windsor-Essex County Health Unit  
4601 Winnipeg Regional Health Authority  
5913 Okanagan Health Service Delivery Area  
5933 North Shore/Coast Garibaldi Health Service Delivery Area  
5941 South Vancouver Island Health Service Delivery Area

### Peer Group B

2407 Région de l'Outaouais  
2414 Région de Lanaudière  
2415 Région des Laurentides  
2416 Région de la Montérégie  
3530 Durham Regional Health Unit  
3536 Halton Regional Health Unit  
3551 City of Ottawa Health Unit  
3560 Simcoe Muskoka District Health Unit  
3565 Waterloo Health Unit  
3566 Wellington-Dufferin-Guelph Health Unit  
4605 Southern Health  
4704 Regina Qu'Appelle Regional Health Authority  
4706 Saskatoon Regional Health Authority  
4710 Prairie North Regional Health Authority  
  
4831 South Zone  
4832 Calgary Zone  
4833 Central Zone  
4834 Edmonton Zone

### Peer Group C

1011 Eastern Regional Integrated Health Authority  
1100 Prince Edward Island  
1202 Zone 2 - Northern  
1301 Zone 1 (Moncton area)  
1303 Zone 3 (Fredericton area)  
2401 Région du Bas-Saint-Laurent  
2402 Région du Saguenay - Lac-Saint-Jean  
2404 Région de la Mauricie et du Centre-du-Québec  
2405 Région de l'Estrie  
2408 Région de l'Abitibi-Témiscamingue  
2409 Région de la Côte-Nord  
2410 Région du Nord-du-Québec  
3531 Elgin-St. Thomas Health Unit  
3538 Hastings and Prince Edward Counties Health Unit  
3541 Kingston, Frontenac and Lennox and Addington Health Unit  
3542 Lambton Health Unit  
3547 North Bay Parry Sound District Health Unit  
3549 Northwestern Health Unit  
3555 Peterborough County-City Health Unit  
3556 Porcupine Health Unit  
3561 Sudbury and District Health Unit  
3562 Thunder Bay District Health Unit  
3563 Timiskaming Health Unit  
4708 Kelsey Trail Regional Health Authority  
4709 Prince Albert Parkland Regional Health Authority  
5912 Kootenay-Boundary Health Service Delivery Area  
5914 Thompson/Cariboo Health Service Delivery Area  
5942 Central Vancouver Island Health Service Delivery Area  
5943 North Vancouver Island Health Service Delivery Area  
5951 Northwest Health Service Delivery Area  
5952 Northern Interior Health Service Delivery Area

### Peer Group D

2412 Région de la Chaudière-Appalaches  
3533 Grey Bruce Health Unit  
3534 Haldimand-Norfolk Health Unit  
3535 Haliburton, Kawartha, Pine Ridge District Health Unit  
3539 Huron County Health Unit  
3543 Leeds, Grenville and Lanark District Health Unit  
3552 Oxford County Health Unit  
3554 Perth District Health Unit  
3557 Renfrew County and District Health Unit  
3558 Eastern Ontario Health Unit  
4602 Prairie Mountain Health  
4603 Interlake-Eastern Regional Health Authority  
4701 Sun Country Regional Health Authority  
4702 Five Hills Regional Health Authority  
4703 Cypress Regional Health Authority  
4705 Sunrise Regional Health Authority  
4707 Heartland Regional Health Authority  
5911 East Kootenay Health Service Delivery Area

### Peer Group E

1012 Central Regional Integrated Health Authority  
1013 Western Regional Integrated Health Authority  
1014 Labrador-Grenfell Regional Integrated Health Authority  
1201 Zone 1 - Western  
1203 Zone 3 - Eastern  
1304 Zone 4 (Edmundston area)  
1305 Zone 5 (Campbellton area)

1306 Zone 6 (Bathurst area)  
1307 Zone 7 (Miramichi area)  
2411 Région de la Gaspésie - Îles-de-la-Madeleine  
3526 District of Algoma Health Unit  
3540 Chatham-Kent Health Unit

#### **Peer Group F**

2417 Région du Nunavik  
2418 Région des Terres-Cries-de-la-Baie-James  
4604 Northern Regional Health Authority  
4714 Mamawetan/Keewatin/Athabasca  
6201 Nunavut

#### **Peer Group G**

2406 Région de Montréal  
3595 City of Toronto Health Unit  
5932 Vancouver Health Service Delivery Area

#### **Peer Group H**

3553 Peel Regional Health Unit  
3570 York Regional Health Unit  
5922 Fraser North Health Service Delivery Area  
5923 Fraser South Health Service Delivery Area  
5931 Richmond Health Service Delivery Area

#### **Peer Group I**

4835 North Zone  
5953 Northeast Health Service Delivery Area  
6001 Yukon  
6101 Northwest Territories

## Table 9

### Summary table of peer groups and principal characteristics

Peer group	Number of health regions	Percent of Canadian population (2006 Census)	Principal characteristics
A	13	15.7	<ul style="list-style-type: none"> <li>Population centres with high population density and rural mix from coast to coast</li> <li>High percentage of visible minority population</li> <li>Low percentage of Aboriginal population</li> <li>Average employment rate</li> </ul>
B	19	31.2	<ul style="list-style-type: none"> <li>Mainly population centres with moderate population density</li> <li>Average percentage of visible minority population</li> <li>High employment rate</li> </ul>
C	31	14.5	<ul style="list-style-type: none"> <li>Population centres and rural mix from coast to coast</li> <li>Average percentage of visible minority population</li> <li>High percentage of Aboriginal population</li> </ul>
D	18	6.5	<ul style="list-style-type: none"> <li>Mainly rural regions in Ontario and the Prairies</li> <li>Low percentage of visible minority population</li> <li>Average percentage of Aboriginal population</li> </ul>
E	12	3.2	<ul style="list-style-type: none"> <li>Mainly rural Eastern regions</li> <li>Low percentage of visible minority population</li> <li>Low employment rate</li> </ul>
F	5	0.5	<ul style="list-style-type: none"> <li>Northern and remote regions</li> <li>Very low percentage of visible minority population</li> <li>Very high Aboriginal population</li> </ul>
G	3	15.3	<ul style="list-style-type: none"> <li>Largest population centres with an average population density of 4211 people per square kilometre</li> <li>High percentage of visible minority population</li> <li>Very low Aboriginal population</li> </ul>
H	5	11.5	<ul style="list-style-type: none"> <li>Mainly population centres in Ontario and British Columbia with high Population density</li> <li>Very high percentage of visible minority population</li> <li>Low Aboriginal population</li> </ul>
I	4	1.7	<ul style="list-style-type: none"> <li>Mainly rural and remote regions in the Western provinces and the Territories</li> <li>Average percentage of visible minority population</li> <li>High percentage of Aboriginal population</li> <li>High employment rate</li> </ul>



# 2014 Health Region Peer Groups – User Guide

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## Purpose

The purpose of this document is to define the concept of peer groups, to give an overview of how they are created and to demonstrate their usefulness. This paper presents the 2014 classification of the peer groups. More detailed technical information on the formation of the peer groups can be found in the working papers *Health Region Peer Groups* and *Health Region Peer Groups 2003* written by the Health Statistics Division of Statistics Canada. To obtain a copy of this documentation, contact Client Services (613-951-1746; fax: 613-951-0792; [hd-ds@statcan.gc.ca](mailto:hd-ds@statcan.gc.ca)).

## 1. Introduction

The launch of the Canadian Community Health Survey (CCHS) in 2000, along with the expansion of existing data products at the health region level, lead to the desire for a method of comparing regions with similar socio-economic determinants of health. The reasoning behind the development of such a method is that once the effects of the various social and economic characteristics known to influence health have been removed, it is possible to compare regions by measures of health status. It is also possible to compare the relative effectiveness of health promotion and prevention activities across regions. Thus, the health regions have been placed into groups with similar socio-economic characteristics using a clustering technique, and these groups are referred to as 'peer groups'.

Development of the criteria used to define peer groups required careful consideration of their intended use. The requirement that peer groups be used as a method for comparing health related issues ultimately eliminated all variables directly describing health as potential candidates in the creation of the groups. Further, it was desired that all variables used must be reliable and available for all health regions. As well, the need for objectivity required that peer groups be developed using empirical techniques. Finally, consideration of the need for simplified and relevant comparisons also required that peer groups have approximately five to ten health regions per group and that there be representation across the country within each group. In the application of the above parameters, several limiting factors resulted which required some modifications. All criteria were followed to the extent possible and any deviations are explained in detail throughout this document.

The original 2000 Peer Group Classification was released in 2002, and was based on the 1996 Census information as well as the health region boundaries as defined by the provinces and territories in 2000. In order to remain current with respect to data availability and the health region boundary changes, it is necessary to update the peer group classification over time. These updates have taken place in the form of the 2003 Peer Group



Classification and the 2007 Peer Group Classification. The latest update to the peer groups is based on data from the 2011 Census of Population and the 2011 National Household Survey (NHS) and the 2014 health region boundaries. The final result of this classification was the creation of nine peer groups, representing all health regions across Canada.

This document will give an overview of how the peer groups are created. The 2014 Peer Group Classification is presented and the results are compared with the peer groups created in the past. Finally, the use of the peer groups in the analysis of health related issues will be demonstrated through an example.

## 2. Data

Typically, 24 variables describing the socio-economic and socio-demographic determinants of health within the health regions across Canada are used in the clustering algorithm to produce the peer groups. The variables chosen for this task cover a wide range of areas including demographic structure, social and economic status, ethnicity, Aboriginal status, housing, urbanization, income inequality and labour market conditions. Note that health-related variables were deliberately not used in the creation of the peer groups.

There have been some modifications made over time; however the majority of the variables have remained consistent since the peer groups were first created in 2002. This peer group classification used the same 24 variables used in the creation of the 2007 peer groups. These variables are based on the 2011 Census and 2011 [NHS \(National Household Survey\)](#). The variables used for the analysis, along with their respective sources, are outlined in [Appendix A](#).

## 3. Methodology

A non-hierarchical cluster analysis was the method chosen to create the peer groups. Generally speaking, cluster analysis attempts to organize variables or observations into groups (clusters) based on a measure of their distance from each other so that observations within each group are similar to one another with respect to variables or attributes of interest. In other words, the goal is to group the observations into homogeneous and distinct clusters. Non-hierarchical algorithms attempt to partition a set of observations into a pre-defined set of disjoint groups using a specified optimization criterion. This approach appeared best suited to meet the original objectives of the peer group project, mainly to use an empirical technique to create a pre-defined number of peer groups with approximately 5 to 10 health regions within each group.

The peer groups were created in SAS using the FASTCLUS procedure. This procedure uses a *k*-means algorithm to assign observations to a pre-defined set of *k* clusters. A description of *k*-means clustering and several variants of the method can be found in Johnson and Wicheren (2002). The basic steps for placing observations into *k* clusters are as follows:

1. Select *k* observations as cluster seeds (the initial centers of the clusters).
2. Assign observations to the nearest cluster seed. After all observations are assigned, cluster seeds are replaced by their respective cluster means. This step is repeated until the change in cluster seeds becomes or approaches zero.
3. Form final clusters by assigning each observation to its nearest cluster seed.

Complete details of the FASTCLUS procedure can be found in the SAS OnlineDoc®, Version 9.

### 3.1 Number of Clusters

One of the major challenges with cluster analysis is selecting the appropriate number of initial clusters. Several criteria have been suggested (Everitt et al., 2001) which generally involve the optimization of one or more test statistics. From a practical perspective it is generally left up to the analyst to determine the number that best suits a given need. For the purpose of the 2014 Peer Group Classification a maximum of 16 clusters was chosen. This would give an average number of seven health regions to each peer group<sup>1</sup>, which is in line with the study objectives. The maximum number of clusters used in 2014 was lower than that used in previous analyses since the total number of health regions has decreased since then.

## 4. Results

### 4.1 Standardization of Variables

Variables measured on different scales, or on a common scale with differing variances, are often standardized in order to mitigate the effect of these differences among the variables. For this exercise, all 24 socio-economic variables were standardised (mean 0, variance 1) prior to performing the cluster analysis. Two variables could not be calculated for some of the more remote health regions: the proportion of low income persons in private households (LowPop) and the proportion of low income children (LowKids). This is because the Census and the NHS do not derive low income data for the three territories and Indian reserves. Other remote areas can also be excluded from low income statistics if the data in that region are considered unreliable. For the two low income variables used in the peer group analysis, a value of zero appears in the file for the three territories as well as for regions 2417 and 2418. This value of zero is an indication that the variable could not be calculated.

### 4.2 Creation of Peer Groups

To establish a starting point, the clustering algorithm was instructed to group the health regions into 16 clusters. Five of the resulting clusters contained only one health region. This indicated that 16 clusters were too many given that the objective of assigning peer groups is to be able to compare similar health regions. The cluster analysis was rerun with a reduced number of cluster seeds.

The results of the final cluster analysis using PROC FASTCLUS can be seen in Table 4.2.1. The table shows the number of health regions contained in each peer group, as well as several statistics related to the clusters. The root mean square standard deviation is a measure of the variability in the data points around the cluster centre. The radius displays the largest Euclidean distance from the cluster centre to any observation within the cluster. The

nearest cluster refers to the closest peer group in terms of Euclidean distance. Finally, the last column of the table displays the distance between the current cluster centre and that of its closest neighbour. For each of these statistics, the cluster centre is the point having coordinates that are the means of all the observations in the cluster. Euclidean distance is a statistical measure of distance between two points.

There were two clusters that contained the majority of health regions (C and D). Both of these clusters were comprised of regions that were very similar (as both clusters were large in terms of the number of health regions and had low standard deviations). As well, these clusters were nearest neighbours and the distance between their cluster centers was small, demonstrating that the health regions in both clusters were also similar. Therefore, although these clusters did not meet the objective of having approximately five to ten regions per peer group, there did not appear to be a valid reason to split them into smaller groups.

Table 4.2.1 Results of Final Cluster Analysis using PROC FASTCLUS

Note that there are two levels of geography in Ontario: there are 14 Local Health integration Networks (LHINs) and 36 Public Health Units (PHUs). The information at the PHU level was used to create the peer groups. At the final stage in the cluster analysis, once the peer groups were established, the LHIN level geography was added to the existing clusters to find the appropriate peer group for each LHIN. The LHINs did not have an impact on the placement of the other health regions into the final peer groups. In an analysis involving the peer groups, only one level of geography in Ontario should be used to avoid undue influence from Ontario in the formation of the peer group clusters.

### 4.3 Collapsing Small Clusters

The results from section 4.2 (specifically Table 4.2.1), represent clusters that are approximately evenly spaced and have minimal within-cluster variance given the parameters used by the clustering algorithm. The results in the table show that 11 clusters were formed that range in size from two to 31 health regions (excluding the LHINs). However, having a cluster with less than five regions is not practical as it does not provide many options for comparison. In order to provide more peers for comparison, clusters with less than five members were combined with their nearest neighbour. The exceptions were cluster G (Montréal, Toronto and Vancouver) and Cluster I (health regions 6101, 6001, 4835 and 5953). Cluster G was not combined with another cluster since these health regions tend to be very different than other regions across the country. Cluster I was not combined with its nearest neighbour, cluster B, since it has characteristics differing than many HRs in cluster B.

There were two clusters that were joined with their closest neighbour. Cluster F (health regions 2417, 2418 and 6201) was combined with its nearest neighbour cluster K (health regions 4604 and 4714). The collapsing of clusters F and K produced a cluster with five health regions, so no additional collapsing was required. This combined cluster was labelled Cluster F. As well, Cluster J (health regions 2416, 3551, 4832 and 4834) was combined with cluster B (health regions 2407, 2414, 2415, 3530, 3536, 3560, 3565, 3566, 4605, 4704, 4706, 4710, 4831, 4833 and 5921). This combined cluster was labelled Cluster B. The result of collapsing the smaller clusters was that the 11 peer groups produced from the final cluster analysis using the FASTCLUS procedure and presented in Table 4.2.1 were reduced to nine groups. A list of Health regions by the final peer groups can be found in [Appendix D](#) (Ontario Health Units) and [Appendix E](#) (LHINs).

## 5. Discussion

### 5.1 Strongest Predictors

In order to determine which variables played a key role in defining the health region peer groups, the final clusters were run against all 24 variables in a stepwise discriminant analysis. Partial R<sup>2</sup> statistics for entry and removal were set at 0.15. Any variable which had an R<sup>2</sup> value of 0.5 or higher when regressed against a variable already in the model was removed from the analysis. Overall, five variables were appeared to be the most important predictors. Table 5.2.1 displays a summary of the results.

Table 5.2.1 Stepwise Discriminant Analysis of Final Health Region Groups on all 24 Variables

The strongest predictors of the final peer groups were population density and the proportion of the population belonging to a visible minority group. No additional variables were removed from the analysis when regressed against population density, whereas the proportion of the population under the age of 20 and the proportion of lone-parent families were removed from the analysis when regressed against the employment rate.

### 5.2 Principal Component Analysis

Principal component analysis is a multivariate technique which aims to reduce the number of variables in the data to a few factors called principal components. Principal components are linear combinations of the original variables and are uncorrelated. They are derived in decreasing order of importance, so that as much of the total variance in the data can be explained in as few factors as possible. Therefore, the first principal component is the most important factor since it explains the largest proportion of the total variance in the data.

A principal component analysis was performed on the 24 socio-economic variables used in the cluster analysis. The first two principal components accounted for just over 55% of the total variability. The first principal component is comprised of measures including: population living in census metropolitan areas, housing affordability, proportion of immigrants, average dwelling value, proportion of post-secondary graduates, proportion of visible minorities, etc. The second principal component contains measures of: proportion of aboriginal population, proportion of the population aged 0 to 19 years, proportion of the population aged 65 and over, proportion of lone-parent families and proportion of dwellings in which the owner also lives. The third principal component could be interpreted as income inequality (median household income, proportion of low-income children, proportion of low-income persons in private households, long term unemployment rate, employment rate, etc.). The first six principal components accounted for over 86% of the total variability in the data, showing that 24 variables can be reduced to six factors without losing much information. These results are similar to the previous peer group classification, which indicates that the variables which drive the analysis are remaining fairly consistent over time.

### 5.3 Peer Group Descriptions

The five key variables determined by the stepwise discriminant analysis were used to represent each of the clusters. The mean values of these five

variables for each peer group can be found in [Appendix B](#). For each of the five variables, several percentiles were calculated and used to classify the peer groups. Values were classified based on the following ranges.

**Very High:**  $X > 85^{\text{th}}$  percentile

**High:**  $65^{\text{th}}$  percentile  $< X \leq 85^{\text{th}}$  percentile

**Medium:**  $35^{\text{th}}$  percentile  $< X \leq 65^{\text{th}}$  percentile

**Low:**  $15^{\text{th}}$  percentile  $< X \leq 35^{\text{th}}$  percentile

**Very Low:**  $X \leq 15^{\text{th}}$  percentile

The results from this classification can be found in Table 5.3.1. While the methodology is crude as a descriptive tool, it does help to distinguish one peer group's characteristics from another. As shown in the table below, there are no two peer groups which fall into the same category for all five variables. For example, peer group G (which consists of Toronto, Vancouver and Montréal) is the only group with a very high population density, a very low percent of Aboriginals and a very high percent of immigrants.

Table 5.3.1 Final Peer Group Descriptions based on four Key Variables from the Stepwise Discriminant Analysis

The results from this classification were used to derive a written summary of the ten peer groups based on the five key variables from the discriminant analysis. This summary is presented in [Appendix C](#).

## 5.4 Geographic Limitations

Each province and territory defines the geographic boundaries for a health region based on administrative preference and these boundary definitions change over time. Health regions can be strictly population centres or rural or some combination of the two. There may be considerable variability within health regions in regards to health measures due to the lack of geographic homogeneity and this should be taken into consideration when inferences are being made about a certain region. For instance, even though the health indicators in Vancouver compare favourably with the national averages, this should not be interpreted as meaning that the residents of the downtown core in Vancouver have better than average health<sup>2</sup>. This lack of homogeneity in defining health region boundaries makes the exercise of assigning health regions to peer groups much more difficult, as it can have a large impact on how well a certain variable represents the entire region and in some cases important defining factors may be missed.

It should also be noted that there may be considerable variability amongst the health regions within a peer group in regards to the socio-economic factors used in the cluster analysis. This should be considered when comparing regions within a certain peer group. This variability can be seen for the 2014 peer groups in [Appendix B](#) for the five key variables determined by the stepwise discriminant analysis.

## 5.5 Collapsing Health Regions

There is one instance where the CCHS combines smaller health regions to increase the sample size for reporting purposes. This occurs in northern Saskatchewan where health region 4711 (Mamawetan Churchill River Regional Health Authority), 4712 (Keewatin Yatthé Regional Health Authority) and 4713 (Athabasca Health Authority) are combined to form 4714 (Mamawetan/Keewatin/Athabasca). The decision was made to use these combined health region (4714) in the creation of the peer groups since the CCHS is one of the principal data sources used in an analysis of health related data by peer groups.

In the fall of 2014, health region boundaries in Nova Scotia were updated and six zones (1210, 1223, 1230, 1240, 1258, and 1269) were replaced by four new zones. The new regions were used for the creation of the peer groups.

## 5.6 Geographic Representation of Final Peer Groups

The map below is a good visual representation of the geographic clustering of the health regions into the final nine peer groups. Montréal, Toronto and Vancouver form the smallest cluster because in terms of the size and the diversity of their populations, they are too different from the other health regions to be combined with any other peer group.

There are some definite clusters of health regions that formed based on common characteristics due to their location within Canada. The northern regions have clustered based on the Aboriginal composition of their communities. All peer groups have representation across provincial and/or territorial borders.

Map 14 Health Regions and Peer Groups in Canada, 2014

## 6. Peer Groups in Action

There are two valuable, yet different, analyses possible with the peer groups; health-related indicators can be compared between and within peer groups. Since peer groups are formed based on regions that have similar socio-economic characteristics, it is expected that differences between peer groups will arise. Peer groups with better socio-economic status indicators are likely to have better health status measures. Estimates of a single peer group can also be compared with national averages. Additionally, it is also possible to compare health regions within a peer group. Once the effects of the various social and economic characteristics known to influence health status have been removed, a more useful comparison of regions by measures of health status is possible.

A detailed analysis involving the peer groups can be found in the paper 'The Health of Canada's Communities', written by Margot Shields and Stéphane Tremblay of Statistics Canada (2002).

## 7. Summary

As a result of health region boundary changes as of December 2014, and the availability of 2011 Census and NHS data, it was necessary to update the 2007 Peer Group Classification. In keeping with the original working paper, the goal was to produce a classification which would cluster health regions

with similar social and economic health determinants into peer groups. Twenty-four variables covering a wide range of social, economic and demographic areas were used to cluster the health regions.

Starting with an initial set of 16 clusters, and ensuring that each cluster contained at least two health regions, the results indicated that the regions naturally grouped themselves into 11 distinct peer groups. Peer groups with fewer than five health regions were combined with their nearest neighbour. This was done to provide enough health regions within a peer group for comparison purposes. Cluster G containing Montréal, Toronto and Vancouver, and cluster I (health regions 6101, 6001, 4835 and 5953) were not forced to join another cluster as these health regions tend to have more in common with themselves than with other health regions. The final result was nine peer groups ranging in size from three to 31 (not including the LHINs in Ontario).

Stepwise discriminant analysis was used to determine which variables had the most influence on the final peer groups. The five most important variables were population density, proportion of visible minority, proportion of Aboriginals, employment rate and the ratio of males to females in the population. Each peer group has at least one distinguishing factor in terms of these five variables.

Peer groups can be useful in an analysis of health-related indicators since once the effects of the various social and economic characteristics known to influence health status have been removed, a more useful comparison of regions is possible. Health indicators can be compared between and within peer groups. As well, the peer groups offer an alternative to the provinces when the results of an analysis cannot be presented at the health region level due to insufficient sample size or high sampling variability.

## 8. Bibliography

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## Appendices

[Appendix A: Variable Definitions](#)

[Appendix B: Descriptive Statistics for Final Peer Groups \(Excluding LHINs\)](#)

[Appendix C: Descriptive summary of Final Peer Groups](#)

[Appendix D: Health Region Peer Groups \(Ontario by Health Unit\)](#)

[Appendix E: Health Region Peer Groups \(Ontario by Local Health Integration Network\)](#)

## Notes

- 
- 1 Note that the terms peer group and cluster are used interchangeably to refer to the classification of health regions into groups with similar socio-economic characteristics.
  - 2 Shields, M and Tremblay, S. “The Health of Canada's Communities.” *Health Reports* (Statistics Canada), 2002, Catalogue Number 82-003-X20021016330.
-



**Table 4.2.1**  
**Results of final cluster analysis using PROC FASTCLUS**

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Cluster	Frequency	Root Mean Square standard deviation	Radius	Nearest cluster	Distance between cluster centres
A	13	0.60	5.24	C	3.12
B	15	0.48	4.16	D	2.75
C	31	0.47	3.69	D	2.17
D	18	0.39	2.95	C	2.17
E	12	0.60	5.31	C	3.64
F	3	0.86	4.01	K	7.84
G	3	1.11	8.61	H	8.42
H	5	0.75	6.28	J	4.67
I	4	0.70	4.89	B	3.91
J	4	0.56	3.12	B	4.38
K	2	0.64	2.22	F	7.84

**Table 5.2.1**  
**Stepwise discriminant analysis of final health region groups on all 24 variables**

Step	Variable	Partial R-SQ	R-SQ variables in model
<b>1 (Population density)</b>	<b>PopDen</b>	<b>0.9212</b>	...
	Removed	...	...
	None	...	...
<b>2 (Visible minority)</b>	<b>VisMin</b>	<b>0.8617</b>	...
	Removed	...	...
	None	...	...
<b>3 (Aboriginal population)</b>	<b>AboPer</b>	<b>0.8307</b>	...
	Removed	...	...
	MEDSHR	0.3568	0.5385
	POP11	0.5861	0.5474
	AVGDWL	0.4102	0.5844
	OWNDWL	0.8593	0.5284
	MIGMOB	0.4462	0.5062
	GOVTRAN	0.6955	0.5873
	MIZ	0.606	0.5276
	UNEMP	0.7602	0.5038
	LOW15	0.5775	0.5502
	LOWKIDS	0.4885	0.5303
	MedInc	0.6504	0.5853
	HOUAFF	0.5911	0.6125
	POP65	0.7425	0.5104
	IMMPER	0.78	0.9252
	GROWTH	0.6921	0.6173
POSTSEC	0.6039	0.5316	
<b>4 (Employment rate)</b>	<b>EMP</b>	<b>0.7131</b>	...
	Removed	...	...
	pop20	0.8144	0.7548
	LNEPRNT	0.7671	0.6918
<b>5 (Male-to-female ratio)</b>	<b>MFRAT</b>	<b>0.3395</b>	...
	Removed	...	...
	LTUNEMP	0.661	0.7844

... not applicable



**Table 5.3.1**  
**Final peer grouping descriptions based on five factors resulting from the stepwise discriminant analysis**

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Cluster	Population density	Visible Minority	Percent Aboriginal	Employment rate	Male-to-female ratio
A	High	High	Low	Medium	Very low
B	Medium	Medium	Medium	High	Medium
C	Medium	Medium	High	Medium	Medium
D	Medium	Low	Medium	Very high	High
E	Low	Low	Medium	Low	Low
F	Low	Very low	Very high	Very low	High
G	Very high	High	Very low	Low	Low
H	High	Very high	Low	Medium	Medium
I	Very low	Medium	High	High	Very high

## Appendix A: Variable Definitions

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### 1. 2011 population (Pop11)

Definition: Estimate of the total number of individuals living in a region.

Source: Statistics Canada, Census 2011

### 2. Aboriginal percentage (AboPer)

Definition: Proportion of a regions' total population self-identifying with at least one Aboriginal group. 'Aboriginal identity' refers to whether the person reported being an Aboriginal person, that is, First Nations (North American Indian), Métis or Inuk (Inuit) and/or being a Registered or Treaty Indian (that is, registered under the Indian Act of Canada) and/or being a member of a First Nation or Indian band. Aboriginal peoples of Canada are defined in the Constitution Act, 1982, section 35 (2) as including the Indian, Inuit and Métis peoples of Canada.

Source: Statistics Canada, 2011 National Household Survey

### 3. Average dwelling value (AvgDwl)

Definition: It refers to the dollar amount expected by the owner if the dwelling were to be sold.

Source: Statistics Canada, 2011 National Household Survey

### 4. Median household income (MedInc)

Definition: Median household income for persons aged 15 and over, from all sources.

Source: Statistics Canada, 2011 National Household Survey

### 5. Post-secondary graduates (PostSec)

Definition: Population aged 25 to 54 who have obtained a post-secondary certificate, diploma, or degree.

Source: Statistics Canada, 2011 National Household Survey

### 6. Employment rate (25 to 54) (Emp)

Definition: Number of employed persons aged 25 to 54 divided by the total number of individuals between the ages of 25 and 54 in a given region.

Source: Statistics Canada, 2011 National Household Survey

### 7. Growth rate (Growth)



Definition: Percent change in a regions population size from 2006 to 2011.

Sources: Statistics Canada, 2006 and 2011 Census

## **8. Government transfer income in 2010, as a proportion of total income (GovTran)**

Definition: Refers to all cash benefits received from federal, provincial, territorial or municipal governments during 2010.

Source: Statistics Canada, 2011 National Household Survey

## **9. Housing affordability (HouAff)**

Definition: Refers to the proportion of the average monthly 2010 total household income which is spent on owner's major payments (in the case of owner-occupied dwellings) or on gross rent (in the case of tenant-occupied dwellings). Includes private households in occupied non-farm, non-reserve dwellings with household income greater than \$0 in 2005 (i.e. (that is), excludes negative or zero household income).

It should be noted that not all households spending 30% or more of incomes on shelter costs are necessarily experiencing housing affordability problems. This is particularly true of households with high incomes. There are also other households who choose to spend more on shelter than on other goods. Nevertheless, the allocation of 30% or more of a household's income to housing expenses provides a useful benchmark for assessing trends in housing affordability.

Source: Statistics Canada, 2011 National Household Survey

## **10. Immigrant percentage (ImmPer)**

Definition: Those immigrants who came to Canada from 2001 to 2011 as a proportion of the total population.

Source: Statistics Canada, 2011 National Household Survey

## **11. Income share held by households whose income fell below the median household income in 2010 (MedShr)**

Definition: Proportion of income (from all sources, before tax) held by the bottom half of all households, based on the median household income for that specific region. A proportion of 50% would represent no inequality.

Source: Statistics Canada, 2011 National Household Survey

## **12. Internal migrant mobility (MigMob)**

Definition: Proportion of people that lived in a different Canadian municipality at the time of the previous census (5-year internal migrants). This excludes Canadians in households outside Canada (military and government personnel).

Source: Statistics Canada, 2011 National Household Survey

## **13. Lone-parent families (LnePrnt)**

Definition: Proportion of lone-parent families among all census families living in private households. A census family refers to a married couple (with or without children of either or both spouses), a couple living common-law (with or without children of either or both partners) or a lone parent of any marital status, with at least one child living in the same dwelling. A couple living common-law may be of opposite or same sex. "Children" in a census family include grandchildren living with their grandparent(s) but with no parents present.

Source: Statistics Canada, 2011 Census

## **14. Long term unemployment rate (LtUnemp)**

Definition: Proportion of the labour force aged 15 and over who last worked in or before 2010. It does not include unemployed persons who never worked or last worked in 2011.

Source: Statistics Canada, 2011 National Household Survey

## **15. Prevalence of low income before tax in 2010 for persons in private households (LowPop)**

Definition: Proportion of persons in private households with 2010 incomes below the Statistics Canada low-income cut-off (LICO). The cut-offs represent levels of income where people spend disproportionate amounts of money for food, shelter, and clothing.

LICO (Low-income cut-off)s are based on family size as well as the size of the population centre; cut-offs are updated to account for changes in the consumer price index. Data were not derived for economic families or unattached individuals in the Territories or on Indian Reserves

A private household refers to a person or a group of persons (other than foreign residents) who occupy a private dwelling and do not have a usual place of residence elsewhere in Canada.

Source: Statistics Canada, 2011 National Household Survey

## 16. Persons aged 17 years and under living in low income economic families before tax in 2010 (LowKids)

Definition: Proportion of children under age 18 living in economic families with 2010 incomes below Statistics Canada's low-income cut-offs (LICO). Data were not derived for economic families in the Territories or on Indian Reserves.

Source: Statistics Canada, 2011 National Household Survey

## 17. Male-female ratio (MFRat)

Definition: Total number of males in a given region in 2011 divided by the total number of females.

Source: Statistics Canada, 2011 Census

## 18. Owner-occupied private non-farm, non-reserve dwellings (OwnDwl)

Definition: Proportion of dwellings in which the owner also lives. Band housing and collective dwellings (i.e. (that is) rooming houses, nursing homes, military camps etc. (Et cetera)) are excluded from both numerator and denominator. Non-farm dwelling refers to a private dwelling, other than one situated on a farm or occupied by a farm operator. Non-reserve dwelling refers to a private dwelling not on a reserve and not band housing.

Source: Statistics Canada, 2011 National Household Survey

## 19. Population density (PopDen)

Definition: Number of people per square kilometre.

Sources: Statistics Canada, 2011 Census and Geography Division

## 20. Population under 20 (Pop20)

Definition: Proportion of the population in a given region under the age of 20 (2011 population).

Source: Statistics Canada, 2011 Census

## 21. Population 65 years and older (Pop65)

Definition: Proportion of the population in a given region aged 65 years and older (2011 population).

Source: Statistics Canada, 2011 Census

## 22. Strong MIZ (MIZ)

Definition: Strong Census Metropolitan Area and Census Agglomeration Influenced Zones (MIZ) is the population or the proportion of the population living in Census Metropolitan Areas (CMA), Census Agglomerations (CA) and communities that fall outside CMAs and/or CAs that have at least 30% of the employed labour force commuting to CMAs and/or CAs. The Statistical Area Classification (SAC) groups census subdivisions according to whether they are a component of a census metropolitan area, a census agglomeration, a census metropolitan area and census agglomeration influenced zone (strong MIZ, moderate MIZ, weak MIZ or no MIZ), or the territories (Yukon, Northwest Territories and Nunavut). The SAC is used for data dissemination purposes. Care should be exercised when applying the MIZ concept in the three territories. As many CSDs in the territories are very large and sparsely populated, the place of work-population relationship upon which the MIZ is constructed is unstable.

Source: Statistics Canada, 2011 Census

## 23. Unemployment rate (Unemp)

Definition: Total number of unemployed individuals 15 and older divided by the total number of individuals 15 and older participating in the labour force.

Source: Statistics Canada, 2011 National Household Survey

## 24. Visible minority (VisMin)

Definition: Proportion of the population belonging to a visible minority group. Visible minority refers to whether a person belongs to a visible minority group as defined by the Employment Equity Act and, if so, the visible minority group to which the person belongs. The Employment Equity Act defines visible minorities as 'persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour.' The visible minority population consists mainly of the following groups: South Asian, Chinese, Black, Filipino, Latin American, Arab, Southeast Asian, West Asian, Korean and Japanese.

Source: Statistics Canada, 2011 National Household Survey

## Appendix B: Descriptive Statistics for Final Peer Groups (Excluding LHINs)

Cluster	Statistics	Population density	Visible minority	Percent Aboriginal	Employment rate	Male-to-female ratio
A	N	13	13	13	13	13
	MIN	5.42	3	0.6	75.1	0.9
	MAX	1,625.12	21	11	86.8	1
	Mean	317.2	11.4308	3.7923	80.7231	0.9154
	St. Dev.	483.56	6.5482	3.2136	2.9917	0.0376
B	N	19	19	19	19	19
	MIN	2.48	2.5	0.8	78.5	0.9
	MAX	520.4	25.7	30.3	85.5	1
	Mean	104.01	11.2053	5.9211	83.0895	0.9895
	St. Dev.	149.07	7.8771	6.9345	1.9145	0.0315
C	N	31	31	31	31	31
	MIN	0.05	0.5	1	73.5	0.9
	MAX	46.5	5.2	38.9	82.2	1.1
	Mean	11.64	2.5032	9.0903	78.1742	0.9871
	St. Dev.	13.52	1.3182	9.3208	2.0601	0.0428
D	N	18	18	18	18	18
	MIN	0.95	0.8	0.7	80.1	1
	MAX	51.83	4.6	24.7	87.5	1
	Mean	16.04	2.2778	5.3833	83.5556	1
	St. Dev.	16.23	0.9564	6.0647	2.5348	0
E	N	12	12	12	12	12
	MIN	0.13	0.5	1.7	63.5	0.9
	MAX	42.12	3.9	33.3	75.6	1
	Mean	9.01	1.3583	8.5417	70.75	0.95
	St. Dev.	11.41	1.0405	9.0373	4.5398	0.0522
F	N	5	5	5	5	5
	MIN	0.02	0.7	70	53.4	1
	MAX	2.93	1.8	96	69.3	1.1
	Mean	0.71	1.14	85.88	63.6	1.02
	St. Dev.	1.25	0.5177	9.6844	6.2706	0.0447
G	N	3	3	3	3	3
	MIN	3,779.1	30.3	0.6	75.3	0.9
	MAX	4,705.14	51.9	2.1	79.1	1

	Mean	4,211.24	43.7667	1.1333	76.9	0.9333
	St. Dev.	466.1	11.7462	0.8386	1.9698	0.0577
H	N	5	5	5	5	5
	MIN	213.19	41.2	0.4	76.1	0.9
	MAX	1,473.46	70.4	2.7	82.1	1
	Mean	834.17	50.58	1.4	79.62	0.98
	St. Dev.	474.05	12.8461	1.0794	2.1845	0.0447
I	N	4	4	4	4	4
	MIN	0.04	3.5	14.3	78.7	1
	MAX	0.96	6.7	51.9	82.8	1.1
	Mean	0.37	5.55	26.5	81.175	1.05
	St. Dev.	0.43	1.4083	17.3359	1.7746	0.0577

## Appendix C: Descriptive summary of Final Peer Groups

Peer group	Number of health regions	Percent of canadian population	Principal characteristics
A	13	15.7	<ul style="list-style-type: none"> <li>• Population centres with high population density and rural mix from coast to coast</li> <li>• High percentage of visible minority population</li> <li>• Low percentage of Aboriginal population</li> <li>• Average employment rate</li> </ul>
B	19	31.2	<ul style="list-style-type: none"> <li>• Mainly population centres with moderate population density</li> <li>• Average percentage of visible minority population</li> <li>• High employment rate</li> </ul>
C	31	14.5	<ul style="list-style-type: none"> <li>• Population centres and rural mix from coast to coast</li> <li>• Average percentage of visible minority population</li> <li>• High percentage of Aboriginal population</li> </ul>
D	18	6.5	<ul style="list-style-type: none"> <li>• Mainly rural regions in Ontario and the Prairies</li> <li>• Low percentage of visible minority population</li> <li>• Average percentage of Aboriginal population</li> </ul>
E	12	3.2	<ul style="list-style-type: none"> <li>• Mainly rural Eastern regions</li> <li>• Low percentage of visible minority population</li> <li>• Low employment rate</li> </ul>
F	5	0.5	<ul style="list-style-type: none"> <li>• Northern and remote regions</li> <li>• Very low percentage of visible minority population</li> <li>• Very high Aboriginal population</li> </ul>
G	3	15.3	<ul style="list-style-type: none"> <li>• Largest population centres with an average population density of 4211 people per square kilometre</li> <li>• High percentage of visible minority population</li> <li>• Very low Aboriginal population</li> </ul>
H	5	11.5	<ul style="list-style-type: none"> <li>• Mainly population centres in Ontario and British Columbia with high Population density</li> <li>• Very high percentage of visible minority population</li> <li>• Low Aboriginal population</li> </ul>
I	4	1.7	<ul style="list-style-type: none"> <li>• Mainly rural and remote regions in the Western provinces and the Territories</li> <li>• Average percentage of visible minority population</li> <li>• High percentage of Aboriginal population</li> <li>• High employment rate</li> </ul>



## Appendix D: Health Region Peer Groups (Ontario by Health Unit)

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### Peer Group A

1204 Zone 4 - Central  
1302 Zone 2 (Saint John area)  
2403 Région de la Capitale-Nationale  
2413 Région de Laval  
3527 Brant County Health Unit  
3537 City of Hamilton Health Unit  
3544 Middlesex-London Health Unit  
3546 Niagara Regional Area Health Unit  
3568 Windsor-Essex County Health Unit  
4601 Winnipeg Regional Health Authority  
5913 Okanagan Health Service Delivery Area  
5933 North Shore/Coast Garibaldi Health Service Delivery Area  
5941 South Vancouver Island Health Service Delivery Area

### Peer Group B

2407 Région de l'Outaouais  
2414 Région de Lanaudière  
2415 Région des Laurentides  
2416 Région de la Montérégie  
3530 Durham Regional Health Unit  
3536 Halton Regional Health Unit  
3551 City of Ottawa Health Unit  
3560 Simcoe Muskoka District Health Unit  
3565 Waterloo Health Unit  
3566 Wellington-Dufferin-Guelph Health Unit  
4605 Southern Health  
4704 Regina Qu'Appelle Regional Health Authority  
4706 Saskatoon Regional Health Authority  
4710 Prairie North Regional Health Authority  
4831 South Zone  
4832 Calgary Zone  
4833 Central Zone  
4834 Edmonton Zone  
5921 Fraser East Health Service Delivery Area

### **Peer Group C**

1011 Eastern Regional Integrated Health Authority  
1100 Prince Edward Island  
1202 Zone 2 - Northern  
1301 Zone 1 (Moncton area)  
1303 Zone 3 (Fredericton area)  
2401 Région du Bas-Saint-Laurent  
2402 Région du Saguenay - Lac-Saint-Jean  
2404 Région de la Mauricie et du Centre-du-Québec  
2405 Région de l'Estrie  
2408 Région de l'Abitibi-Témiscamingue  
2409 Région de la Côte-Nord  
2410 Région du Nord-du-Québec  
3531 Elgin-St. Thomas Health Unit  
3538 Hastings and Prince Edward Counties Health Unit  
3541 Kingston, Frontenac and Lennox and Addington Health Unit  
3542 Lambton Health Unit  
3547 North Bay Parry Sound District Health Unit  
3549 Northwestern Health Unit  
3555 Peterborough County-City Health Unit  
3556 Porcupine Health Unit  
3561 Sudbury and District Health Unit  
3562 Thunder Bay District Health Unit  
3563 Timiskaming Health Unit  
4708 Kelsey Trail Regional Health Authority  
4709 Prince Albert Parkland Regional Health Authority  
5912 Kootenay-Boundary Health Service Delivery Area  
5914 Thompson/Cariboo Health Service Delivery Area  
5942 Central Vancouver Island Health Service Delivery Area  
5943 North Vancouver Island Health Service Delivery Area  
5951 Northwest Health Service Delivery Area  
5952 Northern Interior Health Service Delivery Area

### **Peer Group D**

2412 Région de la Chaudière-Appalaches  
3533 Grey Bruce Health Unit  
3534 Haldimand-Norfolk Health Unit  
3535 Haliburton, Kawartha, Pine Ridge District Health Unit  
3539 Huron County Health Unit  
3543 Leeds, Grenville and Lanark District Health Unit  
3552 Oxford County Health Unit  
3554 Perth District Health Unit  
3557 Renfrew County and District Health Unit  
3558 Eastern Ontario Health Unit  
4602 Prairie Mountain Health  
4603 Interlake-Eastern Regional Health Authority  
4701 Sun Country Regional Health Authority  
4702 Five Hills Regional Health Authority  
4703 Cypress Regional Health Authority  
4705 Sunrise Regional Health Authority  
4707 Heartland Regional Health Authority  
5911 East Kootenay Health Service Delivery Area

### **Peer Group E**

1012 Central Regional Integrated Health Authority  
1013 Western Regional Integrated Health Authority  
1014 Labrador-Grenfell Regional Integrated Health Authority  
1201 Zone 1 - Western  
1203 Zone 3 - Eastern  
1304 Zone 4 (Edmundston area)  
1305 Zone 5 (Campbellton area)  
1306 Zone 6 (Bathurst area)  
1307 Zone 7 (Miramichi area)  
2411 Région de la Gaspésie - Îles-de-la-Madeleine

3526 District of Algoma Health Unit  
3540 Chatham-Kent Health Unit

**Peer Group F**

2417 Région du Nunavik  
2418 Région des Terres-Cries-de-la-Baie-James  
4604 Northern Regional Health Authority  
4714 Mamawetan/Keewatin/Athabasca  
6201 Nunavut

**Peer Group G**

2406 Région de Montréal  
3595 City of Toronto Health Unit  
5932 Vancouver Health Service Delivery Area

**Peer Group H**

3553 Peel Regional Health Unit  
3570 York Regional Health Unit  
5922 Fraser North Health Service Delivery Area  
5923 Fraser South Health Service Delivery Area  
5931 Richmond Health Service Delivery Area

**Peer Group I**

4835 North Zone  
5953 Northeast Health Service Delivery Area  
6001 Yukon  
6101 Northwest Territories





## Appendix E: Health Region Peer Groups (Ontario by Local Health Integration Network)

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### Peer Group A

1204 Zone 4 - Central  
1302 Zone 2 (Saint John area)  
2403 Région de la Capitale-Nationale  
2413 Région de Laval  
3502 South West  
3504 Hamilton Niagara Haldimand Brant  
4601 Winnipeg Regional Health Authority  
5913 Okanagan Health Service Delivery Area  
5933 North Shore/Coast Garibaldi Health Service Delivery Area  
5941 South Vancouver Island Health Service Delivery Area

### Peer Group B

2407 Région de l'Outaouais  
2414 Région de Lanaudière  
2415 Région des Laurentides  
2416 Région de la Montérégie  
3503 Waterloo Wellington  
3509 Central East  
3511 Champlain  
3512 North Simcoe Muskoka  
4605 Southern Health  
4704 Regina Qu'Appelle Regional Health Authority  
4706 Saskatoon Regional Health Authority  
4710 Prairie North Regional Health Authority  
4831 South Zone  
4832 Calgary Zone  
4833 Central Zone  
4834 Edmonton Zone  
5921 Fraser East Health Service Delivery Area

### Peer Group C

1011 Eastern Regional Integrated Health Authority  
1100 Prince Edward Island

1202 Zone 2 - Northern  
1301 Zone 1 (Moncton area)  
1303 Zone 3 (Fredericton area)  
2401 Région du Bas-Saint-Laurent  
2402 Région du Saguenay - Lac-Saint-Jean  
2404 Région de la Mauricie et du Centre-du-Québec  
2405 Région de l'Estrie  
2408 Région de l'Abitibi-Témiscamingue  
2409 Région de la Côte-Nord  
2410 Région du Nord-du-Québec  
3501 Erie St. Clair  
3510 South East  
3513 North East  
3514 North West  
4708 Kelsey Trail Regional Health Authority  
4709 Prince Albert Parkland Regional Health Authority  
5912 Kootenay-Boundary Health Service Delivery Area  
5914 Thompson/Cariboo Health Service Delivery Area  
5942 Central Vancouver Island Health Service Delivery Area  
5943 North Vancouver Island Health Service Delivery Area  
5951 Northwest Health Service Delivery Area  
5952 Northern Interior Health Service Delivery Area

#### **Peer Group D**

2412 Région de la Chaudière-Appalaches  
4602 Prairie Mountain Health  
4603 Interlake-Eastern Regional Health Authority  
4701 Sun Country Regional Health Authority  
4702 Five Hills Regional Health Authority  
4703 Cypress Regional Health Authority  
4705 Sunrise Regional Health Authority  
4707 Heartland Regional Health Authority  
5911 East Kootenay Health Service Delivery Area

#### **Peer Group E**

1012 Central Regional Integrated Health Authority  
1013 Western Regional Integrated Health Authority  
1014 Labrador-Grenfell Regional Integrated Health Authority  
1201 Zone 1 - Western  
1203 Zone 3 - Eastern  
1304 Zone 4 (Edmundston area)  
1305 Zone 5 (Campbellton area)  
1306 Zone 6 (Bathurst area)  
1307 Zone 7 (Miramichi area)  
2411 Région de la Gaspésie - Îles-de-la-Madeleine

#### **Peer Group F**

2417 Région du Nunavik  
2418 Région des Terres-Cries-de-la-Baie-James  
4604 Northern Regional Health Authority  
4714 Mamawetan/Keewatin/Athabasca  
6201 Nunavut

#### **Peer Group G**

2406 Région de Montréal  
3507 Toronto Central  
5932 Vancouver Health Service Delivery Area

#### **Peer Group H**

3505 Central West

3506 Mississauga Halton  
3508 Central  
5922 Fraser North Health Service Delivery Area  
5923 Fraser South Health Service Delivery Area  
5931 Richmond Health Service Delivery Area

**Peer Group I**

4835 North Zone  
5953 Northeast Health Service Delivery Area  
6001 Yukon  
6101 Northwest Territories

## About the maps

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The reference maps cover health regions and peer groups that are part of the Health Indicators program. Each map in the series displays the boundaries and codes of health regions and peer groups or dissemination areas, and their names. "Health region" refers to administrative areas defined by the provincial ministries of health. For complete Canadian coverage, each of the northern territories also represents a health region.

To effectively compare areas with similar socio-economic characteristics, health regions have been aggregated into "peer groups" using a statistical, objective method. The final result is a set of nine peer groups ranging in size from 3 to 25 health regions with membership crossing provincial boundaries. Health regions are identified by a four-digit code. Peer groups are classified by letters A to I which have been added to the health region codes in this map series.

There are 14 Reference maps in this series and inset maps were created to show detail for the more concentrated areas.

### Health regions code structure

A four digit numeric code is used to uniquely identify health regions. The first two digits represent the province, and the second two digits represent the health region. These codes reflect the same codes used by the provincial ministries of health. For those provinces where a numeric code is not applicable, a two-digit code was assigned. Ontario uses a 4-digit code for public health units. This code was truncated to the last two digits for consistency in the national health region code structure. Since Ontario has two sets of health regions, which do not entirely relate hierarchically, their codes are unique within the province.

The names of the health regions also represent the official names used by the provinces.

See [Appendix 1: Health regions in Canada, 2014](#).

### Cartographic issues

The choropleth map is a 'staple' in the cartographic repertoire of thematic mapping. Indeed, over the years the popularity of choropleth maps has increased since this map type is very easy to produce by Geographic Information System (GIS) and cartographic software.

The standard choropleth technique is a method of cartographic representation that employs a distinctive colour or shading that is applied to predefined units. For example, the units can be census divisions or census tracts, and the areal symbols cover the entire geographic unit.

### Limitations of choropleth maps

An underlying assumption of choropleth mapping is that the data are homogeneously or uniformly spread over each geographic unit. This assumption is implied by a single colour applied across each unit. However, the complete unit or at least a large portion of the unit may be uninhabited, thus producing very misleading spatial patterns, especially when socioeconomic data are mapped by choropleth techniques.

## Health regions (2014) in Canada

"Health region" refers to administrative areas defined by the provincial ministries of health. For complete Canadian coverage, each of the northern territories also represents a health region.

The following table presents an overview of health regions in Canada, by province and territory and links to pdfs for viewing current boundaries

See [Table 6 Health regions in Canada - by province and territory](#).

## Health region peer groups

In order to effectively compare health regions with similar socio-economic characteristics, health regions have been grouped into 'peer groups'. Statistics Canada used a statistical method to achieve maximum statistical differentiation between health regions. Twenty-four variables were chosen to cover as many of the social and economic determinants of health as possible, using data collected at the health region level mostly from the Census of Canada. Concepts covered include:

- basic demographics (for example, population change and demographic structure),
- living conditions (for example, socio-economic characteristics, housing, and income inequality), and
- working conditions (for example, labour market conditions).

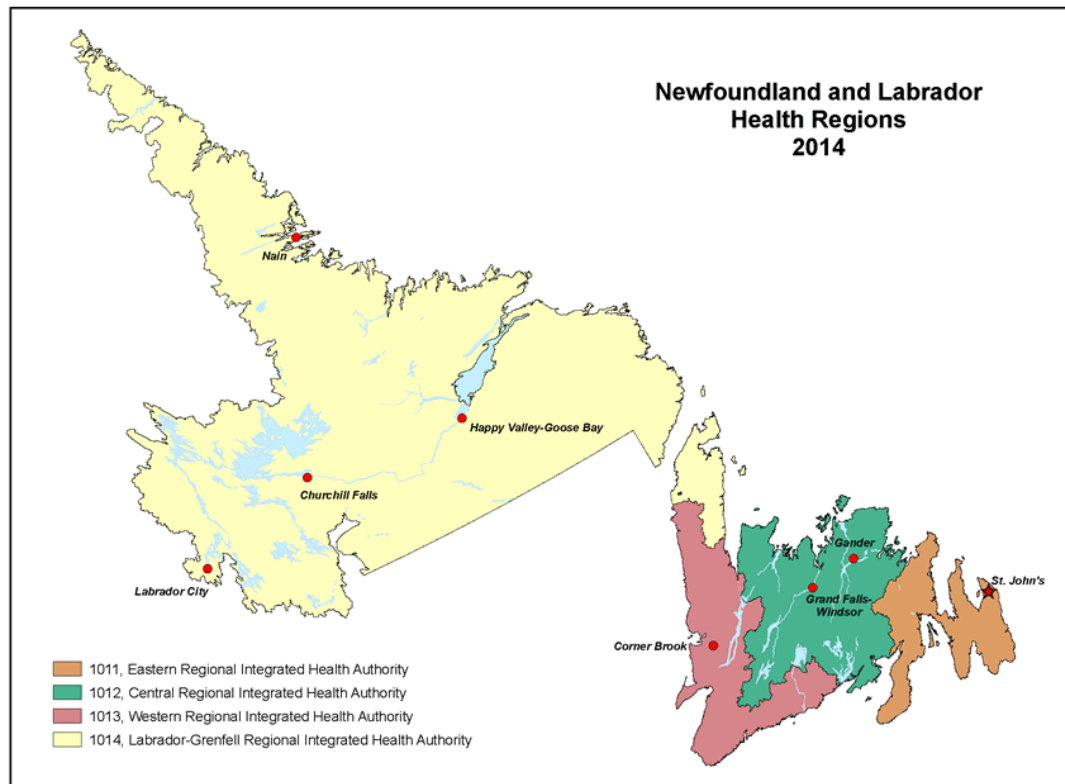
Peer groups based on 2014 health region boundaries and 2011 Census data are now available. There are currently nine peer groups identified by letters A through I.

See [Table 8 Health regions 2014 by peer group](#).

See [Table 9 Summary table of peer groups and principal characteristics](#).

A more detailed discussion on the rationale and methods involved in the development of peer groups is available in "[Health Region \(2014\) Peer Groups Working Paper](#)".

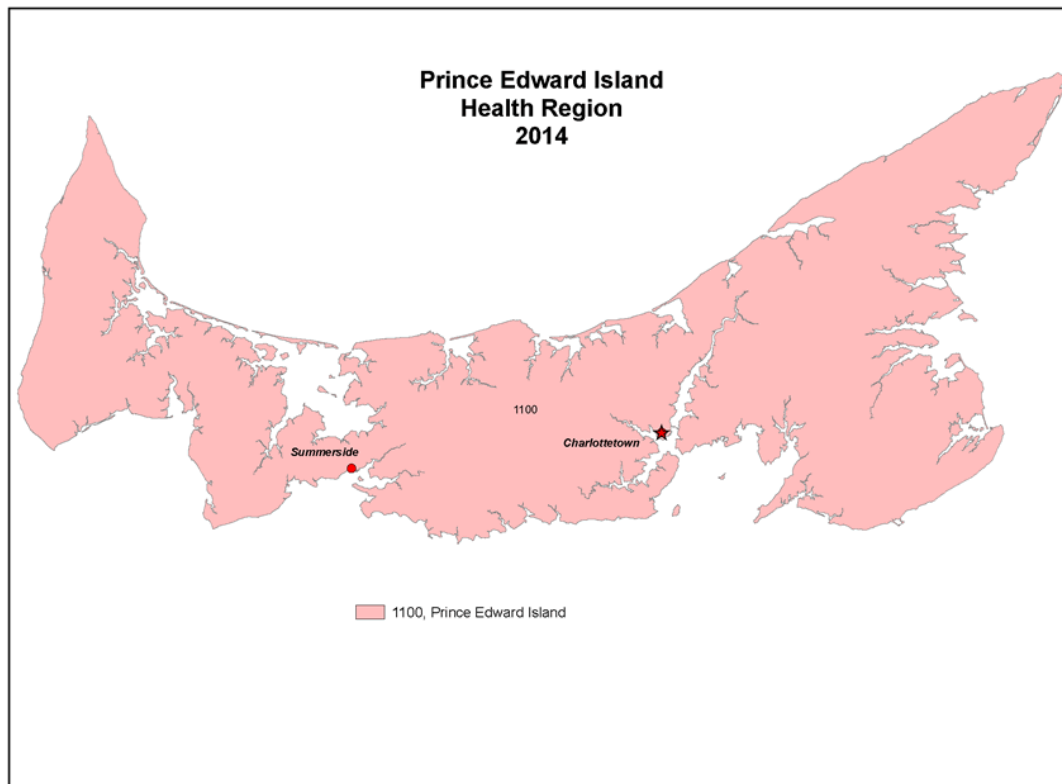
# Map 1 Newfoundland and Labrador Health Regions, 2014



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.

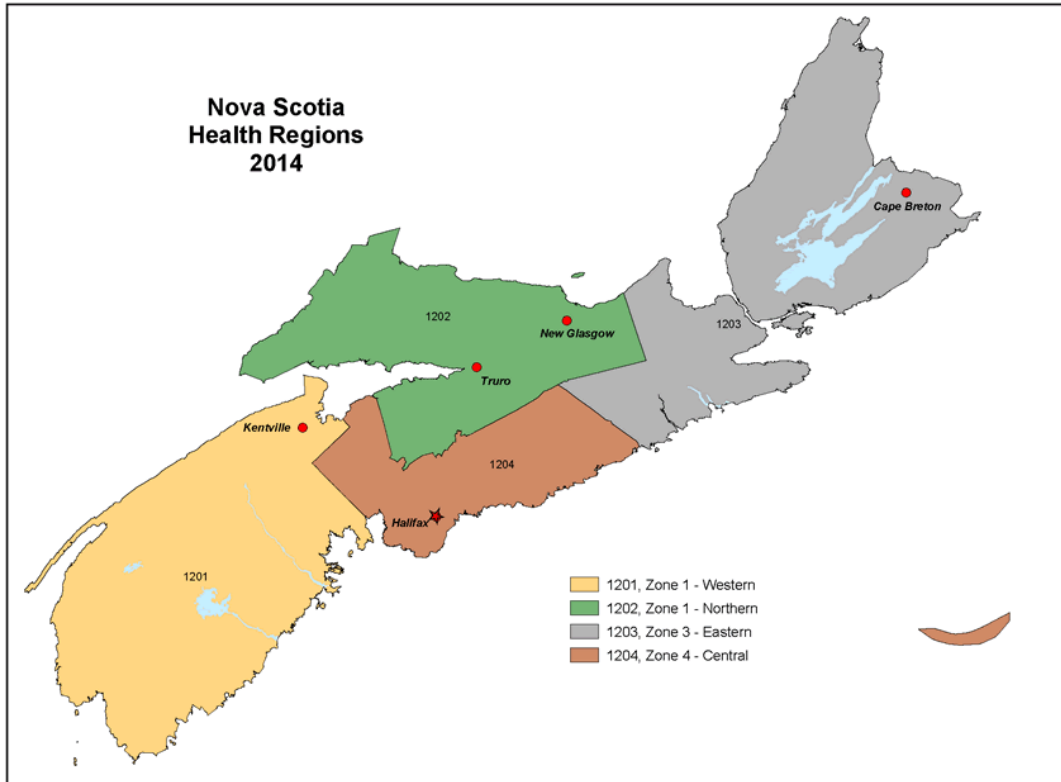


## Map 2 Prince Edward Island Health Regions, 2014





# Map 3 Nova Scotia Health Regions, 2014

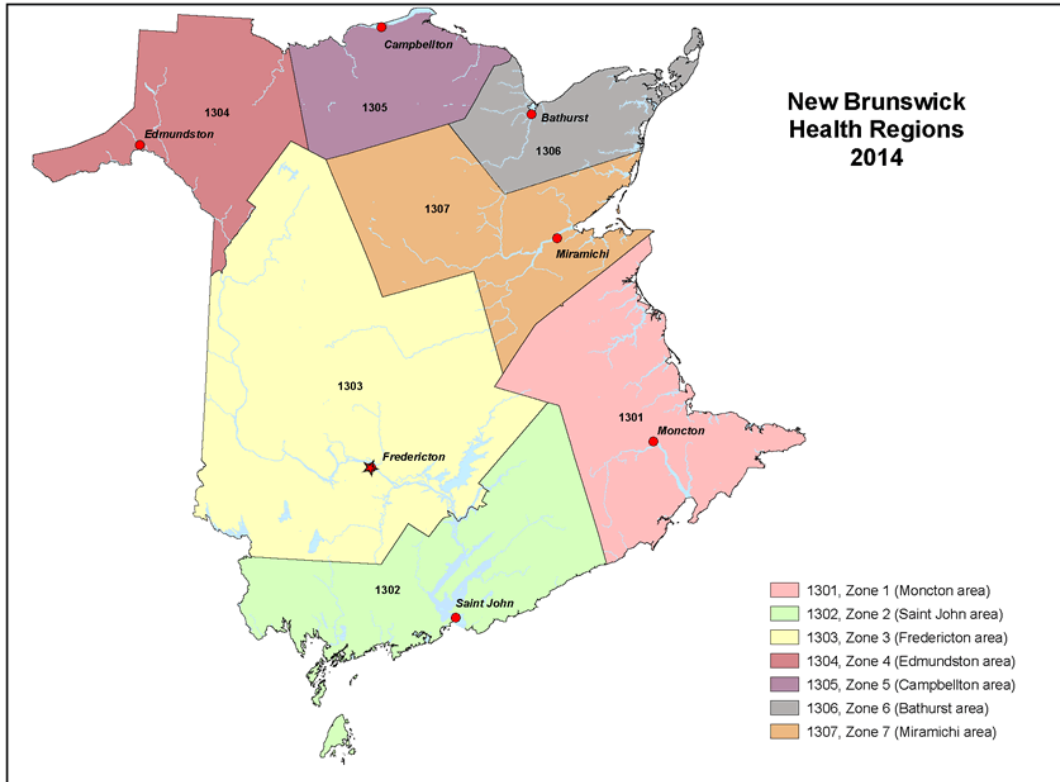


Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



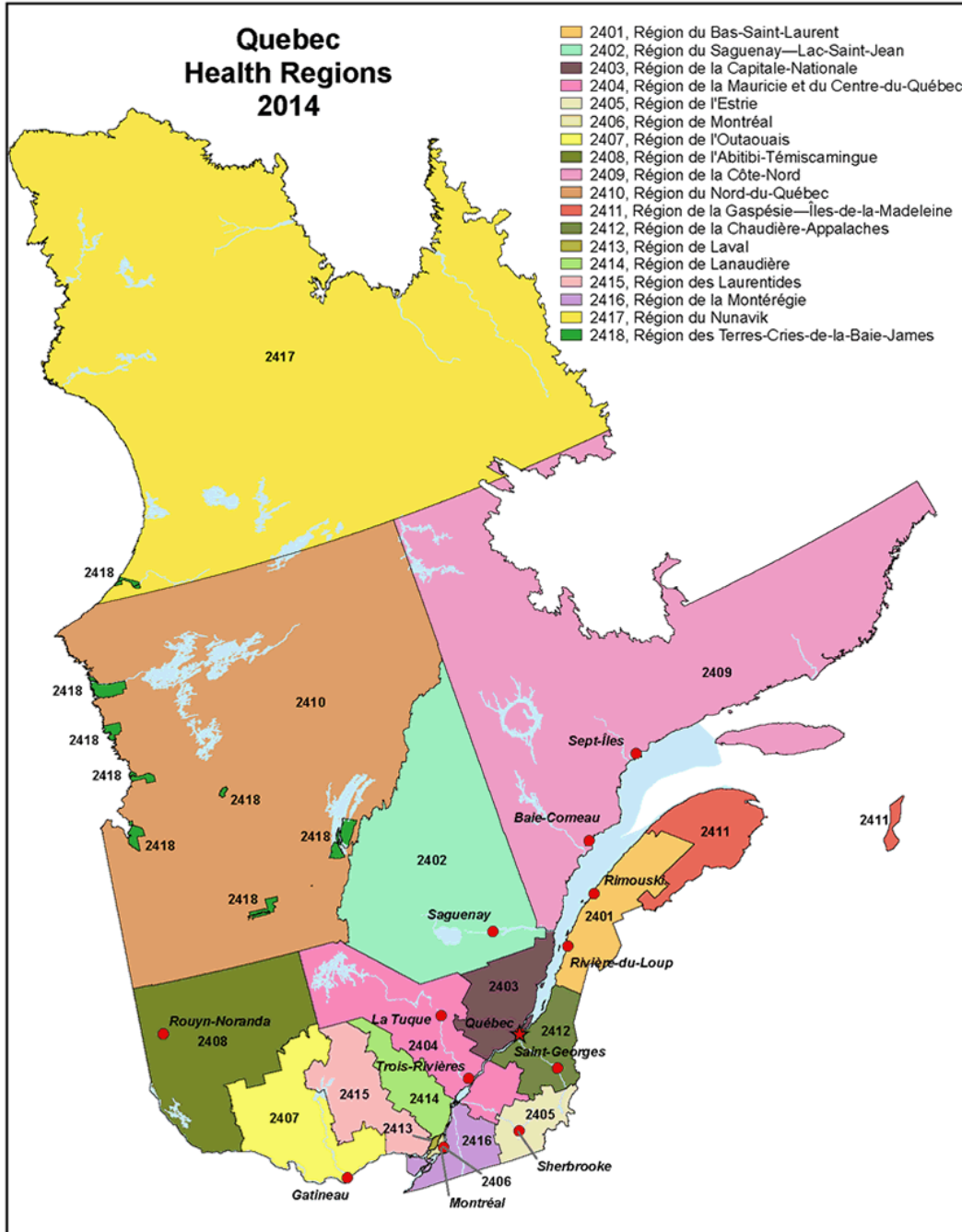


# Map 4 New Brunswick Health Regions, 2014



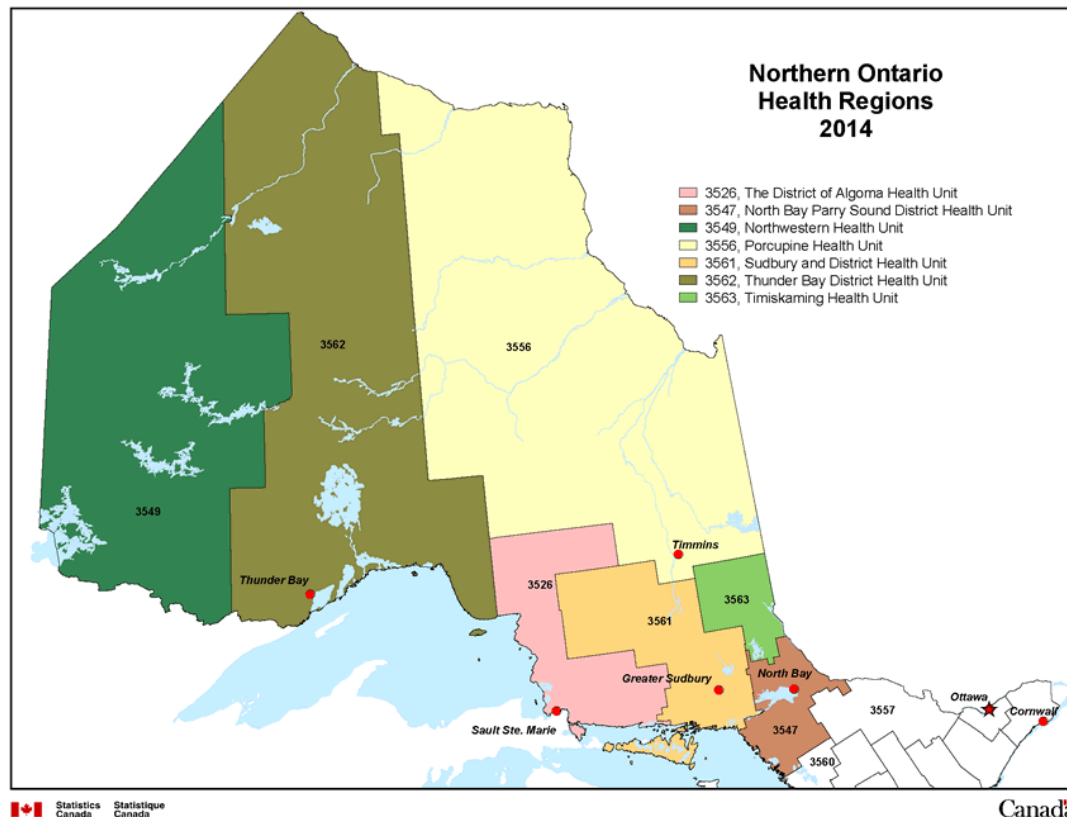
Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.


# Map 5 Quebec Health Regions, Health Regions, 2014



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X.  
 Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.

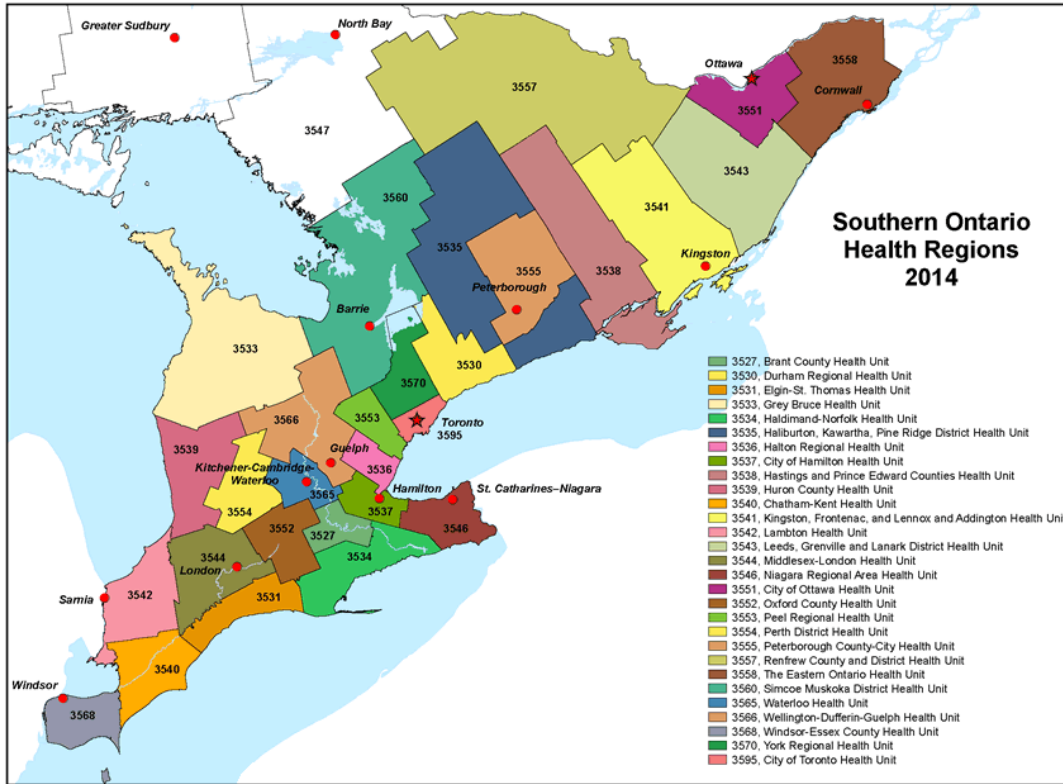
## Map 6 Ontario, Health Units – Northern Ontario Health Regions, 2014





 Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.

Canada

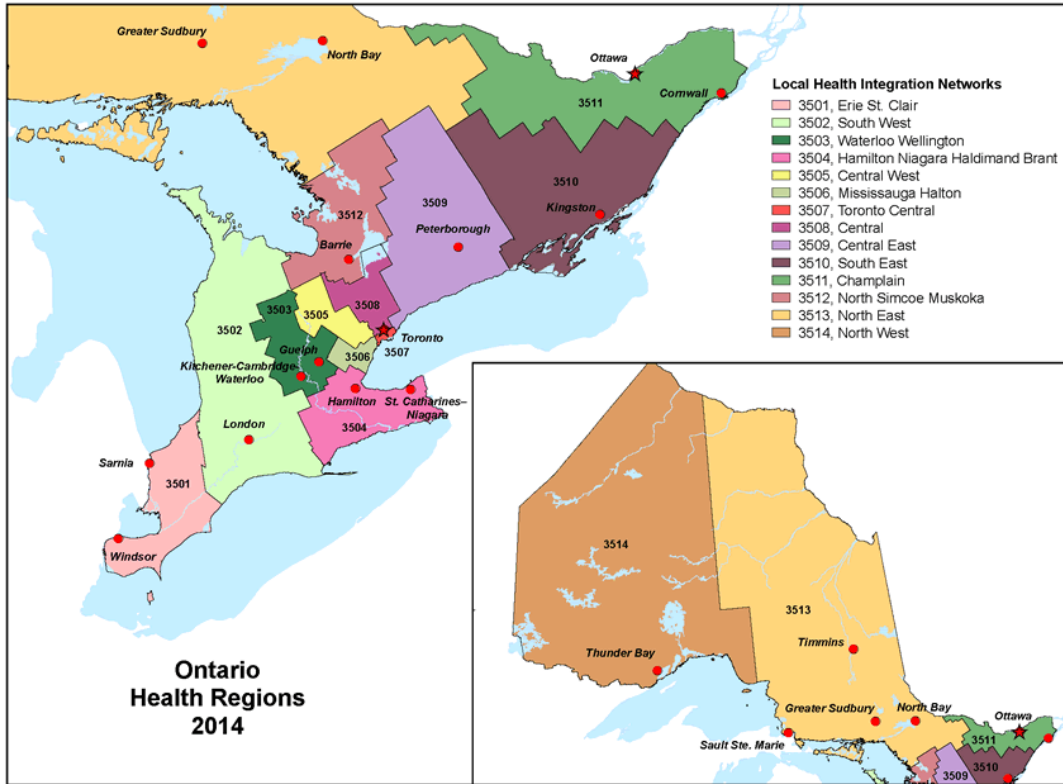
# Map 7 Ontario, Health Units – Southern Ontario Health Regions, 2014




 Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



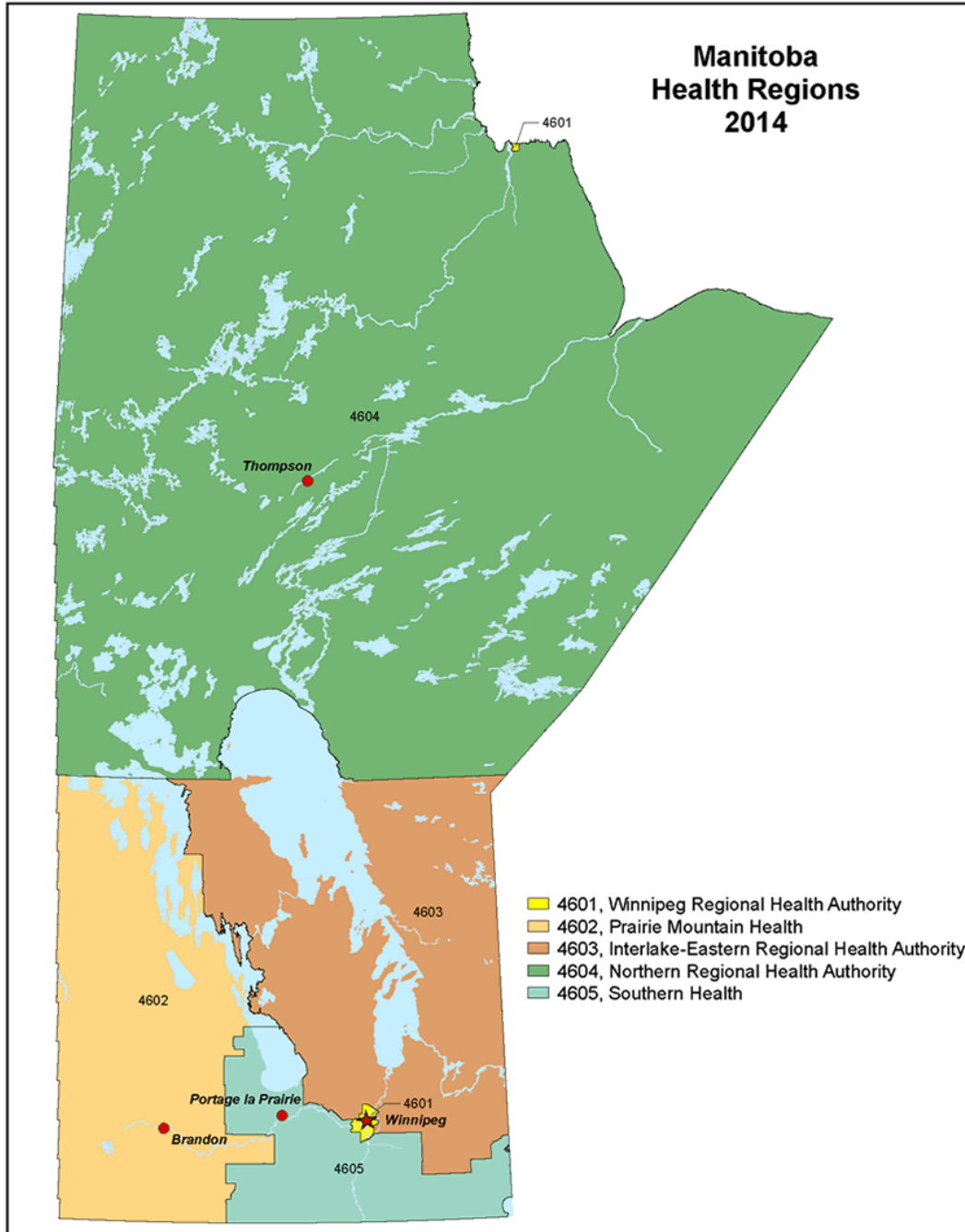
# Map 8 Ontario, Local Health Integration Networks (LHIN), 2014



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



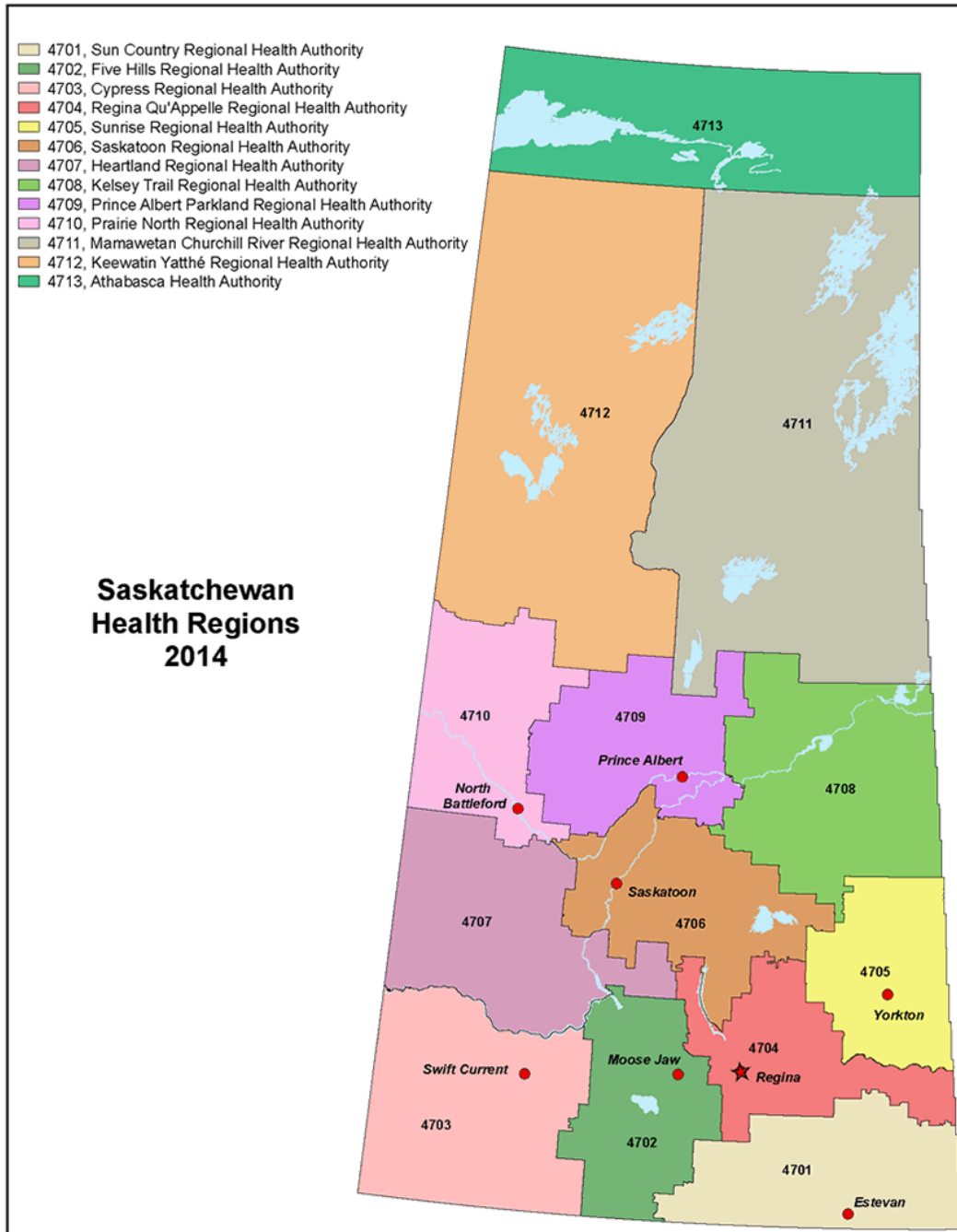
# Map 9 Manitoba Health Regions, 2014



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



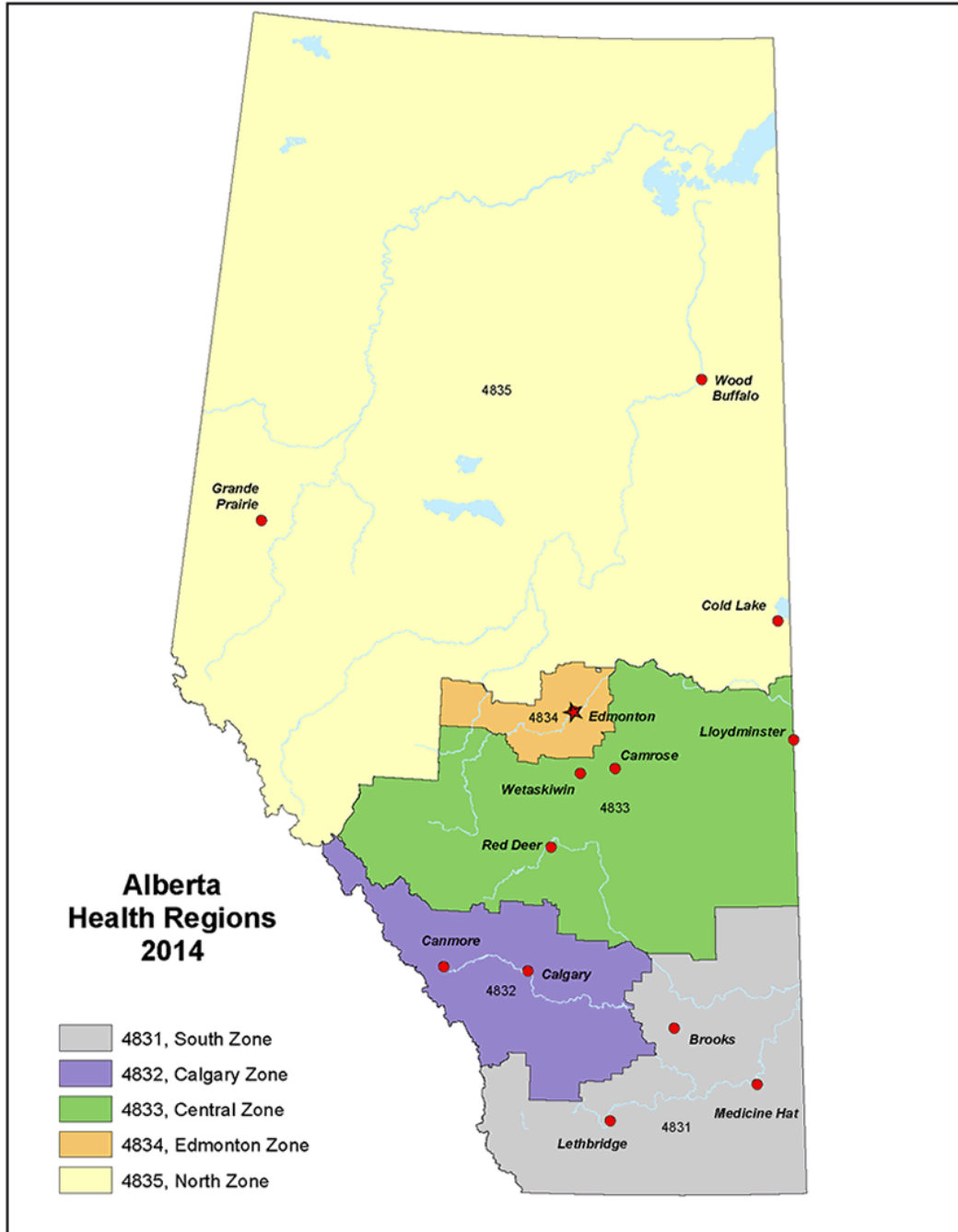
# Map 10 Saskatchewan Health Regions, 2014



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



# Map 11 Alberta Health Regions, 2014

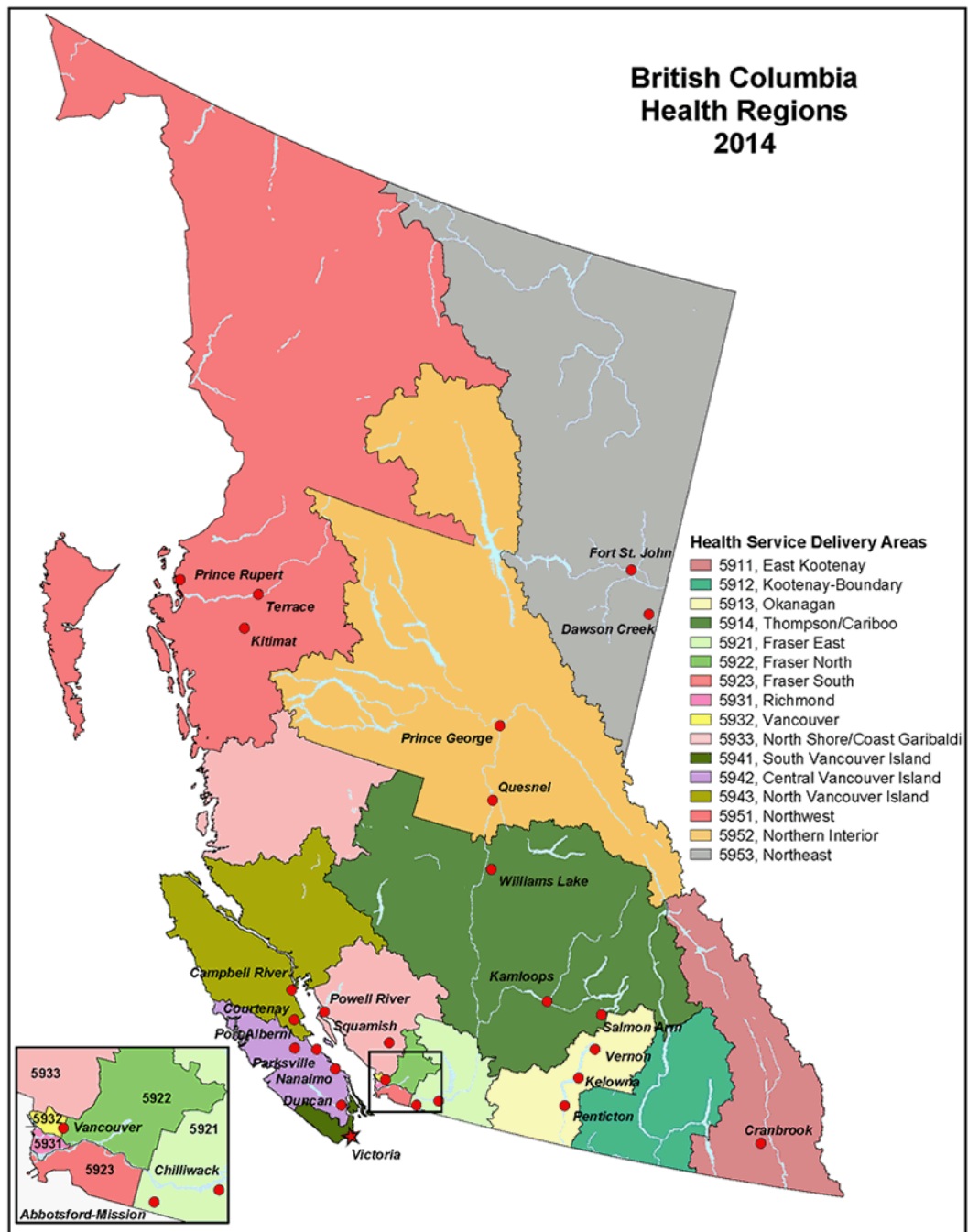



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



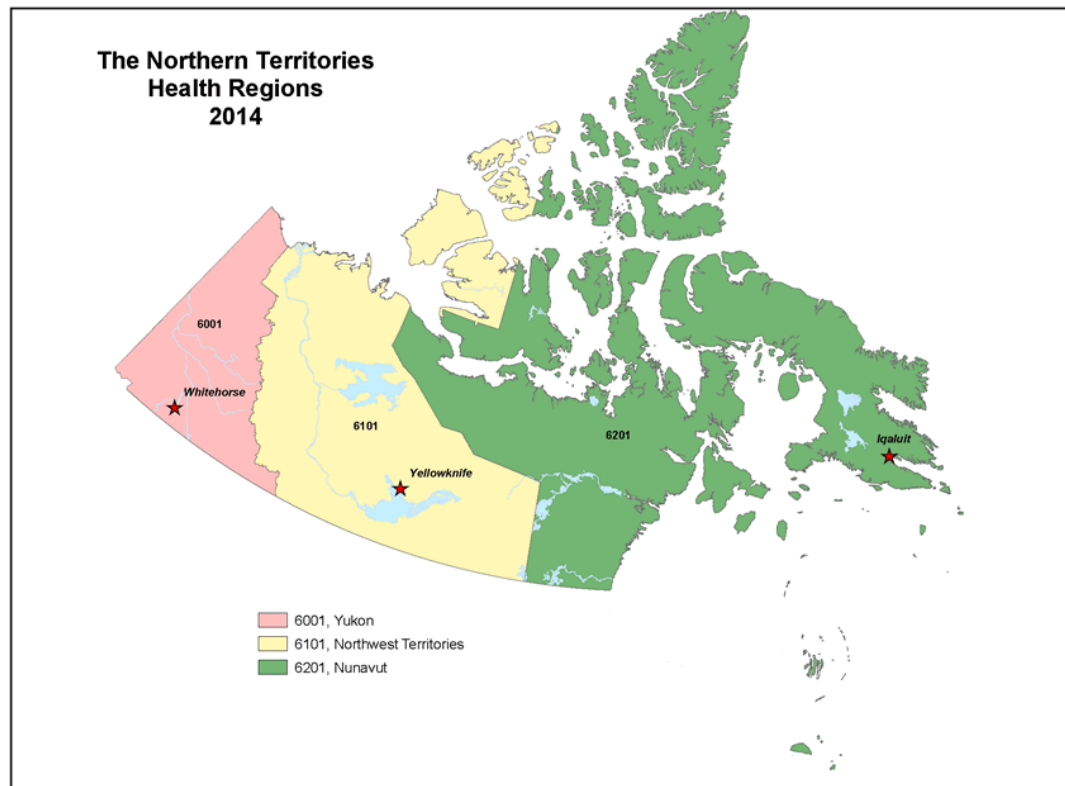
# Map 12

## British Columbia Health Regions, 2014




 Statistics Canada / Statistique Canada  
 Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X.  
 Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.

# Map 13 The Northern Territories Health Regions, 2014



Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2015.



# Map 14 Health Regions and Peer Groups in Canada, 2014

