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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^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- ^P preliminary
- ^r revised
- X suppressed to meet the confidentiality requirements of the *Statistics Act*
- ^E use with caution
- F too unreliable to be published
- * significantly different from reference category ($p < 0.05$)

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Health regions: boundaries and correspondence with census geography

This issue describes in detail the health region limits as of October 2013 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).



What's new?

This issue contains the health region limits as of October 2013 and their correspondence with 2011 Census geography.

Reference maps showing the boundaries of health regions in Canada are also available.



User guide

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 2013 Health Regions: Boundaries and Correspondence with Census Geography reflects the boundaries as of October 2013 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 2013](#)

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, 2013](#) (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 2013 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.

1. Provinces reporting no geographic changes since May 2013

The provinces and all of the territories did not report any geographic changes since the May 2013 update.

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, 2013

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

District Health Authorities

- 1211 South Shore District Health Authority
- 1212 South West Nova District Health Authority
- 1223 Annapolis Valley District Health Authority
- 1234 Colchester East Hants Health Authority
- 1235 Cumberland Health Authority
- 1246 Pictou County Health Authority
- 1247 Guysborough Antigonish Strait Health Authority
- 1258 Cape Breton District Health Authority
- 1269 Capital District Health Authority

Zones

1210 South Shore / South West Nova
1223 Annapolis Valley District Health Authority
1230 Colchester East Hants / Cumberland
1240 Pictou County / Guysborough Antigonish Strait
1258 Cape Breton District Health Authority
1269 Capital District Health Authority

New Brunswick

1301 Zone 1 (Moncton area)
1302 Zone 2 (Saint John area)
1303 Zone 3 (Fredericton area)
1304 Zone 4 (Edmunston 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, 2011 and 2013

Province/Territory	Health regions 2011	Units	Health regions 2013	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	6	No change
	District Health Authorities	9	District Health Authorities	9	No change
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	11	Regional Health Authorities	5	In 2012, the 11 Health Regions in Manitoba were merged into 5 Regional Health Authorities
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, 2011

Census subdivisions	Health region codes	Health region names	Population	% population split in census subdivisions
Ontario – Local Health Integration Network				
3519028	3505	Central West	30,476	10.6
	3508	Central	257,825	89.4
	Subtotal		288,301	100.0
3520005	3505	Central West	130,193	5.0
	3506	Mississauga Halton	109,344	4.2
	3507	Toronto Central	1,149,993	44.0
	3508	Central	631,372	24.1
	3509	Central East	594,158	22.7
	Subtotal		2,615,060	100.0
3521005	3505	Central West	39,123	5.5
	3506	Mississauga Halton	674,320	94.5
	Subtotal		713,443	100.0
3521024	3505	Central West	59,460	100.0
	3508	Central	0	0.0
	Subtotal		59,460	100.0
3528052	3502	South West	13,416	21.2
	3504	Hamilton Niagara Haldimand Brant	49,759	78.8
	Subtotal		63,175	100.0
3542004	3502	South West	11,487	93.5
	3503	Waterloo Wellington	799	6.5
	Subtotal		12,286	100.0
3542015	3502	South West	6,871	72.2
	3512	North Simcoe Muskoka	2,649	27.8
	Subtotal		9,520	100.0
3542045	3502	South West	3,866	59.9
	3512	North Simcoe Muskoka	2,587	40.1
	Subtotal		6,453	100.0
3543003	3508	Central	10,564	99.6
	3512	North Simcoe Muskoka	39	0.4
	Subtotal		10,603	100.0
3543021	3508	Central	1,063	5.7
	3512	North Simcoe Muskoka	17,442	94.3
	Subtotal		18,505	100.0
3560090	3513	North East	0	0.0
	3514	North West	7,031	100.0
	Subtotal		7,031	100.0
Ontario - Public Health Units				
3554094	3556	Porcupine Health Unit	89	3.0
	3563	Timiskaming Health Unit	2,836	97.0
	Subtotal		2,925	100.0

3557095	3526	The District of Algoma Health Unit	5,482	99.3
	3556	Porcupine Health Unit	36	0.7
	Subtotal		5,518	100.0
3558090	3549	Northwestern Health Unit	64	1.1
	3562	Thunder Bay District Health Unit	5,845	98.9
	Subtotal		5,909	100.0
3560090	3549	Northwestern Health Unit	7,031	100.0
	3556	Porcupine Health Unit	0	0.0
	3562	Thunder Bay District Health Unit	0	0.0
	Subtotal		7,031	100.0
Manitoba				
4601094	4603	Interlake-Eastern Regional Health Authority	610	63.1
	4605	Southern Health	357	36.9
	Subtotal		967	100.0
4608031	4602	Prairie Mountain Health	1,125	100.0
	4605	Southern Health	0	0.0
	Subtotal		1,125	100.0
4617026	4602	Prairie Mountain Health	937	73.8
	4605	Southern Health	333	26.2
	Subtotal		1,270	100.0
4618057	4602	Prairie Mountain Health	0	0.0
	4603	Interlake-Eastern Regional Health Authority	1,360	100.0
	Subtotal		1,360	100.0
4618093	4603	Interlake-Eastern Regional Health Authority	0	0.0
	4605	Southern Health	0	0.0
	Subtotal		0	100.0
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	0.0
	Subtotal		2,953	100.0
Saskatchewan				
4701091	4701	Sun Country Regional Health Authority	288	85.2
	4704	Regina Qu'Appelle Regional Health Authority	50	14.8
	Subtotal		338	100.0
4701094	4701	Sun Country Regional Health Authority	257	80.6
	4704	Regina Qu'Appelle Regional Health Authority	62	19.4
	Subtotal		319	100.0
4702800	4701	Sun Country Regional Health Authority	0	0.0
	4702	Five Hills Regional Health Authority	0	0.0
	4704	Regina Qu'Appelle Regional Health Authority	0	0.0
	Subtotal		0	100.0
4703001	4701	Sun Country Regional Health Authority	264	100.0
	4702	Five Hills Regional Health Authority	0	0.0
	Subtotal		264	100.0
4703006	4701	Sun Country Regional Health Authority	95	47.5
	4702	Five Hills Regional Health Authority	105	52.5
	Subtotal		200	100.0

4703064	4702	Five Hills Regional Health Authority	130	63.4
	4703	Cypress Regional Health Authority	75	36.6
	Subtotal		205	100.0
4705011	4701	Sun Country Regional Health Authority	168	36.1
	4704	Regina Qu'Appelle Regional Health Authority	298	63.9
	Subtotal		466	100.0
4705014	4701	Sun Country Regional Health Authority	386	91.7
	4704	Regina Qu'Appelle Regional Health Authority	35	8.3
	Subtotal		421	100.0
4705018	4701	Sun Country Regional Health Authority	258	69.2
	4704	Regina Qu'Appelle Regional Health Authority	115	30.8
	Subtotal		373	100.0
4705041	4704	Regina Qu'Appelle Regional Health Authority	5	1.4
	4705	Sunrise Regional Health Authority	361	98.6
	Subtotal		366	100.0
4705050	4704	Regina Qu'Appelle Regional Health Authority	17	100.0
	4705	Sunrise Regional Health Authority	0	0.0
	Subtotal		17	100.0
4705051	4704	Regina Qu'Appelle Regional Health Authority	5	0.6
	4705	Sunrise Regional Health Authority	811	99.4
	Subtotal		816	100.0
4705057	4704	Regina Qu'Appelle Regional Health Authority	31	6.3
	4705	Sunrise Regional Health Authority	464	93.7
	Subtotal		495	100.0
4705063	4704	Regina Qu'Appelle Regional Health Authority	196	43.9
	4705	Sunrise Regional Health Authority	250	56.1
	Subtotal		446	100.0
4705804	4704	Regina Qu'Appelle Regional Health Authority	518	99.0
	4705	Sunrise Regional Health Authority	5	1.0
	Subtotal		523	100.0
4705807	4704	Regina Qu'Appelle Regional Health Authority	116	87.9
	4705	Sunrise Regional Health Authority	16	12.1
	Subtotal		132	100.0
4706021	4702	Five Hills Regional Health Authority	250	53.1
	4704	Regina Qu'Appelle Regional Health Authority	221	46.9
	Subtotal		471	100.0
4706059	4702	Five Hills Regional Health Authority	50	9.8
	4704	Regina Qu'Appelle Regional Health Authority	462	90.2
	Subtotal		512	100.0
4706063	4702	Five Hills Regional Health Authority	35	13.2
	4704	Regina Qu'Appelle Regional Health Authority	231	86.8

	Subtotal		266	100.0
4706071	4704	Regina Qu'Appelle Regional Health Authority	98	17.0
	4706	Saskatoon Regional Health Authority	477	83.0
	Subtotal		575	100.0
4706099	4704	Regina Qu'Appelle Regional Health Authority	200	90.9
	4705	Sunrise Regional Health Authority	20	9.1
	Subtotal		220	100.0
4706818	4704	Regina Qu'Appelle Regional Health Authority	196	97.5
	4705	Sunrise Regional Health Authority	5	2.5
	Subtotal		201	100.0
4709060	4705	Sunrise Regional Health Authority	288	56.4
	4708	Kelsey Trail Regional Health Authority	223	43.6
	Subtotal		511	100.0
4710024	4704	Regina Qu'Appelle Regional Health Authority	150	26.5
	4706	Saskatoon Regional Health Authority	417	73.5
	Subtotal		567	100.0
4710027	4704	Regina Qu'Appelle Regional Health Authority	568	100.0
	4706	Saskatoon Regional Health Authority	0	0.0
	Subtotal		568	100.0
4710031	4704	Regina Qu'Appelle Regional Health Authority	170	38.0
	4706	Saskatoon Regional Health Authority	277	62.0
	Subtotal		447	100.0
4710036	4705	Sunrise Regional Health Authority	582	99.1
	4706	Saskatoon Regional Health Authority	5	0.9
	Subtotal		587	100.0
4710041	4705	Sunrise Regional Health Authority	0	0.0
	4706	Saskatoon Regional Health Authority	432	100.0
	Subtotal		432	100.0
4710071	4706	Saskatoon Regional Health Authority	603	73.7
	4708	Kelsey Trail Regional Health Authority	215	26.3
	Subtotal		818	100.0
4711018	4702	Five Hills Regional Health Authority	60	17.3
	4707	Heartland Regional Health Authority	286	82.7
	Subtotal		346	100.0
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	100.0
4711042	4704	Regina Qu'Appelle Regional Health Authority	35	23.3
	4706	Saskatoon Regional Health Authority	115	76.7
	Subtotal		150	100.0
4712029	4706	Saskatoon Regional Health Authority	75	33.5
	4707	Heartland Regional Health Authority	149	66.5
	Subtotal		224	100.0
4712050	4706	Saskatoon Regional Health Authority	90	19.4
	4707	Heartland Regional Health Authority	373	80.6

	Subtotal		463	100.0
4712069	4707	Heartland Regional Health Authority	219	82.0
	4710	Prairie North Regional Health Authority	48	18.0
	Subtotal		267	100.0
4713068	4707	Heartland Regional Health Authority	395	78.1
	4710	Prairie North Regional Health Authority	111	21.9
	Subtotal		506	100.0
4714035	4706	Saskatoon Regional Health Authority	0	0.0
	4708	Kelsey Trail Regional Health Authority	611	100.0
	Subtotal		611	100.0
4715048	4706	Saskatoon Regional Health Authority	239	44.6
	4708	Kelsey Trail Regional Health Authority	297	55.4
	Subtotal		536	100.0
4715054	4706	Saskatoon Regional Health Authority	87	13.4
	4708	Kelsey Trail Regional Health Authority	143	22.0
	4709	Prince Albert Parkland Regional Health Authority	421	64.7
	Subtotal		651	100.0
4715057	4706	Saskatoon Regional Health Authority	594	61.3
	4709	Prince Albert Parkland Regional Health Authority	375	38.7
	Subtotal		969	100.0
4715061	4706	Saskatoon Regional Health Authority	383	44.2
	4709	Prince Albert Parkland Regional Health Authority	484	55.8
	Subtotal		867	100.0
4715071	4708	Kelsey Trail Regional Health Authority	241	45.4
	4709	Prince Albert Parkland Regional Health Authority	290	54.6
	Subtotal		531	100.0
4716005	4706	Saskatoon Regional Health Authority	59	15.2
	4710	Prairie North Regional Health Authority	330	84.8
	Subtotal		389	100.0
4717001	4709	Prince Albert Parkland Regional Health Authority	0	0.0
	4710	Prairie North Regional Health Authority	936	100.0
	Subtotal		936	100.0
4717812	4709	Prince Albert Parkland Regional Health Authority	29	3.9
	4710	Prairie North Regional Health Authority	719	96.1
	Subtotal		748	100.0
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	0.0
	4711	Mamawetan Churchill River Regional Health Authority	624	38.0
	4712	Keewatin Yatthé Regional Health Authority	492	30.0
	4713	Athabasca Health Authority	128	7.8
	Subtotal		1,641	100.0
Alberta				
4803018	4831	South Zone	2,278	44.6
	4832	Calgary Zone	2,829	55.4

	Subtotal		5,107	100.0
4803021	4831	South Zone	437	97.8
	4832	Calgary Zone	10	2.2
	Subtotal		447	100.0
4804004	4831	South Zone	698	34.5
	4833	Central Zone	1,327	65.5
	Subtotal		2,025	100.0
4806028	4832	Calgary Zone	6,018	48.7
	4833	Central Zone	6,341	51.3
	Subtotal		12,359	100.0
4811032	4833	Central Zone	7,201	100.0
	4835	North Zone	0	0.0
	Subtotal		7,201	100.0
4814003	4833	Central Zone	0	0.0
	4834	Edmonton Zone	3,117	29.8
	4835	North Zone	7,352	70.2
	Subtotal		10,469	100.0
British Columbia				
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	100.0
5903017	5911	East Kootenay Health Service Delivery Area	1,372	100.0
	5912	Kootenay-Boundary Health Service Delivery Area	0	0.0
	Subtotal		1,372	100.0
5907055	5913	Okanagan Health Service Delivery Area	1,768	100.0
	5914	Thompson/Cariboo Health Service Delivery Area	0	0.0
	Subtotal		1,768	100.0
5909014	5914	Thompson/Cariboo Health Service Delivery Area	114	25.8
	5921	Fraser East Health Service Delivery Area	328	74.2
	Subtotal		442	100.0
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	100.0
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	98.0
	5933	North Shore/Coast Garibaldi Health Service Delivery Area	71	0.5
	Subtotal		13,035	100.0
5926021	5942	Central Vancouver Island Health Service Delivery Area	0	0.0
	5943	North Vancouver Island Health Service Delivery Area	6,899	100.0

	Subtotal		6,899	100.0
5931017	5914	Thompson/Cariboo Health Service Delivery Area	0	0.0
	5933	North Shore/Coast Garibaldi Health Service Delivery Area	1,804	100.0
	Subtotal		1,804	100.0
5933008	5913	Okanagan Health Service Delivery Area	0	0.0
	5914	Thompson/Cariboo Health Service Delivery Area	1,823	100.0
	Subtotal		1,823	100.0
5933012	5914	Thompson/Cariboo Health Service Delivery Area	749	100.0
	5921	Fraser East Health Service Delivery Area	0	0.0
	Subtotal		749	100.0
5935012	5912	Kootenay-Boundary Health Service Delivery Area	0	0.0
	5913	Okanagan Health Service Delivery Area	3,795	100.0
	Subtotal		3,795	100.0
5939023	5912	Kootenay-Boundary Health Service Delivery Area	63	11.4
	5914	Thompson/Cariboo Health Service Delivery Area	489	88.6
	Subtotal		552	100.0
5939806	5913	Okanagan Health Service Delivery Area	5	11.1
	5914	Thompson/Cariboo Health Service Delivery Area	40	88.9
	Subtotal		45	100.0
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	100.0
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	100.0
5941041	5914	Thompson/Cariboo Health Service Delivery Area	494	100.0
	5952	Northern Interior Health Service Delivery Area	0	0.0
	Subtotal		494	100.0
5951028	5951	Northwest Health Service Delivery Area	26	1.2
	5952	Northern Interior Health Service Delivery Area	2,076	98.8
	Subtotal		2,102	100.0
5951053	5951	Northwest Health Service Delivery Area	761	78.1
	5952	Northern Interior Health Service Delivery Area	214	21.9
	Subtotal		975	100.0
5955040	5952	Northern Interior Health Service Delivery Area	0	0.0
	5953	Northeast Health Service Delivery Area	5,552	100.0
	Subtotal		5,552	100.0

5957022	5951	Northwest Health Service Delivery Area	402	100.0
	5953	Northeast Health Service Delivery Area	0	0.0
	Subtotal		402	100.0

Source: Statistics Canada.



Table 1 Health regions and relevant legislation, by province, 2013

Province/Territory	Health regions 2013	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 ¹	In November 2005 Prince Edward Island officially disbanded the four health regions.
Nova Scotia	Zones	6	...
	District Health Authorities	9	Health Authorities Act (Statutes of Nova Scotia 2000, c. 6) section 84.
New Brunswick	Zones	7	Regional Health Authorities Act (Chapter R-5.05) – Schedule A
Quebec	Régions sociosanitaires (RSS)	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 ¹	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 ¹	Consolidation of Northwest Territories Health District Establishment Order, R-080-2000 (pursuant to Public Health Act)
Nunavut	...	1 ¹	Public Health Act (Statutes of Northwest Territories 1998 chapter 5)

1. 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 ¹	(dissemination area unique ID / block unique ID) PR-CD-DA (province, census division, dissemination area, census block ¹)
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 DA (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 ¹	(dissemination area unique ID / block unique ID) PR-CD-DA (province, census division, dissemination area, census block ¹)
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</u> (Dissemination area) code (DAUID) for these provinces.</p> <p>Source: Statistics Canada.</p>	



Table 5 Census subdivisions linked to more than one health region

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

"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 – reference maps by province and territory](#)

See [Map – Health regions 2013 by peer group](#)

Health region boundary changes

- Since May 2013, no changes to health regions have occurred. The boundary files for all health regions have been reconciled to the 2011 version of Statistics Canada's geographic frame.

See the following tables for history of changes since 2000:

[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 2013 health region boundaries and 2006 Census data are now available. There are currently ten peer groups identified by letters A through J.

See [Table 8 Health regions 2013 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 \(2007\) Peer Groups – User guide](#).



Table 6 Health regions reference maps

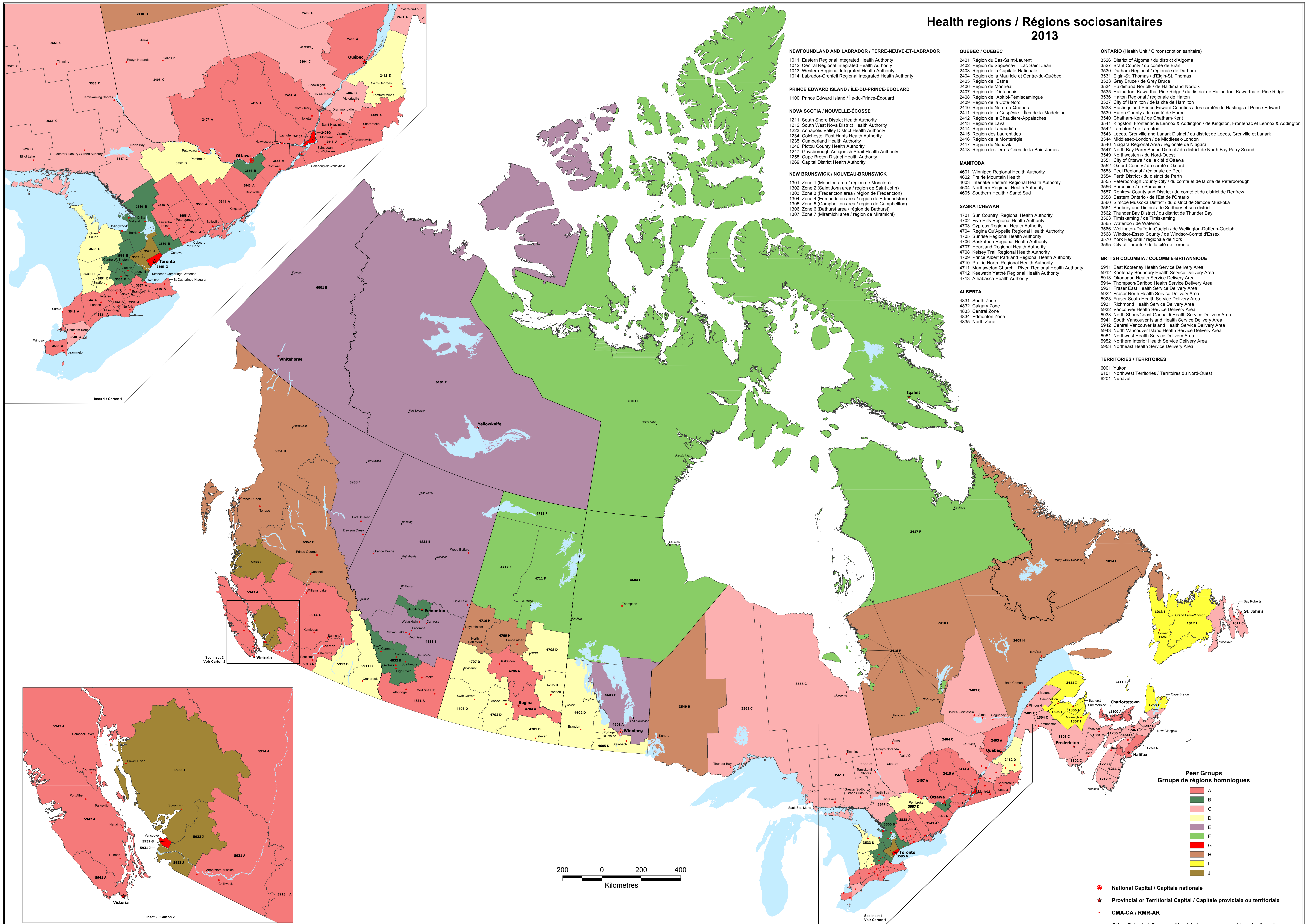
Province	2013	
	Health regions and maps	Units
Newfoundland and Labrador ¹	<u>Regional Integrated Health Authorities</u>	4
Prince Edward Island ²	<u>Health Region</u>	1
Nova Scotia ³ · ⁶	<u>District Health Authorities (DHA)</u>	9
New Brunswick ⁴	<u>Health (Hospital) Regions</u>	7
Quebec	<u>Régions sociosanitaires (RSS)</u>	18
Ontario ⁵	<u>Northern Public Health Units (PHU)</u>	36 total PHUs
	<u>Southern (PHU)</u>	
	<u>Local Health Integration Networks (LHIN)</u>		14
Manitoba, ⁸	<u>Regional Health Authorities</u>	5
Saskatchewan ⁶	<u>Regional Health Authorities</u>	13
Alberta ⁷	<u>Zones</u>	5
British Columbia	<u>Health Service Delivery Areas</u>	16
Territory		
Yukon	<u>The Northern Territories Health Regions</u>	1
Northwest Territories		1
Nunavut		1

Notes:

1. Regional integrated health authorities came into effect March 1, 2005.
2. 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.
3. Minor name and code changes have been made to Nova Scotia health regions.
4. The province of New Brunswick has made minor name changes to its health regions. The Regions are now referred to as Zones.
5. Public health units (PHU) administer health promotion and disease prevention programs. District health councils (DHC) were advisory, health planning organizations. The DHC (District health councils)s were dissolved as of March 31, 2005. The Ontario Ministry of Health and Long-Term Care announced the creation of Local Health Integration Networks (LHIN) on April 1, 2005. LHIN (Local Health Integration Networks)s are responsible for planning, funding and administering health care programs and services across the province.
6. 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 “Athabasca/Keewatin/Mamawetan” (4714).
7. 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.
8. In 2012, the 11 Health Regions in Manitoba were merged into 5 Regional Health Authorities:
 - Winnipeg RHA (regional health authority) (4610A) and Churchill RHA (regional health authority) (4690 F) were merged to form Winnipeg RHA (regional health authority) (4601 A);
 - Assiniboine RHA (regional health authority) (4645 D), Parkland RHA (regional health authority) (4660 D) and Brandon RHA (regional health authority) (4615 A) were merged to form Prairie Mountain Health (4602 D);
 - Interlake RHA (regional health authority) (4630 E) and North Eastman RHA (regional health authority) (4620 E) were merged to form Interlake-Eastern RHA (regional health authority) (4603 E);
 - NOR-MAN RHA (regional health authority), (4670 H) and Burntwood RHA (regional health authority) (4680 F) were merged to form 4604 F Northern RHA (regional health authority);
 - Central RHA (regional health authority) (4640 D) and South Eastman RHA (regional health authority) (4625 E) were merged to form Southern Health (4605 D).

Source (s): Statistics Canada.

Health regions / Régions sociosanitaires 2013



NEWFOUNDLAND AND LABRADOR / TERRE-NEUVE-ET-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 / ÎLE-DU-PRINCE-ÉDOUARD

- 1100 Prince Edward Island / Île-du-Prince-Édouard

NOVA SCOTIA / NOUVELLE-ÉCOSSE

- 1211 South Shore District Health Authority
- 1212 South West Nova District Health Authority
- 1223 Annapolis Valley District Health Authority
- 1234 Colchester East Hants Health Authority
- 1235 Cumberland Health Authority
- 1246 Pictou County Health Authority
- 1247 Guysborough Antigonish Strait Health Authority
- 1258 Cape Breton District Health Authority
- 1269 Capital District Health Authority

NEW BRUNSWICK / NOUVEAU-BRUNSWICK

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

QUEBEC / QUÉBEC

- 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 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

MANITOBA

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

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 Kewatin Yatthe Regional Health Authority
- 4713 Athabasca Health Authority

ALBERTA

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

ONTARIO (Health Unit / Circonscription sanitaire)

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

BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE

- 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

TERRITORIES / TERRITOIRES

- 6001 Yukon
- 6101 Northwest Territories / Territoires du Nord-Ouest
- 6201 Nunavut

Peer Groups / Groupe de régions homologues

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J

- National Capital / Capitale nationale
- ★ Provincial or Territorial Capital / Capitale provinciale ou territoriale
- CMA-CA / RMR-AR
- Other Selected Communities / Autres communautés sélectionnées



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, 2013.
 Source : Régions sociosanitaires : limites et correspondance avec la géographie du recensement, catalogue no. 82-402-X. Préparé par la Division de la géographie pour la Division de la statistique de la santé, Statistique Canada, 2013.



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

2011	2013
Newfoundland and Labrador	
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
Prince Edward Island	
1100, Prince Edward Island ¹	no change
1101, Kings County	...
1102, Queens County	...
1103, Prince County	...
Nova Scotia	
1210, South Shore / South West Nova ²	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 ²	no change
1234, Colchester East Hants Health Authority	no change
1235, Cumberland Health Authority	no change
1240, Pictou County / Guysborough Antigonish Strait ²	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
New Brunswick	
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
Quebec	
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
Ontario, Local Health Integration Networks (LHIN)	
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
Ontario, Health Units	
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
Manitoba ³	
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
Saskatchewan	
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 ²	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
Alberta, Zones	
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
British Columbia	
591, Interior Health Authority	
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
592, Fraser Health Authority	

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
593, Vancouver Coastal Health Authority	
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
594, Vancouver Island Health Authority	
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
595, Northern Health Authority	
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
Territories	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change

Notes:

... 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
Newfoundland and Labrador	
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
Prince Edward Island¹	
1100, Prince Edward Island	no change
1101, Kings County	no change
1102, Queens County	no change
1103, Prince County	no change
Nova Scotia²	
1201, Zone 1	1210 South Shore / South West Nova ⁴
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	
1203, Zone 3	1230 Colchester East Hants / Cumberland ⁴
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 ⁴
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	
1206, Zone 6	1269 Capital District Health Authority
1219, District Health Authority (DHA) 9	
New Brunswick³	
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)
Quebec	
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
Ontario, Local Health Integration Networks (LHIN)	
3501, Erie St. (Saint) 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
Ontario, Health Units	
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
Manitoba	
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 ⁴	no change
4680, Burntwood Regional Health Authority	no change
4690, Churchill Regional Health Authority	no change
Saskatchewan	
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 ⁴	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
Alberta, Region Health Authorities⁵	
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
Alberta, Zones	
...	4831, South Zone ⁵
...	4832, Calgary Zone ⁵
...	4833, Central Zone ⁵
...	4834, Edmonton Zone ⁵
...	4835, North Zone ⁵

British Columbia	
591 Interior Health Authority	
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
592 Fraser Health Authority	
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
593 Vancouver Coastal Health Authority	
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
594 Vancouver Island Health Authority	
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
595 Northern Health Authority	
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
Territories	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change
Notes:	
... 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:	
<ul style="list-style-type: none"> • 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.	
<ul style="list-style-type: none"> • South Zone is a merger of the two former south health regions-Chinook RHA (Regional Health Authority) (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 (s): Statistics Canada	



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

2005	2007
Newfoundland and Labrador	
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
Prince Edward Island¹	
...	1111, Prince Edward Island
1101, West Prince	...
1102, East Prince	...
1103, Queens	...
1104, Kings	...
...	1101, Kings County
...	1102, Queens County
...	1103, Prince County
Nova Scotia²	
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
New Brunswick	
1301, Region 1	no change
1302, Region 2	1302, Region 2 ³
1303, Region 3	1303, Region 3 ³
1304, Region 4	no change
1305, Region 5	no change
1306, Region 6	no change
1307, Region 7	no change
Quebec	
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
Ontario, Local Health Integration Networks (LHIN)	
3501, Erie St. (Saint) 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
Ontario, Health Units	
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
Manitoba	
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 ⁴	no change
Saskatchewan	
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 ⁴	no change
Alberta⁵	
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
British Columbia	
591 Interior Health Authority	
5911, East Kootenay	no change
5912, Kootenay-Boundary	no change
5913, Okanagan	no change
5914, Thompson/Cariboo	no change
592 Fraser Health Authority	

5921, Fraser East	no change
5922, Fraser North	no change
5923, Fraser South	no change
593 Vancouver Coastal Health Authority	
5931, Richmond	no change
5932, Vancouver	no change
5933, North Shore/Coast Garibaldi	no change
594 Vancouver Island Health Authority	
5941, South Vancouver Island	no change
5942, Central Vancouver Island	no change
5943, North Vancouver Island	no change
595 Northern Health Authority	
5951, North West	no change
5952, Northern Interior	no change
5953, Northeast	no change
Territories	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change
Notes:	
... 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 (Canadian Community Health Survey) 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 DHA (District Health Authority)s. 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 (District Health Authority) 4 boundary. Statistics for this area (population 1,114) will be included with DHA (District Health Authority) 9 (Halifax area). As a result, there is high comparability between Zone 6 and DHA (District Health Authority) 9 and between Zone 3 and DHA (District Health Authority) 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 (s): Statistics Canada	



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

2003	2005
Newfoundland and Labrador ¹	
1001, Health and Community Services St. (Saint) John's Region	1011, Eastern Regional Integrated Health Authority ^{7, 8}
1002, Health and Community Services Eastern Region	1011, Eastern Regional Integrated Health Authority ^{7, 8}
1003, Health and Community Services Central Region	1012, Central Regional Integrated Health Authority ⁸
1004, Health and Community Services Western Region	1013, Western Regional Integrated Health Authority ⁸
1005, Grenfell Regional Health Services Board	1014, Labrador-Grenfell Regional Integrated Health Authority ^{7, 8}
1006, Health Labrador Corporation	1014, Labrador-Grenfell Regional Integrated Health Authority ^{7, 8}
Prince Edward Island	
1101, West Prince	no change
1102, East Prince	no change
1103, Queens	no change
1104, Kings	no change
Nova Scotia ²	
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
New Brunswick	
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
Quebec	
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 ⁸
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 ⁸
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
Ontario⁵	
3501, Champlain <u>DHC (District health councils)</u>	...
3502, Southeastern Ontario <u>DHC (District health councils)</u>	...
3503, Durham-Haliburton-Kawartha and Pine Ridge <u>DHC (District health councils)</u>	...
3504, Toronto <u>DHC (District health councils)</u>	...
3505, Simcoe York <u>DHC (District health councils)</u>	...
3506, Halton-Peel <u>DHC (District health councils)</u>	...
3507, Waterloo Region-Wellington-Dufferin <u>DHC (District health councils)</u>	...
3508, Hamilton <u>DHC (District health councils)</u>	...
3509, Niagara <u>DHC (District health councils)</u>	...
3510, Grand River <u>DHC (District health councils)</u>	...
3511, Thames Valley <u>DHC (District health councils)</u>	...
3512, Essex-Kent and Lambton <u>DHC (District health councils)</u>	...
3513, Grey Bruce Huron Perth <u>DHC (District health councils)</u>	...
3514, Northern Shores <u>DHC (District health councils)</u>	...
3515, Algoma-Cochrane-Manitoulin and Sudbury <u>DHC (District health councils)</u>	...
3516, Northwestern Ontario <u>DHC (District health councils)</u>	...
...	3501, Erie St. (Saint) 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 ⁴	...
3546, Niagara Regional Area Health Unit	no change
3547, North Bay and District Health Unit	3547, North Bay Parry Sound District Health Unit ^{7, 8}
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 ^{7, 8}
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
Manitoba	
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 ⁵ ,	no change
Saskatchewan	
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 ⁵	no change
Alberta^{7, 8}	
4820 Chinook Regional Health Authority	no change
4821 Palliser Health Region	no change
4822 Calgary Health Region	4822 Calgary Health Region ⁷
4823 David Thompson Regional Health Authority	4823 David Thompson Regional Health Authority ⁷
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
British Columbia	
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
Territories	
6001, Yukon	no change
6101, Northwest Territories	no change
6201, Nunavut	no change

Notes:

... not applicable

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

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. 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(s): Statistics Canada.



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

2000	2003
Newfoundland and Labrador	
1001, Health and Community Services St. (Saint) John's Region	1001, Health and Community Services St. (Saint) 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
Prince Edward Island¹	
1101, Urban Health Region	...
1102, Rural Health Region	...
...	1101, West Prince ²
...	1102, East Prince ²
...	1103, Queens ²
...	1104, Kings ²
Nova Scotia	
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
New Brunswick	
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
Quebec	
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
Ontario	
3501, Champlain District Health Council	3501, Champlain District Health Council
3502, Quinte-Kingston and Rideau District Health Council	3502, Southeastern Ontario District Health Council ³
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 ³
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 ³
3508, Hamilton-Wentworth District Health Council	3508, Hamilton District Health Council ³
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 ³
3514, Muskoka-Nipissing and Parry Sound District Health Council	3514, Northern Shores District Health Council ³
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 ³
3527, Brant Public Health Unit	3527, Brant County Health Unit ³
3530, Durham Public Health Unit	3530, Durham Regional Health Unit ³
3531, Elgin-St Thomas Public Health Unit	3531, Elgin-St Thomas Health Unit ³
3533, Bruce-Grey-Owen Sound Public Health Unit	3533 Grey Bruce Health Unit ³
3534, Haldimand-Norfolk Public Health Unit	3534, Haldimand-Norfolk Health Unit ³
3535, Haliburton-Kawartha-Pine Ridge Public Health Unit	3535, Haliburton, Kawartha, Pine Ridge District Health Unit ³
3536, Halton Public Health Unit	3536, Halton Regional Health Unit ³
3537, Hamilton-Wentworth Public Health Unit	3537, City of Hamilton Health Unit ³
3538, Hastings and Prince Edward Public Health Unit	3538, Hastings and Prince Edward Counties Health Unit ³
3539, Huron Public Health Unit	3539, Huron County Health Unit ³
3540, Kent-Chatham Public Health Unit	3540, Chatham-Kent Health Unit ³
3541, Kingston-Frontenac-Lennox and Addington Public Health Unit	3541, Kingston, Frontenac and Lennox and Addington Health Unit ³
3542, Lambton Public Health Unit	3542, Lambton Health Unit ³
3543, Leeds-Grenville-Lanark Public Health Unit	3543, Leeds, Grenville and Lanark District Health Unit ³
3544, Middlesex-London Public Health Unit	3544, Middlesex-London Health Unit ³
3545, Muskoka-Parry Sound Public Health Unit	3545, Muskoka-Parry Sound Health Unit ³
3546, Niagara Public Health Unit	3546, Niagara Regional Area Health Unit ³
3547, North Bay Public Health Unit	3547, North Bay and District Health Unit ³
3549, Northwestern Public Health Unit	3549, Northwestern Health Unit ³
3551, Ottawa Carleton Public Health Unit	3551, City of Ottawa Health Unit ³
3552, Oxford Public Health Unit	3552, Oxford County Health Unit ³
3553, Peel Public Health Unit	3553, Peel Regional Health Unit ³
3554, Perth Public Health Unit	3554, Perth District Health Unit ³
3555, Peterborough Public Health Unit	3555, Peterborough County-City Health Unit ³
3556, Porcupine Public Health Unit	3556, Porcupine Health Unit ³
3557, Renfrew Public Health Unit	3557, Renfrew County and District Health Unit ³
3558, Eastern Ontario Public Health Unit	3558, The Eastern Ontario Health Unit ³

3560, Simcoe Public Health Unit	3560, Simcoe County District Health Unit ³
3561, Sudbury Public Health Unit	3561, Sudbury and District Health Unit ³
3562, Thunder Bay Public Health Unit	3562, Thunder Bay District Health Unit ³
3563, Timiskaming Public Health Unit	3563, Timiskaming Health Unit ³
3565, Waterloo Public Health Unit	3565, Waterloo Health Unit ³
3566, Wellington-Dufferin-Guelph Public Health Unit	3566, Wellington-Dufferin-Guelph Health Unit ³
3568, Windsor-Essex Public Health Unit	3568, Windsor-Essex County Health Unit ³
3570, York Public Health Unit	3570, York Regional Health Unit ³
3595, City of Toronto Public Health Unit	3595, City of Toronto Health Unit ³
Manitoba	
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 ^{2, 4}
4650, Marquette	4645, Assiniboine ^{2, 3, 5}
4655, South Westman	...
4660, Parkland	4660, Parkland ²
4670, Norman	4670, Norman
4685, Burntwood/Churchill	4685, Burntwood/Churchill
Saskatchewan	
4701, Weyburn (A) Service Area	4701, Sun Country ³
4702, Moose Jaw (B) Service Area	4702, Five Hills ³
4703, Swift Current (C) Service Area	4703, Cypress ³
4704, Regina (D) Service Area	4704, Regina Qu'Appelle ³
4705, Yorkton (E) Service Area	4705, Sunrise ³
4706, Saskatoon (F) Service Area	4706, Saskatoon ³
4707, Rosetown (G) Service Area	4707, Heartland ³
4708, Melfort (H) Service Area	4708, Kelsey Trail ³
4709, Prince Albert (I) Service Area	4709, Prince Albert Parkland ³
4710, North Battleford (J) Service Area	4710, Prairie North ³
4711, Northern Health Services Branch (K) Service Area	4714, Mamawetan/Keewati...thabasca ³
Alberta⁶	
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 ²
...	4822, Calgary Health Region ²
...	4823, David Thompson Regional Health Authority ²
...	4824, East Central Health Authority ²
...	4825, Capital Health ²

...	4826, Aspen Regional Health Authority ²
...	4827, Peace Country Health ²
4816, Northern Lights Regional Health Authority	4828, Northern Lights Regional Health Authority ²
4817, Northwestern Regional Health Authority	
British Columbia⁷	
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 ³
5922, Simon Fraser	5922, Fraser North ³
5923, South Fraser	5923, Fraser South ³
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 ³
5952, Northern Interior	5952, Northern Interior
5953, Northeast	5953, Northeast
Territories	
6001, Yukon	6001, Yukon
6101, Northwest Territories	6101, Northwest Territories
6201, Nunavut	6201, Nunavut
Notes :	
... not applicable	
1. In Prince Edward Island, two statistical areas (urban and rural) were replaced by the four administrative areas for 2003.	
2. Indicates where boundaries have changed, affecting data comparability in these regions.	
3. Health region name change.	
4. Central, Manitoba (4640) lost 449 or .5 per cent (1996 Census pop.) to Parkland (4660).	
5. Assiniboine, Manitoba (4645) is comprised of the old regions of Marquette (4650) and South Westman (4655).	
6. 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).	
7. 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(s): Statistics Canada	



Table 8 Health regions 2013 by peer group

Peer group A

- 1100 Prince Edward Island
- 1269 Capital District Health Authority
- 2403 Région de la Capitale-Nationale
- 2405 Région de l'Estrie
- 2407 Région de l'Outaouais
- 2413 Région de Laval
- 2414 Région de Lanaudière
- 2415 Région de Laurentides
- 2416 Région de la Montérégie
- 3527 Brant County Health Unit
- 3531 Elgin-St. (Saint) Thomas Health Unit
- 3534 Haldimand-Norfolk Health Unit
- 3535 Haliburton, Kawartha, Pine Ridge District Health Unit
- 3537 City of Hamilton Health Unit

3538 Hastings and Prince Edward Counties 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
3552 Oxford County Health Unit
3555 Peterborough County-City Health Unit
3558 The Eastern Ontario Health Unit
3568 Windsor-Essex County Health Unit
4601 Winnipeg Regional Health Authority
4704 Regina Qu'Appelle Regional Health Authority
4706 Saskatoon Regional Health Authority
4831 South Zone
5913 Okanagan Health Service Delivery Area
5914 Thompson/Cariboo Health Service Delivery Area
5921 Fraser East 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

Peer group B

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
4832 Calgary Zone
4834 Edmonton Zone

Peer group C

1011 Eastern Regional Integrated Health Authority
1210 South Shore / South West Nova
1223 Annapolis Valley District Health Authority
1230 Colchester East Hants / Cumberland
1240 Pictou County / Guysborough Antigonish Strait
1301 Zone 1 (Moncton area)
1302 Zone 2 (Saint John area)
1303 Zone 3 (Fredericton area)
1304 Zone 4 (Edmundston area)
2401 Région du Bas-Saint-Laurent
2402 Région du Saguenay - Lac-Saint-Jean
2404 Région de la Mauricie et Centre-du-Québec
2408 Région de l'Abitibi-Témiscamingue
3526 District of Algoma Health Unit
3540 Chatham-Kent Health Unit
3547 North Bay Parry Sound District Health Unit
3556 Porcupine Health Unit
3561 Sudbury and District Health Unit
3562 Thunder Bay District Health Unit
3563 Timiskaming Health Unit

Peer group D

2412 Région de la Chaudière-Appalaches
3533 Grey Bruce Health Unit
3539 Huron County Health Unit
3554 Perth District Health Unit
3557 Renfrew County and District Health Unit
4602 Prairie Mountain Health
4605 Southern Health
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
4708 Kelsey Trail Regional Health Authority
5911 East Kootenay Health Service Delivery Area
5912 Kootenay-Boundary Health Service Delivery Area

Peer group E

4603 Interlake-Eastern Regional Health Authority
4833 Central Zone
4835 North Zone
5953 Northeast Health Service Delivery Area
6001 Yukon
6101 Northwest Territories

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

1014 Labrador-Grenfell Regional Integrated Health Authority
2409 Région de la Côte-Nord
2410 Région du Nord-du-Québec
3549 Northwestern Health Unit
4709 Prince Albert Parkland Regional Health Authority
4710 Prairie North Regional Health Authority
5951 Northwest Health Service Delivery Area
5952 Northern Interior Health Service Delivery Area

Peer group I

1012 Central Regional Integrated Health Authority
1013 Western Regional Integrated Health Authority
1258 Cape Breton District Health Authority
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 J

- 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
- 5933** North Shore/Coast Garibaldi Health Service Delivery Area



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	34	33.85%	<ul style="list-style-type: none"> • Urban-rural mix from coast to coast • Average percentage of Aboriginal population • Average percentage of immigrant population
B	8	16.66%	<ul style="list-style-type: none"> • Mainly urban centres in Ontario and Alberta with moderately high population density • Low percentage of Aboriginal population • Very High employment rate • Higher than average percentage of immigrant population
C	20	10.06%	<ul style="list-style-type: none"> • Sparsely populated urban-rural mix in Eastern and Central provinces • Average percentage of Aboriginal population • Average employment rate • Low percentage of immigrant population
D	15	4.83%	<ul style="list-style-type: none"> • Mainly rural regions from Quebec to British Columbia • Average percentage of Aboriginal population • High employment rate
E	6	3.32%	<ul style="list-style-type: none"> • Mainly rural and remote regions in the Western provinces and the Territories • High proportion of Aboriginal population • Average percentage of immigrant population
F	5	0.49%	<ul style="list-style-type: none"> • Northern and remote regions • Very high proportion of Aboriginal population • Very low employment rate • Low proportion of immigrants
G	3	15.65%	<ul style="list-style-type: none"> • Largest metro centres with an average population density of 4,065 people per square kilometre • Very low proportion of Aboriginal population • Average employment rate • Very high proportion of immigrant population
H	8	1.83%	<ul style="list-style-type: none"> • Rural northern regions from coast to coast • High proportion of Aboriginal population • Low proportion of immigrants
I	7	1.73%	<ul style="list-style-type: none"> • Mainly rural Eastern regions • Average percentage of Aboriginal population • Low employment rate • Very low percentage of immigrant population

J	6	11.58%	<ul style="list-style-type: none">• Mainly urban centers in Ontario and British Columbia with high population density• Low proportion of Aboriginal population• High proportion of immigrants
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2007 Health Region Peer Groups – User Guide

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 2007 classification of the peer groups and compares the results with the peer groups created in both 2003 and 2000. 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).

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 5 to 10 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 was based on the 2006 Census data and the 2007 health region boundaries. The final result of this classification was the creation of ten peer groups, representing all health regions across Canada.

This document will give an overview of how the peer groups are created. The 2007 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. 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.

2. Data

Twenty-four variables describing the socio-economic and socio-demographic determinants of health within the 123 health regions across Canada were used 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. The variables used in the 2007 Peer Group Classification are outlined in [Appendix A](#).

The Census is the main source of information for the creation of the peer groups. Census information is readily available at various levels of geography and covers a broad range of topics. As well, all health regions are effectively covered by the Census, which is one of the main data requirements in the creation of the peer groups. The 2007 Peer Group Classification used data from the 2006 Census.

Two new variables were used in 2007, in place of similar variables that were used in the previous peer group classification. The new variables fall into two separate areas:

1. Income

The median household income (MedInc) for a health region was used instead of the average household income (AvgInc) for a health region. Median household income is more representative of the economic situation faced by families and communities within the region.

2. Population

The proportion of the population under 20 (Pop20) has replaced the proportion of the population under 15 (Pop15) that was used in previous peer group classifications. This modification was made to reflect the change in the definition of the dependency ratio, which now measures the ratio of the combined child population aged 0 to 19 and population aged 65 and over to the population 20 to 64 years old. This ratio is presented as the number of dependents for every 100 people in the working age population.

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 using measures of distance. 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 Andberg, 1973. 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, 1993) 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 2007 Peer Group Classification a maximum of 17 clusters was chosen. This would give an average number of 7 health regions to each peer group¹, which is in line with the study objectives. The maximum number of clusters used in 2007 was lower than that used in both 2003 and 2000 since there were fewer health regions in total.

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 does 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 is 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 123 health regions into 17 clusters. Five of the resulting clusters contained only 1 health region. This indicated that 17 clusters was too many given that the objective of assigning peer groups is to be able to compare like 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 (RMS Std) is a measure of the variability in the data points around the cluster center. The radius displays the largest Euclidean distance from the cluster center 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 center and that of its closest neighbour. For each of these statistics, the cluster center 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 (A and C). 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 5 to 10 regions per peer group, there did not appear to be a valid reason to split them into smaller groups.

Note that the total number of health regions in Table 4.2.1 no longer equals 123. This is due to a new development that was added to the 2007 Peer Group Classification. There are two levels of geography in Nova Scotia: there are 6 Zones or 9 District Health Authorities (DHAs). Due to the relationship between the two levels of geography it was possible to incorporate both into the peer group classification. The relationship between the two levels of geography takes on two forms. The first is that there are 3 Zones (1202, 1205 and 1206) and 3 DHA (District Health Authorities)s (1213, 1218 and 1219) that represent the same regions. The second is that there are 3 Zones (1201, 1203 and 1204) that are each broken down into two distinct DHA (District Health Authorities)s (1211, 1212, 1214, 1215, 1216 and 1217). The information at the Zone level was used to create the peer groups. At the final stage in the cluster analysis,

the DHA (District Health Authorities) level geography was added to the existing clusters. The DHA (District Health Authorities)s 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 Nova Scotia should be used.

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 12 clusters were formed that range in size from 2 to 35 health regions (excluding DHA (District Health Authorities)s). 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 exception is cluster G (Montréal, Toronto and Vancouver). Cluster G was not combined with another cluster since these health regions tend to be very different than other regions across the country.

There were three clusters that were joined with their closest neighbour. Two of these clusters were joined together; Cluster F (health regions 2417, 2418 and 6201) was combined with its nearest neighbour cluster K (health regions 4685 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 L (health regions 1014, 2409 and 2410) was combined with cluster H (health regions 3549, 4660, 4670, 4709, 4710, 5951, and 5952). This combined cluster was labelled Cluster H. The result of collapsing the smaller clusters was that the 12 peer groups produced from the final cluster analysis using the FASTCLUS procedure and presented in Table 4.2.1 were reduced to 10 groups. Summary statistics of the final 10 peer groups can be found in [Appendix B](#) (excluding the DHA (District Health Authorities)s), a descriptive summary can be found in [Appendix C](#) and a list of health regions in each final peer group can be found in [Appendix D](#).

5. Discussion

5.1 Principal Components

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 53% of the total variability. The first principal component appears to be measures of urbanicity (housing affordability, proportion of immigrants, average dwelling value, proportion of post-secondary graduates, proportion of visible minorities, etc. (Et cetera)). The second principal component seems to be measures of income inequality (median household income, proportion of low income children, proportion of low income persons in private households, proportion of all income that came from government transfers, etc. (Et cetera)). This result is similar to the previous peer group classifications, which indicates that the variables which drive the analysis are remaining fairly consistent over time. 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.

5.2 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^2 statistics for entry and removal were set at 0.15. Any variable which had an R^2 value of 0.5 or higher when regressed against a variable already in the model was removed from the analysis. A summary of the results is found in Table 5.2.1.

The strongest predictors of the final peer groups are population density and the percent of the population self-identifying as Aboriginal. No additional variables were removed from the analysis when regressed against population density, whereas the proportion of the population under the age of 20, the proportion of owner occupied dwellings, the proportion of lone-parent families and the proportion of households spending 30% or more of their income on shelter were removed from the analysis when regressed against the percent of population self-identifying as Aboriginal.

5.3 Peer Group Descriptions

The four key variables determined by the stepwise discriminant analysis were used to represent each of the clusters. The mean values of these four variables for each peer group can be found in [Appendix B](#). For each of the four 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^{th} percentile $< X \leq 85^{\text{th}}$ percentile

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

Low: 15^{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 groups characteristics from another. As shown in the table below, there are no two peer groups which fall into the same category for all four 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.

The results from this classification were used to derive a written summary of the 10 peer groups based on the four 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 urban 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 health². 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 2007 peer groups in [Appendix B](#) for the four key variables determined by the stepwise discriminant analysis.

5.5 Collapsing Health Regions

There are two instances where the [CCHS \(Canadian Community Health Survey\)](#) combines smaller health regions to ensure that sample survey estimates will attain a sufficient coefficient of variation (CV) to be reportable. This occurs in northern Manitoba where health region 4680 (Burntwood Regional Health Authority) and 4690 (Churchill Regional Health Authority) are combined to form 4685 (Burtwood/Churchill). It also 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 regions in the creation of the peer groups since the [CCHS \(Canadian Community Health Survey\)](#) is one of the principal data sources used in an analysis of health related data by 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 10 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 their location within Canada. The northern regions have clustered based on the Aboriginal make-up of their communities. A cluster of eastern health regions has formed based on their low employment rates and very low proportion of immigrants. All peer groups have representation across provincial and/or territorial borders.

6. Peer Groups in Action

The purpose of this section is to demonstrate the usefulness of the peer groups. 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 in order to ascertain how well the group of regions fairs as a whole. The second analysis possible, one that may be of more relevant importance, is the comparison of 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.

The example illustrated in Section 6.1 is a simple demonstration of how and when the peer groups can be used. The example uses the 2007 CCHS (Canadian Community Health Survey) data and the 2003 Peer Group Classification, which is the variable available on the data file. Note that the 2003 Peer Group Classification resulted in nine peer groups. A similar analysis will be possible with the 2008 CCHS (Canadian Community Health Survey) data and the 2007 Peer Group Classification once the data is released in June of 2009. A more 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).

6.1 Example: Heart Disease

This example focuses on the prevalence of heart disease in the population 18 years of age and over in the different regions across the country. Every CCHS (Canadian Community Health Survey) respondent is asked if he/she has heart disease. The national rate of heart disease for the adult population is 5.1%. The missing rate for this health indicator is less than 1% and in this example the missing values have been coded as an absence of the disease.

The rate of heart disease in each peer group is shown in Table 6.1.1, along with the description of the peer group. The prevalence of heart disease in Peer Group B is 1.3% lower than the national average. It is also 3.7% lower than the rate of heart disease in Peer Group I. Both of these differences are significant at the 0.1% level. Peer Group B is composed of mainly urban centers that have a low percentage of government transfer income. This group has the lowest smoking rate (19.2%) and the highest physical activity rate (48.7%) of all nine peer groups. It also has a low heavy drinking rate (20.4%). On the other hand, Peer Group I is composed of mainly rural health regions that have a very high rate of government transfer income. This group has a high smoking rate (28.6%), a high heavy drinking rate (29.1%) and a low physical activity rate (42.2%). The differences in the rates of these three risk factors between Peer Groups B and I are all significant at the 1% level.

Note that when the CV (coefficient of variation) associated with the estimate is between 16.6% and 33.3%, the estimate in the table has an 'E' beside it, which indicates general unrestricted release but is a warning cautioning users of the high sampling variability. When the CV (coefficient of variation) associated with the estimate is above 33.3%, the estimate in the table is replaced by an 'F', which indicates that the estimate can not be released. In this example, the estimate of heart disease in Peer Group F is associated with a high level of variability. This is partly due to the fact that the CCHS (Canadian Community Health Survey) does not generally cover health regions 2417 (Nunavik) and 2418 (Terres-Cries-de-la-Baie-James). The exclusion of two health regions means that there are only three regions available for comparison in this peer group, and all of them are remote regions with resulting small sample sizes.

There are 14 health regions that make up Peer Group B. Table 6.1.2 shows the prevalence of heart disease in each of these regions. There are 13 regions that have a prevalence rate equal to or below the national rate of 5.1%. The highest incidence of heart disease is 5.6% and occurs in health region 3530. This region has a high smoking rate (24.4%) and a low physical activity rate (48.6%). On the other hand, the lowest heart disease rate is 2.3% and occurs in health region 4823. This region has a low smoking rate (18.5%) and a high physical activity rate (55.0%). The difference in the prevalence of heart disease between these two regions is significant at the 1% level.

When it is desired to perform an analysis of a rare event at the health region level, it is often the case that the associated CV (coefficient of variation) does not allow for general release of the information. Table 6.1.2 shows that 13 of the 14 regions in Peer Group B have an estimate of heart disease that is associated with a high sampling variability (CV (coefficient of variation) between 16.6% and 33.3%). The majority of the health regions belonging to this group have a moderately high population density. For other peer groups

that contain more remote health regions, it may not be possible to conduct the same analysis due to corresponding CV (coefficient of variation)s above 33.3%. Typically in these cases, the results are published at the province level in order to obtain more sample size and more reliable estimates. The peer groups offer an alternative to the provinces in these types of situations.

7. Summary

As a result of health region boundary changes as of January 2007, and the availability of 2006 Census data, it was necessary to update the 2003 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.

Health regions were grouped using a non-hierarchical clustering algorithm. Starting with an initial set of 17 clusters, and ensuring that each cluster contained at least two health regions, the results indicated that the regions naturally grouped themselves into 12 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. The cluster containing Montréal, Toronto and Vancouver was 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 10 peer groups ranging in size from 3 to 35 (not including the DHA (District Health Authorities)s in Nova Scotia). When mapped, peer groups appeared to form based on their geography. Further, they also appeared to form based on their relative distance to urban centers.

Stepwise discriminant analysis was used to determine which variables had the most influence on the final peer groups. The four most important variables were population density, proportion of Aboriginals, employment rate and proportion of immigrants. Each peer group has at least one distinguishing factor in terms of these four 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 can not be presented at the health region level due to insufficient sample size or high sampling variability.

8. References

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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.



Appendix A: Variable Definitions

1. 2006 Population (Pop06)

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

Source: Statistics Canada, Census 2006

2. Aboriginal Percentage (AboPer)

Definition: Proportion of a regions' total population self-identifying with at least one Aboriginal group, that is, North American Indian, Métis or Inuit, and/or those who reported being a Treaty Indian or a Registered Indian, as defined by the *Indian Act* of Canada, and/or those who reported they were members of an Indian band or First Nation.

Sources: Statistics Canada, 2006 Census

3. Average Dwelling Value (AvgDwl)

Definition: Average expected value of an owner-occupied, non-farm, non-reserve dwelling (including the value of the land the dwelling is on) at the time of the Census. It refers to the dollar amount expected by the owner if the dwelling were to be sold.

Source: Statistics Canada, 2006 Census

4. Median Household Income (MedInc)

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

Source: Statistics Canada, 2006 Census

5. Post-Secondary Graduates (PostSec)

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

Source: Statistics Canada, 2006 Census

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, 2006 Census

7. Growth Rate (Growth)

Definition: Percent change in a regions population size from 2001 to 2006.

Source: Statistics Canada, 2001 and 2006 Census

8. Government Transfer Income in 2005, as a Proportion of Total Income (GovTran)

Definition: Money income received by persons 15 years of age and older from all transfer payments from federal, provincial, territorial or municipal governments during calendar year 2005, as a proportion of total income. This variable is derived by summing the amounts reported in:

- the Old Age Security pension and Guaranteed Income Supplement, Allowance and Allowance for the Survivor
- benefits from Canada or Quebec Pension Plan
- benefits from Employment Insurance
- Child benefits
- other income from government sources.

Source: Statistics Canada, 2006 Census

9. Housing Affordability (HouAff)

Definition: Refers to the proportion of the average monthly 2005 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, 2006 Census

10. Immigrant Percentage (ImmPer)

Definition: Those immigrants who came to Canada from 1996 to 2006 as a proportion of the total population.

Source: Statistics Canada, 2006 Census

11. Income Share Held by Households whose Income Fell Below the Median Household Income in 2005 (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, 2006 Census

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, 2006 Census

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, 2006 Census

14. Long Term Unemployment Rate (LtUnemp)

Definition: Proportion of the labour force aged 15 and over who last worked in or before 2005. It does not include unemployed persons who never worked or last worked in 2006.

Source: Statistics Canada, 2006 Census

15. Prevalence of Low Income before Tax in 2005 for Persons in Private Households (LowPop)

Definition: Proportion of persons in private households with 2005 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 urban area; 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, 2006 Census

16. Persons aged 17 years and under Living in Low Income Economic Families before Tax in 2005 (LowKids)

Definition: Proportion of children under age 18 living in economic families with 2005 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, 2006 Census

17. Male-Female Ratio (MFRat)

Definition: Total number of males in a given region in 2006 divided by the total number of females.

Source: Statistics Canada, 2006 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, 2006 Census

19. Population Density (PopDen)

Definition: Number of people per square kilometre.

Source: Statistics Canada, 2006 Census and Geography Division

20. Population under 20 (Pop20)

Definition: Proportion of the population in a given region under the age of 20 (2006 population).

Source: Statistics Canada, 2006 Census

21. Population 65 Years and Older (Pop65)

Definition: Proportion of the population in a given region aged 65 years and older (2006 population).

Source: Statistics Canada, 2006 Census

22. Strong MIZ (MIZ)

Definition: Population living in census metropolitan areas (CMAs), census agglomerations (CAs), and communities that fall outside CMA (Census metropolitan areas)s/CA (Census agglomerations)s in which at least 30% of the employed labour force commutes to the CMA (Census metropolitan areas)s/CA (Census agglomerations)s. The measure is used to describe the degree of urban influence in the health region. CMA (Census metropolitan areas)s and CA (Census agglomerations)s are large urban areas, together with adjacent urban and rural areas that have a high degree of economic and social integration with that urban area. CMA (Census metropolitan areas)s and CA (Census agglomerations)s are defined as urban areas that have attained certain population thresholds: 100,000 for CMA (Census metropolitan areas)s and 10,000 for CA (Census agglomerations)s.

Source: Statistics Canada, 2006 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, 2006 Census

24. Visible Minority (VisMin)

Definition: Proportion of the population belonging to a visible minority group. As defined by the *Employment Equity Act* (1986), visible minorities are persons (other than Aboriginal people) who are non-Caucasian in race or non-white in colour.>

Source: Statistics Canada, 2006 Census



Table 4.2.1 Results of Final Cluster Analysis using PROC FASTCLUS

Cluster	Frequency	RMS Std	Radius	Nearest Cluster	Distance Between Cluster Centers
A	36	0.51	4.28	C	2.85
B	8	0.55	3.19	A	3.1
C	29	0.44	3.12	A	2.85
D	18	0.5	2.97	C	2.87
E	9	0.72	6.13	B	4.32
F	3	0.75	3.47	K	8.95
G	3	0.84	4.02	J	8.39
H	7	0.56	3.54	C	3.25
I	8	0.54	3.25	C	4.13
J	6	0.81	5	B	4.64
K	2	0.63	2.19	H	8.25
L	3	0.76	3.71	H	4.61



Appendix C: Descriptive Summary of Final Peer Groups

Peer Group	Number of Health Regions	Percent of Canadian Population	Principal Characteristics
A	35	33.5	<ul style="list-style-type: none">• Urban-rural mix from coast to coast• Average percentage of Aboriginal population• Average percentage of immigrant population
B	8	16.7	<ul style="list-style-type: none">• Mainly urban centers in Ontario and Alberta with above average population density• Low proportion of Aboriginal population• Very High employment rate• Higher than average percentage of immigrant population
C	22	10.3	<ul style="list-style-type: none">• Sparsely populated urban-rural mix in Eastern and Central provinces• Average percentage of Aboriginal population• Average employment rate• Low percentage of immigrant population
D	18	5.1	<ul style="list-style-type: none">• Mainly rural regions from Quebec to British Columbia• Average percentage of Aboriginal population• High employment rate
E	9	3.1	<ul style="list-style-type: none">• Mainly rural and remote regions in the Western provinces and the Territories• High proportion Aboriginal population• Average percentage of immigrant population

F	5	0.4	<ul style="list-style-type: none"> • Northern and remote regions • Very high proportion of Aboriginal population • Very low employment rate • Low proportion of immigrants
G	3	15.6	<ul style="list-style-type: none"> • Largest metro centers with an average population density of 4,065 people per square kilometer • Very Low proportion of Aboriginal population • Average employment rate • Very high proportion of immigrant population
H	10	2	<ul style="list-style-type: none"> • Rural northern regions from coast to coast • High proportion of Aboriginal population • Low proportion of immigrants
I	7	1.7	<ul style="list-style-type: none"> • Mainly rural Eastern regions • Average percentage of Aboriginal population • Low employment rate • Very Low percentage of immigrant population
J	6	11.6	<ul style="list-style-type: none"> • Mainly urban centers in Ontario and British Columbia with high population density • Low proportion of Aboriginal population • High proportion of immigrants



Appendix D: Health Region Peer Groups

Final Peer Group A

1102 Queens County
1206 Zone 6
2403 Région de la Capitale-Nationale
2405 Région de l'Estrie
2407 Région de l'Outaouais
2413 Région de Laval
2414 Région de Lanaudière
2415 Région de Laurentides
2416 Région de la Montérégie
3527 Brant County Health Unit
3531 Elgin-St. (Saint) Thomas Health Unit
3534 Haldimand-Norfolk Health Unit
3535 Haliburton Kawartha Pine Ridge District Health Unit
3537 City of Hamilton Health Unit
3538 Hastings and Prince Edward Counties 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
3552 Oxford County Health Unit
3555 Peterborough County-City Health Unit
3558 The Eastern Ontario Health Unit
3568 Windsor-Essex County Health Unit
4610 Winnipeg

4615 Brandon
4704 Regina Qu'Appelle RHA (Regional Health Authority)
4706 Saskatoon RHA (Regional Health Authority)
4821 Chinook Regional Health Authority
5913 Okanagan
5914 Thompson/Cariboo
5921 Fraser East
5941 South Vancouver Island
5942 Central Vancouver Island
5943 North Vancouver Island

Final Peer Group B

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
4823 Calgary Health Region
4826 Capital Health Region

Final Peer Group C

1011 Eastern Regional Integrated Health Authority
1101 Kings County
1103 Prince County
1201 Zone 1
1202 Zone 2
1203 Zone 3
1204 Zone 4
1301 Region 1
1302 Region 2
1303 Region 3
1304 Region 4
2401 Région du Bas-Saint-Laurent
2402 Région du Saguenay - Lac-Saint-Jean
2404 Région de la Mauricie et Centre-du-Québec
2408 Région de l'Abitibi-Témiscamingue
3526 The District of Algoma Health Unit
3540 Chatham-Kent Health Unit
3547 North Bay Parry Sound District Health Unit
3556 Porcupine Health Unit
3561 Sudbury and District Health Unit
3562 Thunder Bay District Health Unit
3563 Timiskaming Health Unit

Final Peer Group D

2412 Région de la Chaudière-Appalaches
3533 Grey Bruce Health Unit
3539 Huron County Health Unit
3554 Perth District Health Unit
3557 Renfrew County and District Health Unit
4620 North Eastman
4630 Interlake

4640 Central
4645 Assiniboine
4701 Sun Country RHA (Regional Health Authority)
4702 Five Hills RHA (Regional Health Authority)
4703 Cypress RHA (Regional Health Authority)
4705 Sunrise RHA (Regional Health Authority)
4707 Heartland RHA (Regional Health Authority)
4708 Kelsey Trail RHA (Regional Health Authority)
4825 East Central Health Region
5911 East Kootenay
5912 Kootenay-Boundary

Final Peer Group E

4625 South Eastman
4822 Palliser Health Region
4824 David Thompson Regional Health Authority
4827 Aspen Regional Health Authority
4828 Peace County Health Region
4829 Northern Lights Health Region
5953 Northeast
6001 Yukon
6101 Northwest Territories

Final Peer Group F

2417 Région du Nunavik
2418 Région des Terres-Cries-de-la-Baie-James
4685 Burntwood/Churchill
4714 Mamawetan/Keewatin/Athabasca RHA (Regional Health Authority)
6201 Nunavut

Final Peer Group G

2406 Région de Montréal-Centre
3595 City of Toronto Health Unit
5932 Vancouver

Final Peer Group H

1014 Labrador-Grenfell Regional Integrated Health Authority
2409 Région de la Côte-Nord
2410 Région du Nord-du-Québec
3549 Northwestern Health Unit
4660 Parkland
4670 Norman
4709 Prince Albert Parkland RHA (Regional Health Authority)
4710 Prairie North RHA (Regional Health Authority)
5951 Northwest
5952 Northern Interior

Final Peer Group I

1012 Central Regional Integrated Health Authority
1013 Western Regional Integrated Health Authority
1205 Zone 5

1305 Region 5
1306 Region 6
1307 Region 7
2411 Région de la Gaspésie - Îles-de-la-Madeleine

Final Peer Group J

3553 Peel Regional Health Unit
3570 York Regional Health Unit
5922 Fraser North
5923 Fraser South
5931 Richmond
5933 North Shore/Coast Garibaldi



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

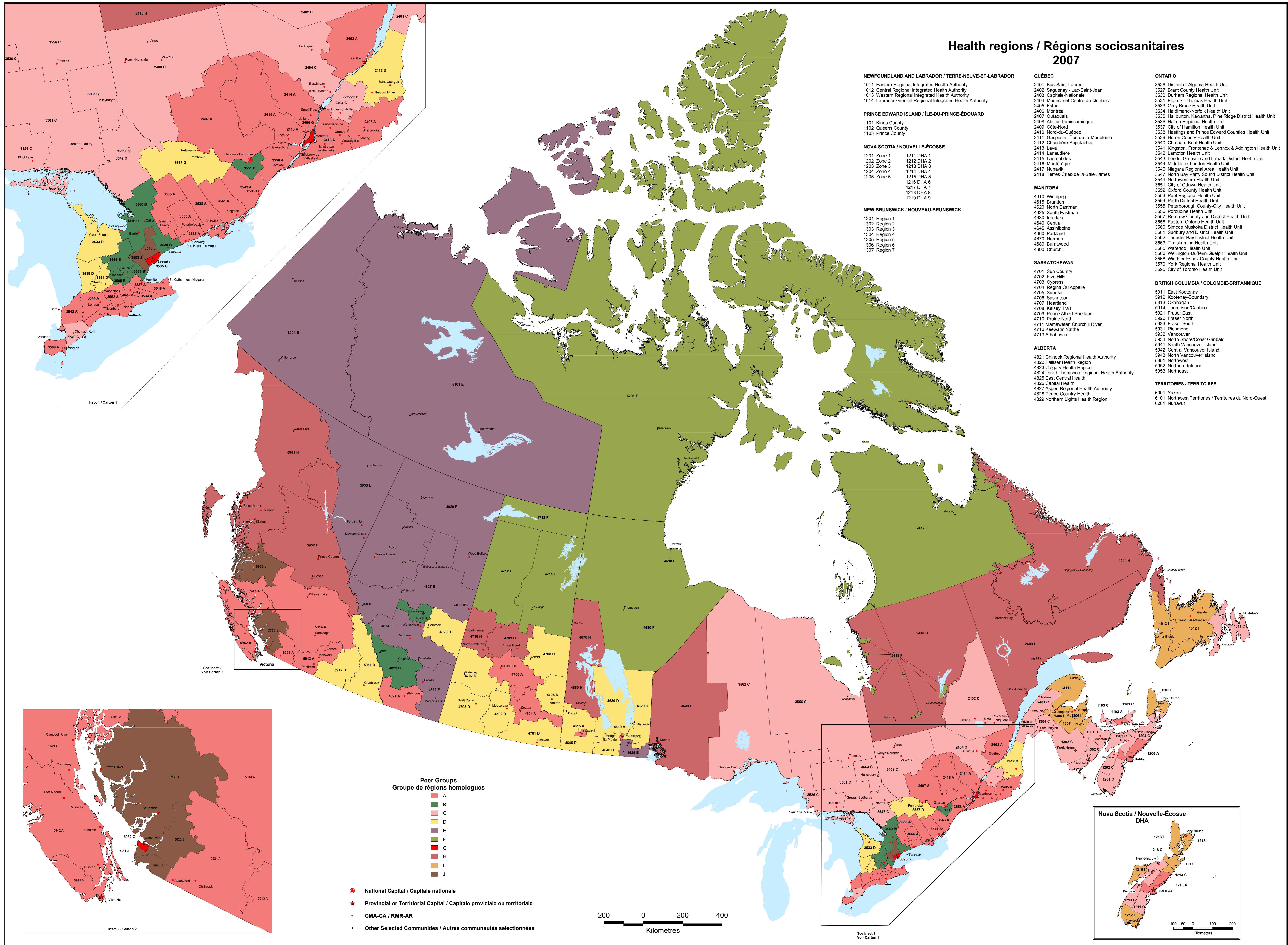
Step	Variable	Partial R-SQ	R-SQ Variables in Model
1 (Population Density)	PopDen	0.9086	...
	Removed	...	...
	None	...	...
2 (Aboriginal)	AboPer	0.8916	...
	Removed	...	...
	Pop20	0.8526	0.7614
	OwnDwl	0.7698	0.5634
	Lnepnt	0.7348	0.5849
	HouAff	0.7359	0.5184
3 (Employment)	Emp	0.8242	...
	Removed	...	...
	MFRat	0.5472	0.5059
	GovTran	0.7723	0.5753
	VisMin	0.8132	0.5039
	Unemp	0.7816	0.8849
	LTUnemp	0.7567	0.8366
	Pop65	0.5069	0.5374
4 (Immigrant population)	ImmPer	0.7854	...
	Removed	...	...
	MedShr	0.2687	0.5358
	Pop06	0.3026	0.5333
	AvgDwl	0.6015	0.5919
	MigMob	0.2969	0.5021
	MIZ	0.4953	0.5424
	LowPop	0.4826	0.5389
	Lowkids	0.5035	0.5200
	MedInc	0.5583	0.6003
	Growth	0.6054	0.6110
	PostSec	0.3629	0.5462



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

Cluster	Population Density	Percent Aboriginal	Employment	Percent Immigrant
A	Medium	Medium	Medium	Medium
B	High	Low	Very High	High
C	Medium	Medium	Medium	Low
D	Medium	Medium	High	Medium
E	Low	High	High	Medium
F	Very Low	Very High	Very Low	Low
G	Very High	Very Low	Medium	Very High
H	Low	High	Low	Low
I	Medium	Medium	Low	Very Low
J	High	Low	Medium	High

Health regions / Régions sociosanitaires 2007



NEWFOUNDLAND AND LABRADOR / TERRE-NEUVE-ET-LABRADOR	QUÉBEC	ONTARIO
1011 Eastern Regional Integrated Health Authority	2401 Bas-Saint-Laurent	3526 District of Algoma Health Unit
1012 Central Regional Integrated Health Authority	2402 Saguenay - Lac-Saint-Jean	3527 Brant County Health Unit
1013 Western Regional Integrated Health Authority	2403 Capitale-Nationale	3530 Durham Regional Health Unit
1014 Labrador-Griffith Regional Integrated Health Authority	2404 Maurice et Centre-du-Québec	3531 Elgin-St. Thomas Health Unit
	2405 Estrie	3533 Grey Bruce Health Unit
	2406 Montréal	3534 Halimand-Norfolk Health Unit
	2407 Outaouais	3535 Haliburton, Kawartha, Pine Ridge District Health Unit
	2408 Abitibi-Témiscamingue	3536 Halton Regional Health Unit
	2409 Côte-Nord	3537 City of Hamilton Health Unit
	2410 Nord-du-Québec	3538 Hastings and Prince Edward Counties Health Unit
	2411 Gaspésie - les-de-la-Madeleine	3539 Huron County Health Unit
	2412 Chaudière-Appalaches	3540 Chatham-Kent Health Unit
	2413 Laval	3541 Kingston, Frontenac & Lennox & Addington Health Unit
	2414 Lanaudière	3542 Lambton Health Unit
	2415 Laurentides	3543 Leeds, Grenville and Lanark District Health Unit
	2416 Montérégie	3544 Middlesex-London Health Unit
	2417 Nunavik	3546 Niagara Regional Area Health Unit
	2418 Terres-Cries-de-la-Baie-James	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 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
		BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE
		5911 East Kootenay
		5912 Kootenay-Boundary
		5913 Okanagan
		5914 Thompson/Cariboo
		5921 Fraser East
		5922 Fraser North
		5923 Fraser South
		5931 Richmond
		5932 Vancouver
		5933 North Shore/Coast Garibaldi
		5941 South Vancouver Island
		5942 Central Vancouver Island
		5943 North Vancouver Island
		5951 Northwest
		5952 Northern Interior
		5953 Northeast
		TERRITORIES / TERRITOIRES
		6001 Yukon
		6101 Northwest Territories / Territoires du Nord-Ouest
		6201 Nunavut



Table 6.1.1 Heart Disease Rates by Peer Group

Peer Group	Number of Health Regions	Principal Characteristics	Heart Disease Rate
A	23	<ul style="list-style-type: none"> • Urban-rural mix from coast to coast • Average percentage of Aboriginal population • Low male population • Slow population growth from 1996 to 2001 	5.5
B	14	<ul style="list-style-type: none"> • Mainly urban centers with moderately high population density • Low percentage of government transfer income • Rapid population growth from 1996 to 2001 	3.8
C	24	<ul style="list-style-type: none"> • Sparsely populated urban-rural mix from coast to coast • Average percentage of Aboriginal population • Negative population growth from 1996 to 2001 	6.8
D	10	<ul style="list-style-type: none"> • Rural regions mainly in the central Prairies • Moderate Aboriginal population • Moderately high percentage of government transfer income • Almost equal number of men and women • Negative population growth from 1996 to 2001 	5.9
E	24	<ul style="list-style-type: none"> • Mainly rural regions in Quebec, Ontario and the Prairies • High proportion of people recently moved to or within these regions since 1996 • Average percentage of Aboriginal population • Moderate population growth from 1996 to 2001 	5.8
F	5	<ul style="list-style-type: none"> • Northern and remote regions • Very high Aboriginal population • Moderately high percentage of government transfer income • Slightly higher male population • Moderate population growth from 1996 to 2001 	2.2E
G	3	<ul style="list-style-type: none"> • Largest metro centers with an average population density of 3,934 people per square kilometre • Low Aboriginal population • Moderate percentage of government transfer income • High female population 	4.9
H	13	<ul style="list-style-type: none"> • Rural northern regions • High Aboriginal population • High male population • Negative population growth from 1996 to 2001 	4.9
I	7	<ul style="list-style-type: none"> • Mainly rural Eastern regions • Very high percentage of government transfer income • Negative population growth from 1996 to 2001 • Low percentage of people having moved to or within these regions since 1996 	7.5



Table 6.1.2 Prevalence of Heart Disease in the Health Regions Belonging to Peer Group B

Health Region	Name	Heart Disease Rate
3530	Durham Regional Health Unit	5.6E
3536	Halton Regional Health Unit	5.1E
3551	City of Ottawa Health Unit	5.0E
3553	Peel Regional Health Unit	3.8
3565	Waterloo Health Unit	3.8E
3566	Wellington-Dufferin-Guelph Health Unit	3.5E
3568	Windsor-Essex County Health Unit	4.5E
3570	York Regional Health Unit	3.6E
4823	Calgary Health Unit	2.3E
4826	Capital Health	3.8E
5922	Fraser North Health Service Delivery Area	3.0E
5923	Fraser South Health Service Delivery Area	3.4E
5931	Richmond Health Service Delivery Area	4.3E
5933	North Shore/Garibaldi Health Service Delivery Area	2.8E



Reference maps

Health regions and peer groups

This series of reference maps show the boundaries, names and codes of health regions and peer groups in Canada, by province.



About the maps

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 ten 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 J which have been added to the health region codes in this map series.

There are 15 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, 2013](#) (from publication [82-402-X](#)) (names and codes).

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 (2013) 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 1 - Health regions – \(2013\) in Canada](#) (from publication [82-221-X](#)).

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 2011 health region boundaries and 2006 Census data are now available. There are currently ten peer groups identified by letters A through J.

See [Table 3 Health regions 2011 by peer group](#) (from publication [82-221-X](#)).

See [Table 4 Summary table of peer groups and principal characteristics](#) (from publication [82-221-X](#)).

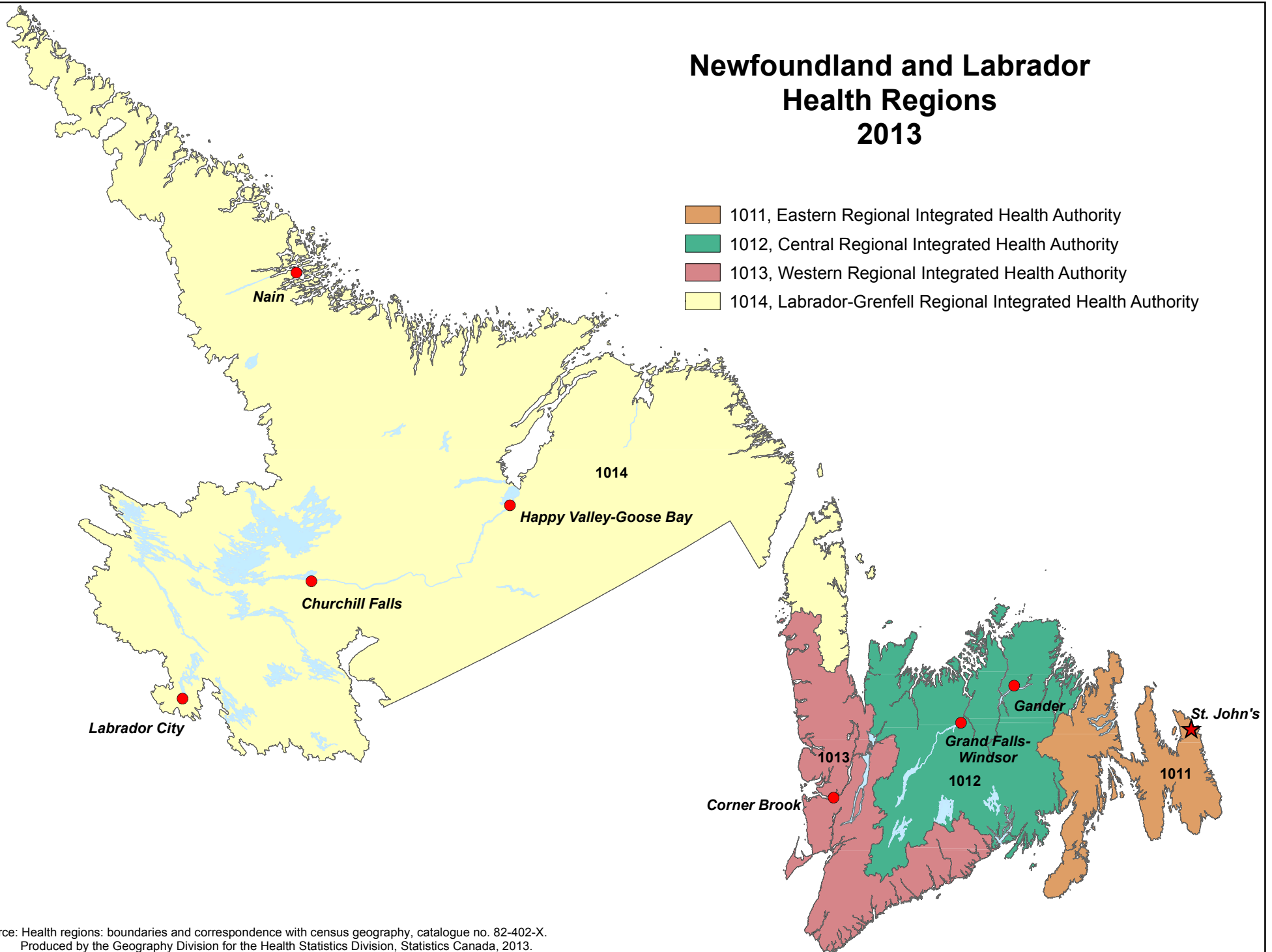
A more detailed discussion on the rationale and methods involved in the development of peer groups is available in "[Health Region \(2007\) Peer Groups Working Paper](#)" (from publication [82-221-X](#)).

Note:

1. Census division (CD) is the general term for provincially legislated areas (such as county, municipalité régionale de comté and regional district) or their equivalents. Census divisions are intermediate geographic areas between the province/territory level and the municipality (census subdivision). (Statistics Canada 2007b)

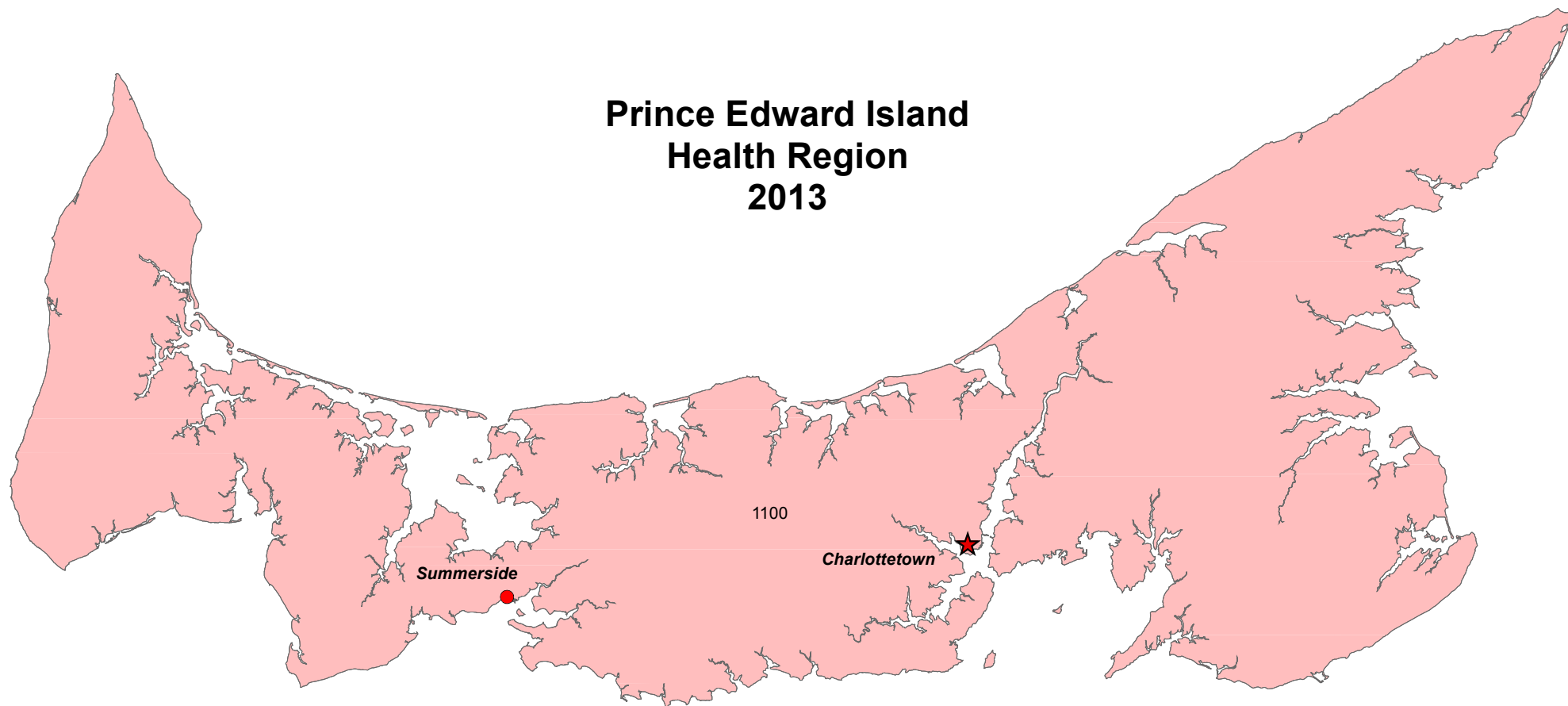
Newfoundland and Labrador Health Regions 2013

- 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



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, 2013.

Prince Edward Island Health Region 2013

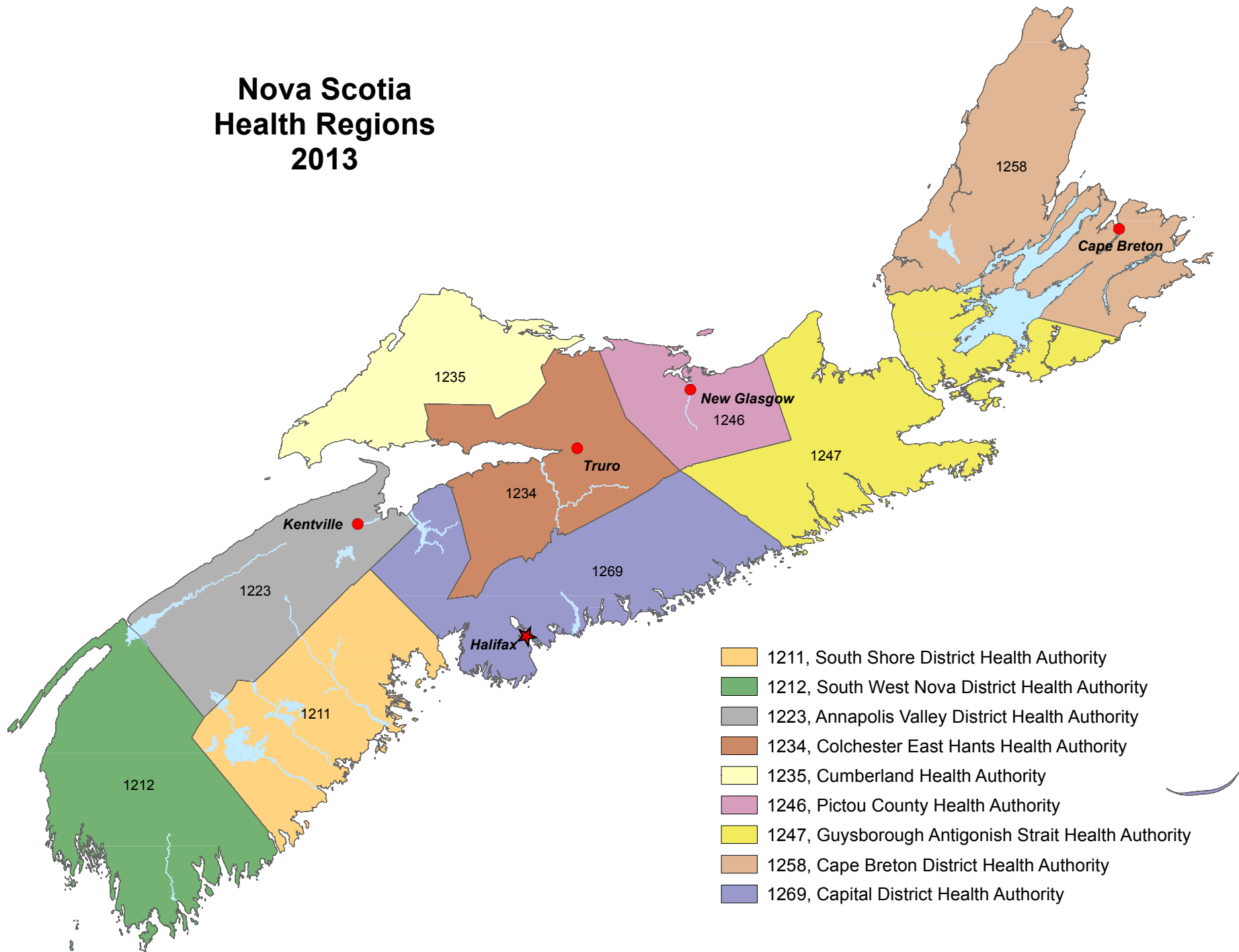


1100, Prince Edward Island

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, 2013.

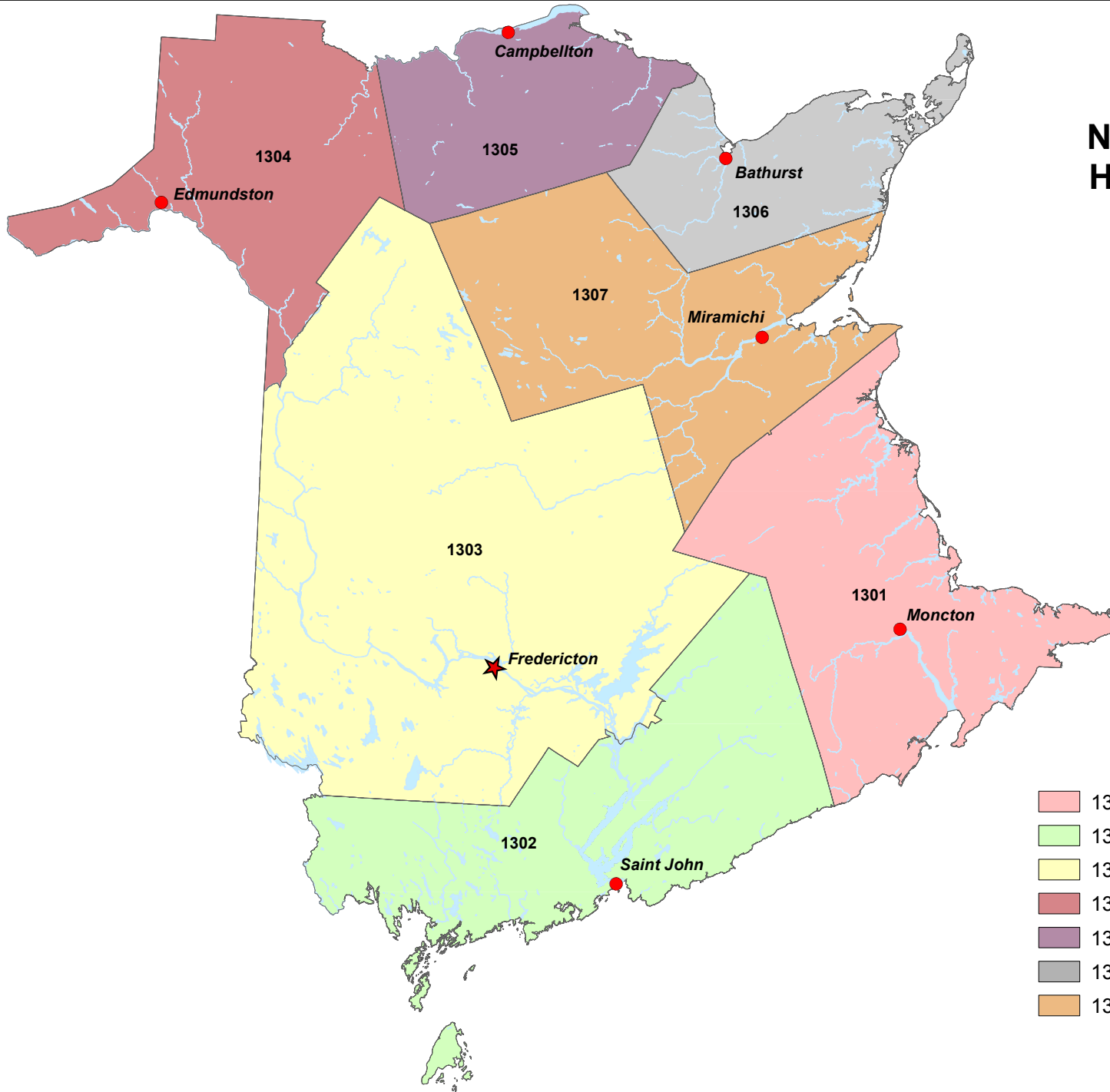


Nova Scotia Health Regions 2013



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, 2013.

New Brunswick Health Regions 2013

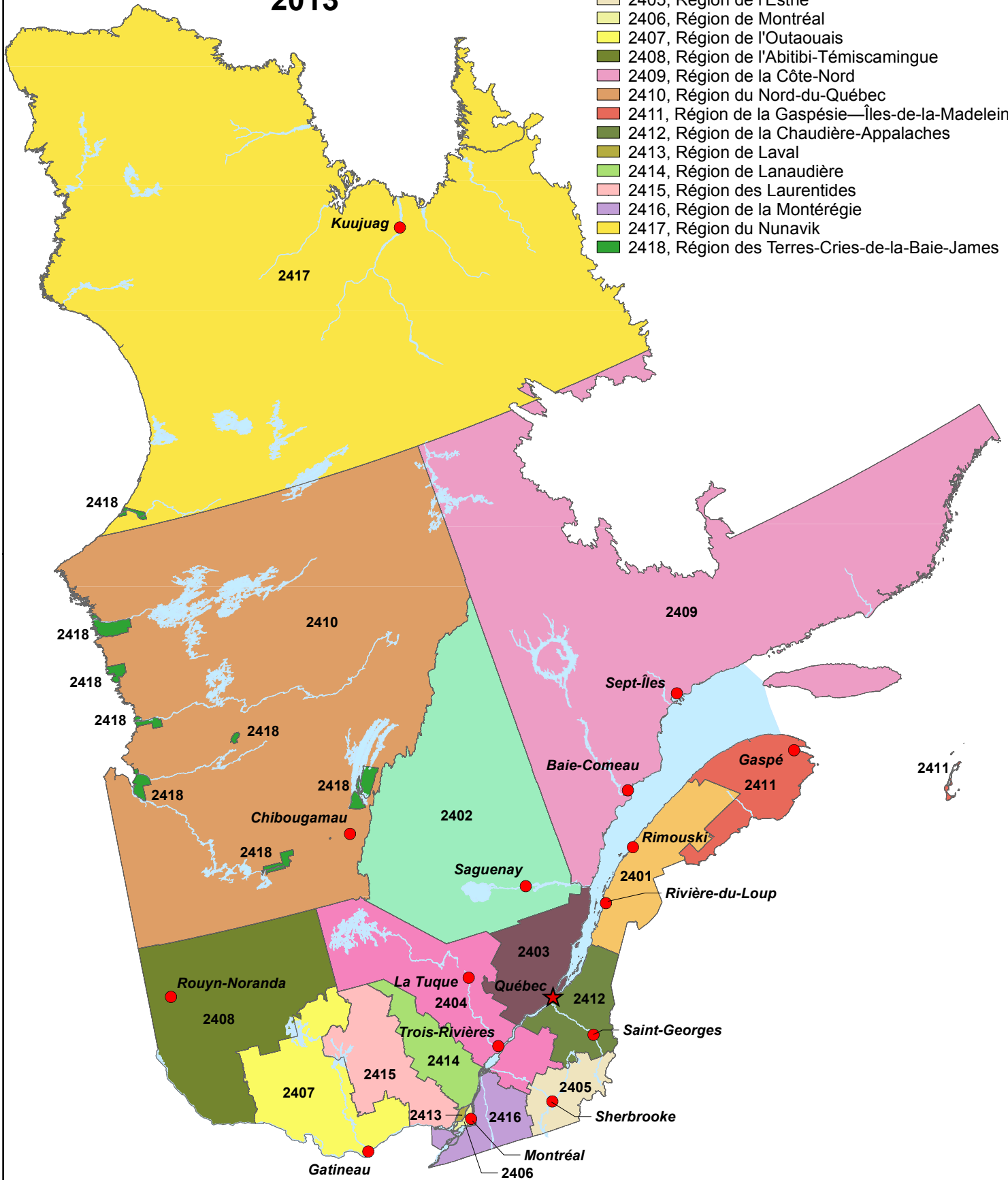


- 1301, Zone 1 (Moncton area)
- 1302, Zone 2 (Saint John area)
- 1303, Zone 3 (Fredericton area)
- 1304, Zone 4 (Edmundston area)
- 1305, Zone 5 (Campbellton area)
- 1306, Zone 6 (Bathurst area)
- 1307, Zone 7 (Miramichi area)

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, 2013.

Quebec Health Regions 2013

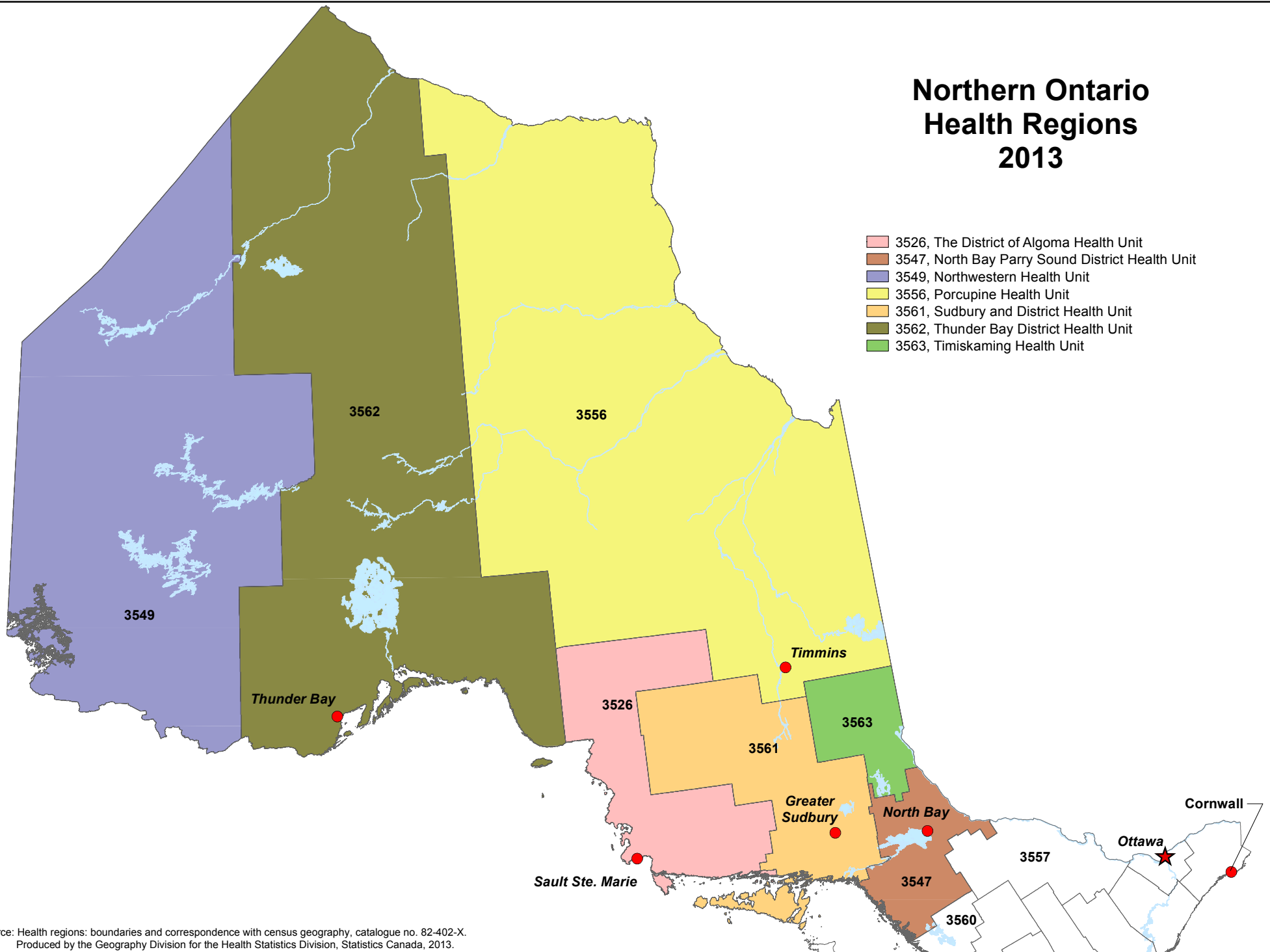
- 2401, Région du Bas-Saint-Laurent
- 2402, Région du Saguenay—Lac-Saint-Jean
- 2403, Région de la Capitale-Nationale
- 2404, Région de la Mauricie et du Centre-du-Québec
- 2405, Région de l'Estrie
- 2406, Région de Montréal
- 2407, Région de l'Outaouais
- 2408, Région de l'Abitibi-Témiscamingue
- 2409, 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



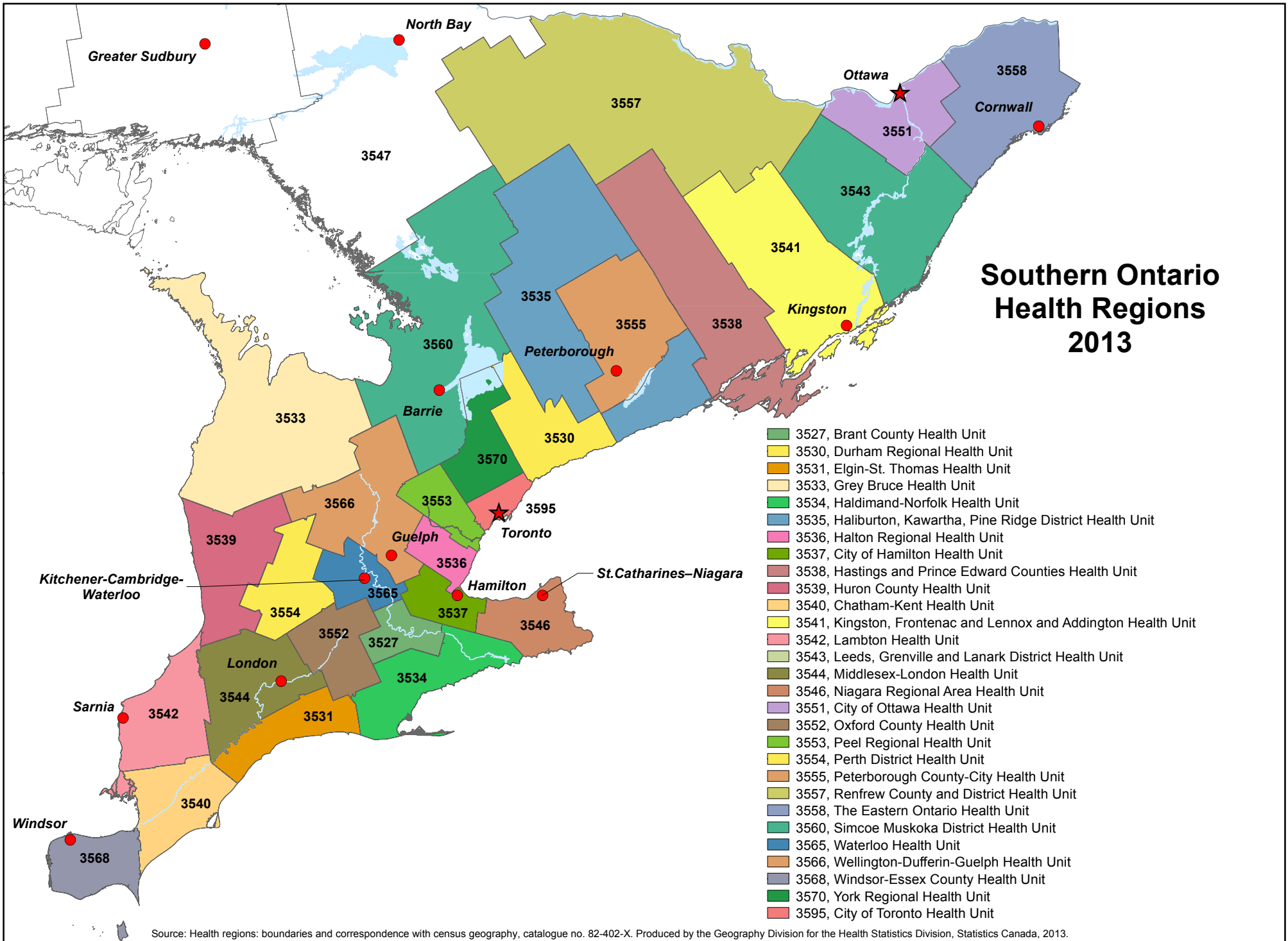
Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2013.

Northern Ontario Health Regions 2013

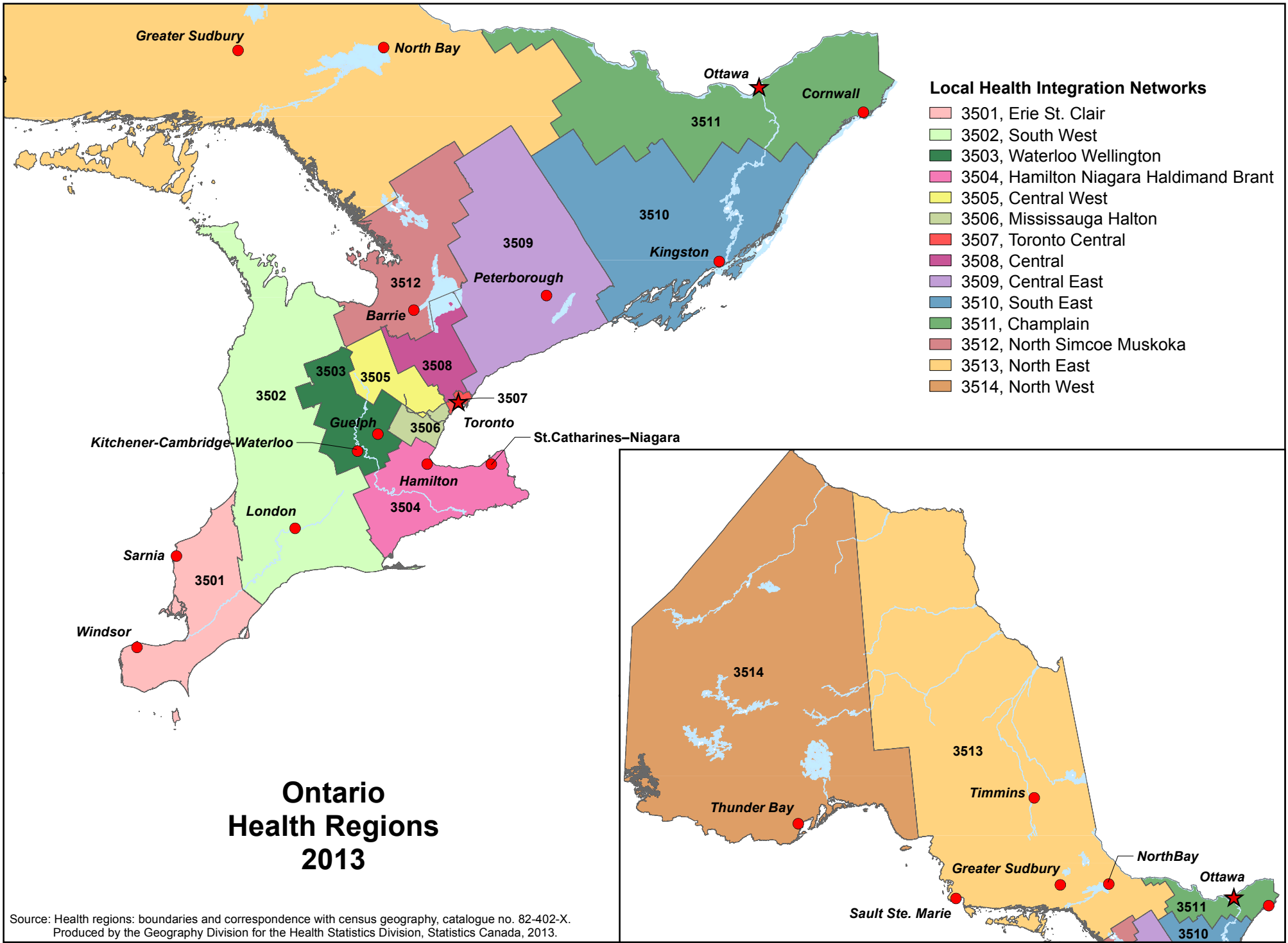
- 3526, The District of Algoma Health Unit
- 3547, North Bay Parry Sound District Health Unit
- 3549, Northwestern Health Unit
- 3556, Porcupine Health Unit
- 3561, Sudbury and District Health Unit
- 3562, Thunder Bay District Health Unit
- 3563, Timiskaming Health Unit



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, 2013.

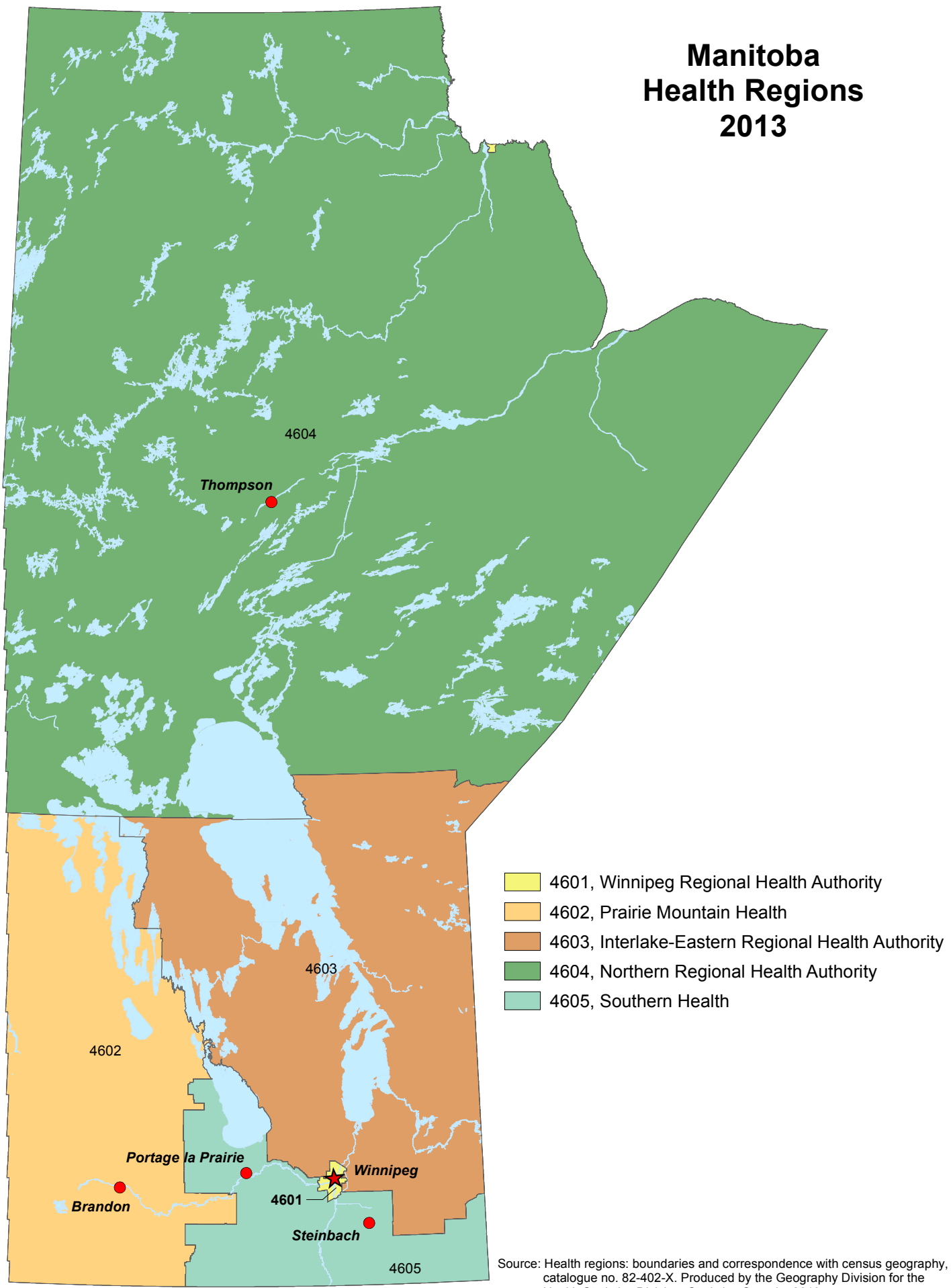


Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X. Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2013.



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, 2013.

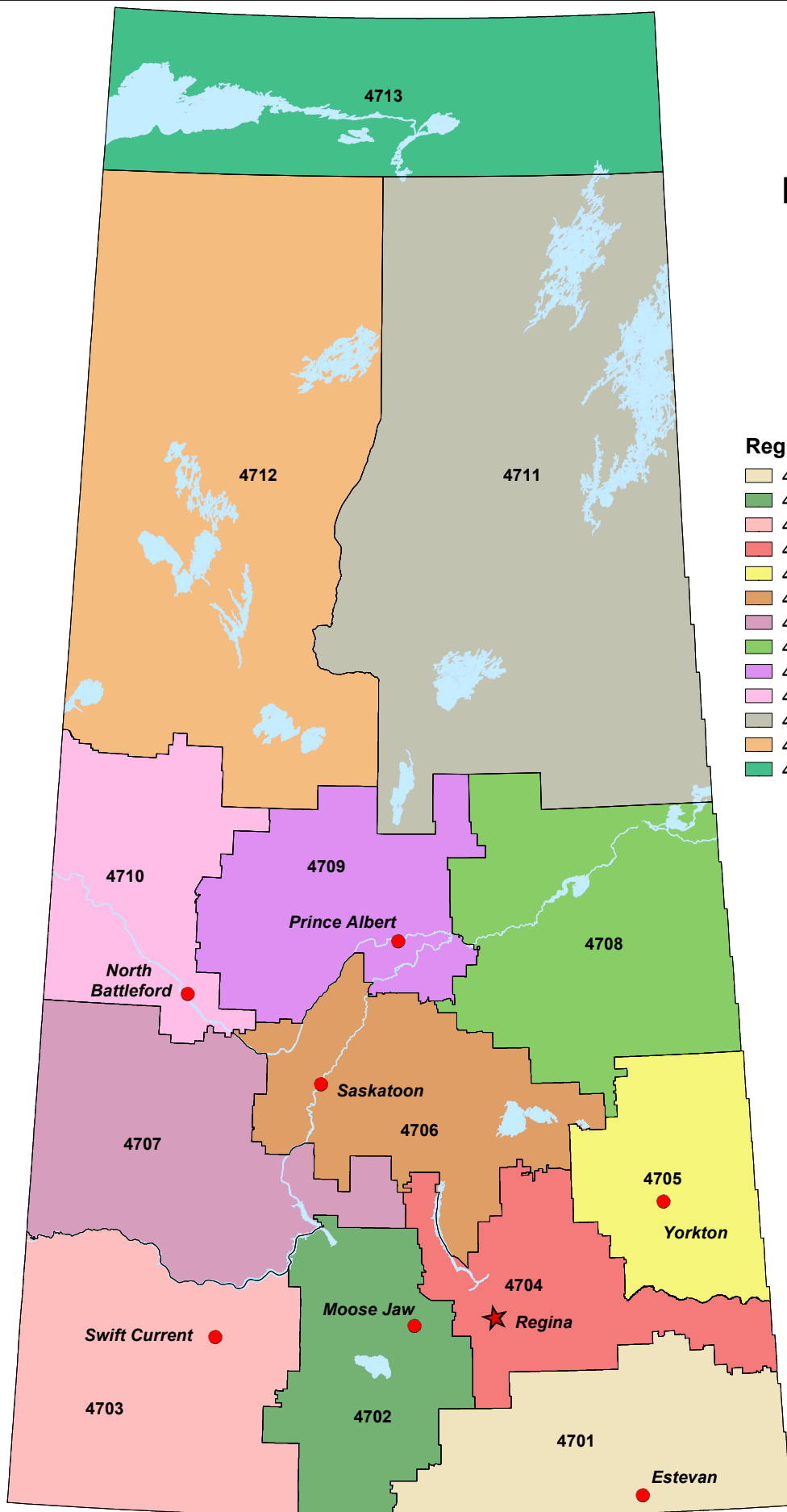
Manitoba Health Regions 2013



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

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, 2013.

Saskatchewan Health Regions 2013



Regional Health Authorities

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

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, 2013.

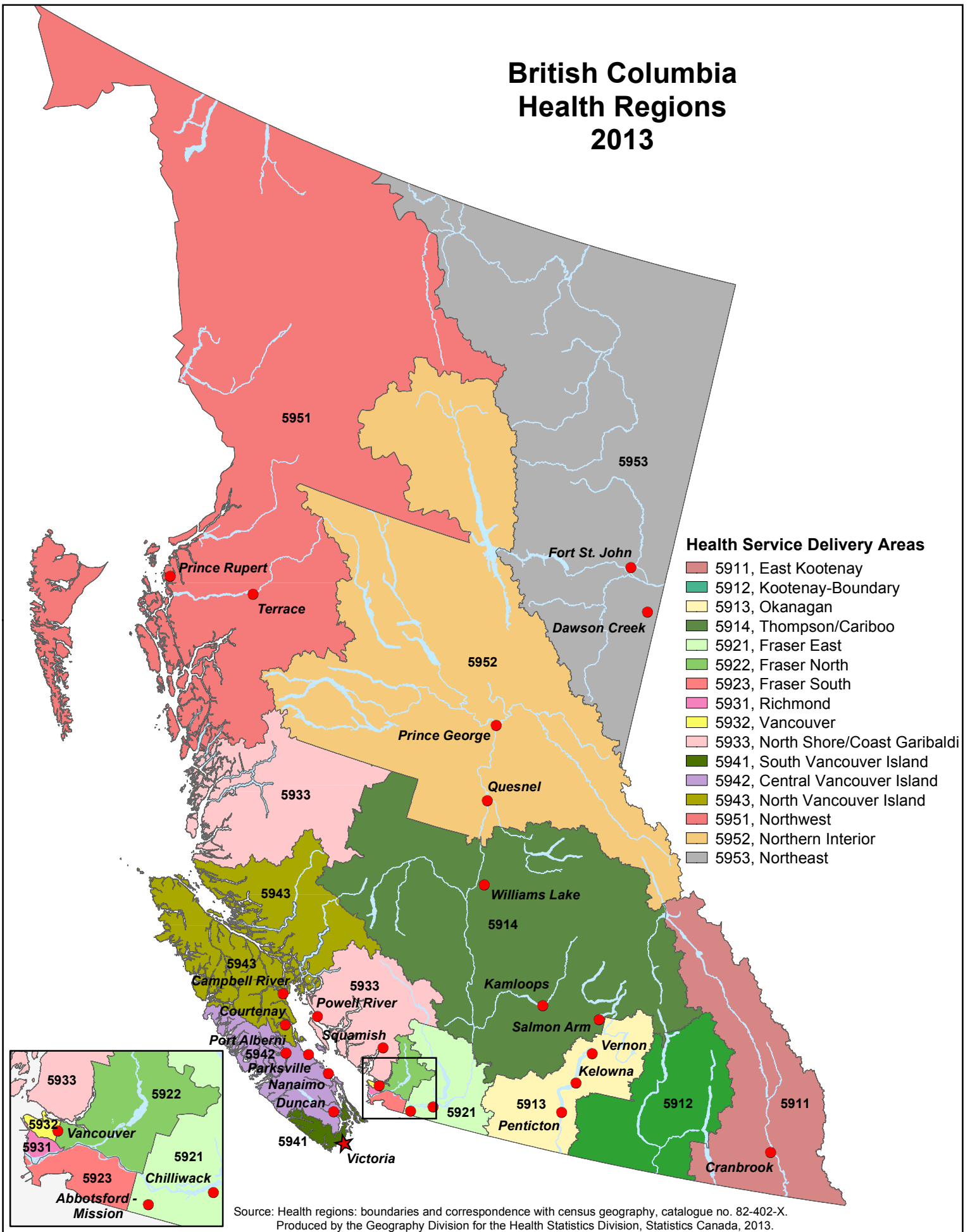
Alberta Health Regions 2013

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



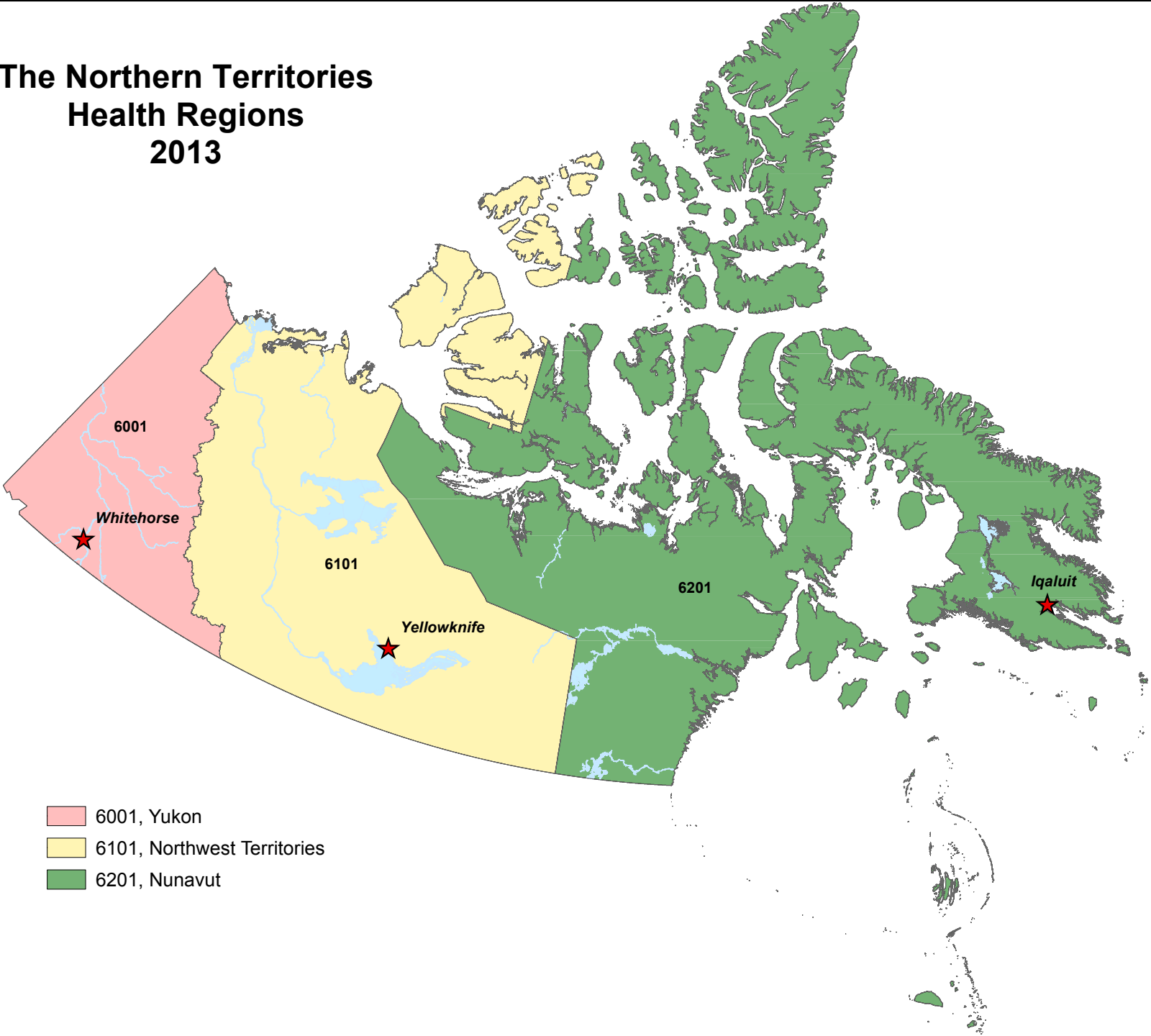
Source: Health regions: boundaries and correspondence with census geography, catalogue no. 82-402-X.
 Produced by the Geography Division for the Health Statistics Division, Statistics Canada, 2013.

British Columbia Health Regions 2013



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, 2013.

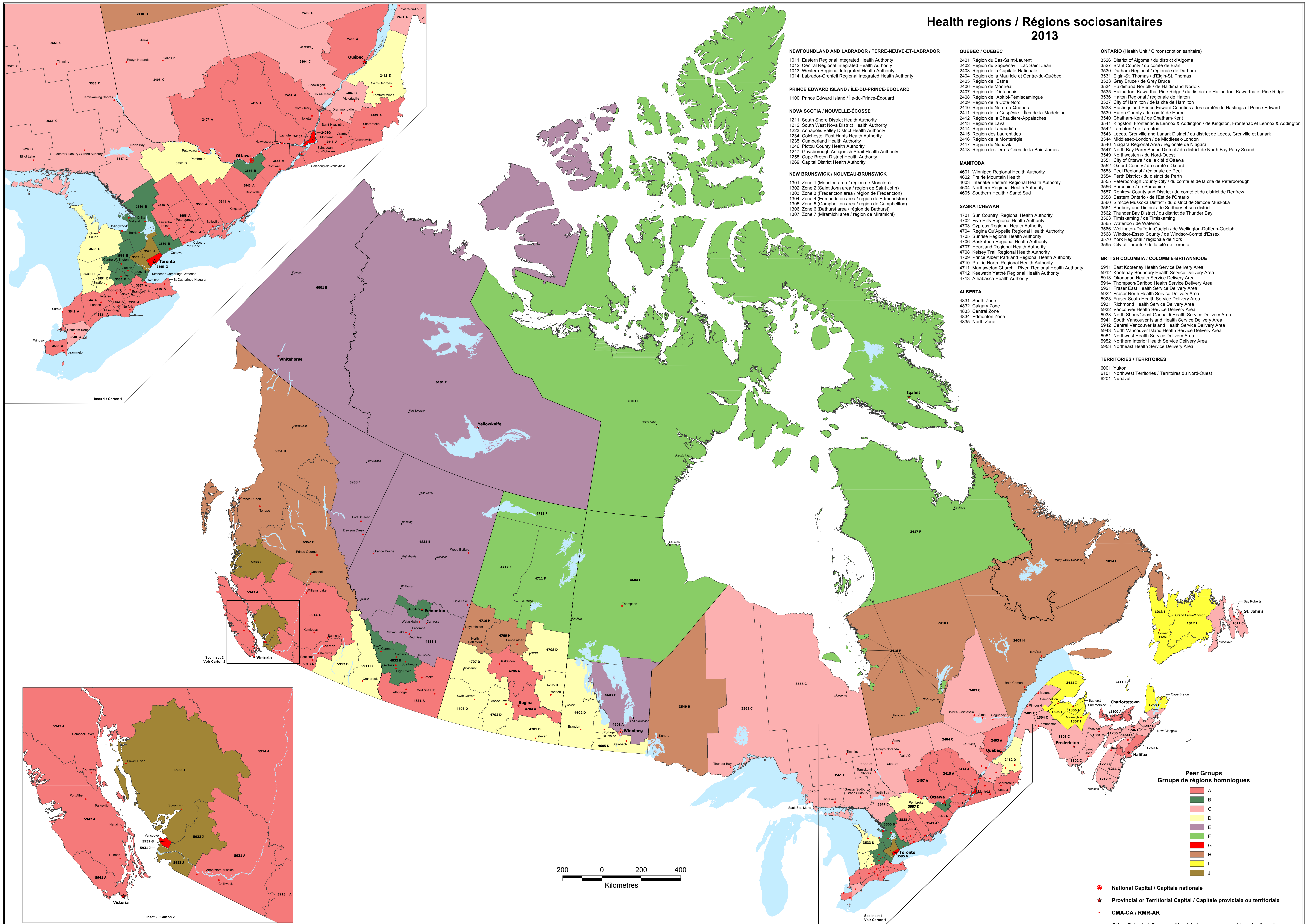
The Northern Territories Health Regions 2013



- 6001, Yukon
- 6101, Northwest Territories
- 6201, Nunavut

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Health regions / Régions socio-sanitaires 2013



NEWFOUNDLAND AND LABRADOR / TERRE-NEUVE-ET-LABRADOR

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

PRINCE EDWARD ISLAND / ÎLE-DU-PRINCE-ÉDOUARD

- 1100 Prince Edward Island / Île-du-Prince-Édouard

NOVA SCOTIA / NOUVELLE-ÉCOSSE

- 1211 South Shore District Health Authority
- 1212 South West Nova District Health Authority
- 1223 Annapolis Valley District Health Authority
- 1234 Colchester East Hants Health Authority
- 1235 Cumberland Health Authority
- 1246 Pictou County Health Authority
- 1247 Guysborough Antigonish Strait Health Authority
- 1258 Cape Breton District Health Authority
- 1269 Capital District Health Authority

NEW BRUNSWICK / NOUVEAU-BRUNSWICK

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

QUEBEC / QUÉBEC

- 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 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

MANITOBA

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

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 Kewatin Yatthe Regional Health Authority
- 4713 Athabasca Health Authority

ALBERTA

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

ONTARIO (Health Unit / Circonscription sanitaire)

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

BRITISH COLUMBIA / COLOMBIE-BRITANNIQUE

- 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

TERRITORIES / TERRITOIRES

- 6001 Yukon
- 6101 Northwest Territories / Territoires du Nord-Ouest
- 6201 Nunavut

Peer Groups / Groupe de régions homologues

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J

- National Capital / Capitale nationale
- ★ Provincial or Territorial Capital / Capitale provinciale ou territoriale
- CMA-CA / RMR-AR
- Other Selected Communities / Autres communautés sélectionnées



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, 2013.
 Source : Régions socio-sanitaires : limites et correspondance avec la géographie du recensement, catalogue no. 82-402-X. Préparé par la Division de la géographie pour la Division de la statistique de la santé, Statistique Canada, 2013.