

5.7

The Geography of Wellness Outcomes in BC

This section of the Atlas provides a series of health and wellness measures that logically follow as the outcomes from many of the indicators presented earlier in the Atlas. In fact, all of the sections so far build upon each other in some manner or form to result in these wellness outcomes.

There are 53 maps in total and 11 separate measures. All but one of the measures is derived from the CCHS. This is consistent with the personal and subjective nature of how wellness is defined. Each of the 11 measures (except for life expectancy at birth) is represented by five maps and a table and provides data for the total population, for males and females separately, and for teens and seniors, the model that has been used throughout the Atlas for CCHS-derived indicators. Again, the half-full or asset approach is followed rather than the half-empty or deficit approach.

The maps that follow are divided into several groupings. The first map looks at self-reported health, while the next two look at mental health reporting. One deals directly with mental health while the second provides information on the question about feeling sad, blue, or depressed for 2 or more weeks in the previous 12 months.

The next group of indicators deals with conditions that might restrict normal activity. These include lack of chronic conditions based on an amalgamation of responses to over 30 different questions in the CCHS. The next two deal with being injury-free over the previous 12 months, so that activities are not restricted. The following two indicators explore the level of being disability-free so that activities both inside and outside the home are not affected.

The Health Utilities Index is a combination of the results from several CCHS questions, and the higher the score, the healthier and more well the individual. This is followed by general satisfaction with life, an important wellness indicator and asset.

Finally, three maps are presented that show the life expectancy of BC residents for the total population, and separately for males and females.

Self-reported health is good to excellent

As noted earlier in the Atlas, individual perception of health is an important wellness asset. The CCHS asked the question “In general would you say your health is...?” In response, nearly 9 out of every 10 BC residents (88.14%) surveyed answered that they felt their health was good, very good, or excellent. For Aboriginal respondents, 85.66% felt their health was good to excellent, but this lower value was not statistically significantly different from the provincial average.

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
022 Fraser North	89.89	89.96	89.82	94.29	91.92	73.70†
031 Richmond	89.80	93.21	86.61	95.96	93.46	66.49†
043 North Vancouver Island	88.90	90.03	87.79	86.13	93.24	71.84†
033 North Shore/Coast Garibaldi	88.75	89.83	87.73	92.90	89.90	80.53†
021 Fraser East	88.53	90.97	86.15	92.30	91.56	71.56†
014 Thompson Cariboo Shuswap	88.33	89.75	86.92	95.43	90.27	74.31†
013 Okanagan	88.30	86.96	89.56	96.16	91.31	74.21†
041 South Vancouver Island	88.07	87.19	88.86	95.89	89.51	78.09†
023 Fraser South	88.02	89.74	86.33	97.12†	89.15	72.49†
032 Vancouver	87.21	90.08	84.41	94.30	89.28	71.54†
042 Central Vancouver Island	86.89	86.87	86.92	90.51	89.63	75.52†
012 Kootenay Boundary	86.88	87.62	86.14	96.45	88.03	75.81
053 Northeast	86.84	87.05	86.60	87.69	89.86	59.44†
052 Northern Interior	86.55	81.59†	91.78†	94.74	87.57	67.55†
011 East Kootenay	86.27	88.04	84.45	98.66†	88.16	67.10†
051 Northwest	86.17	87.08	85.19	98.30†	86.36	65.55†
999 Province	88.14	89.00	87.32	94.54†	90.17	73.48†

‡ Age group differs significantly from 20-64 group
 † Males differ significantly from females

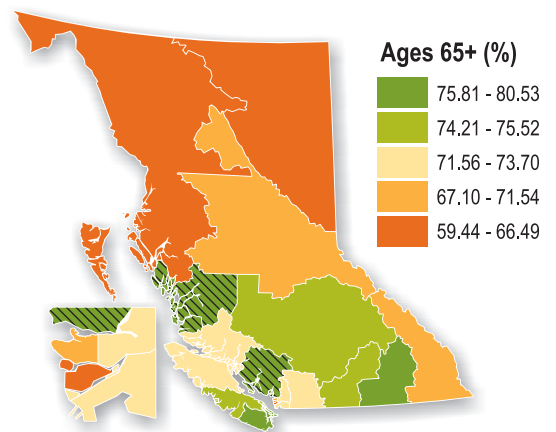
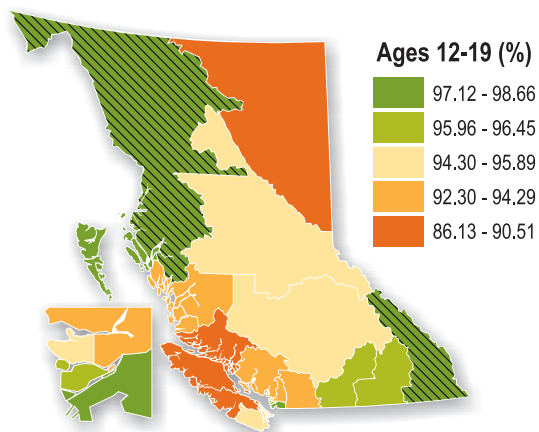
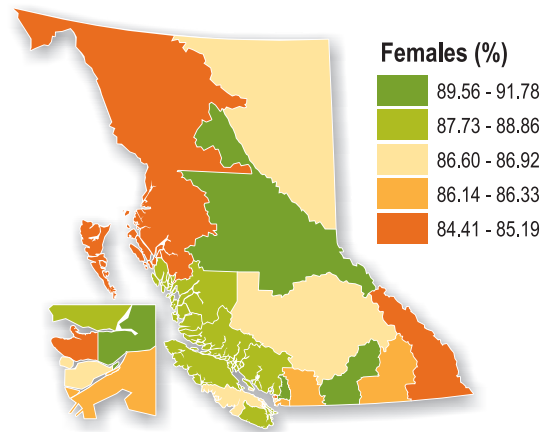
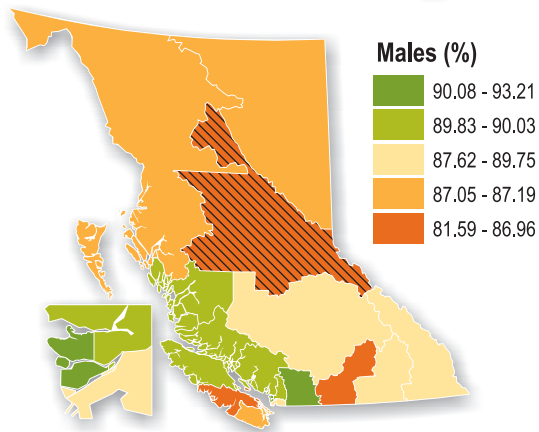
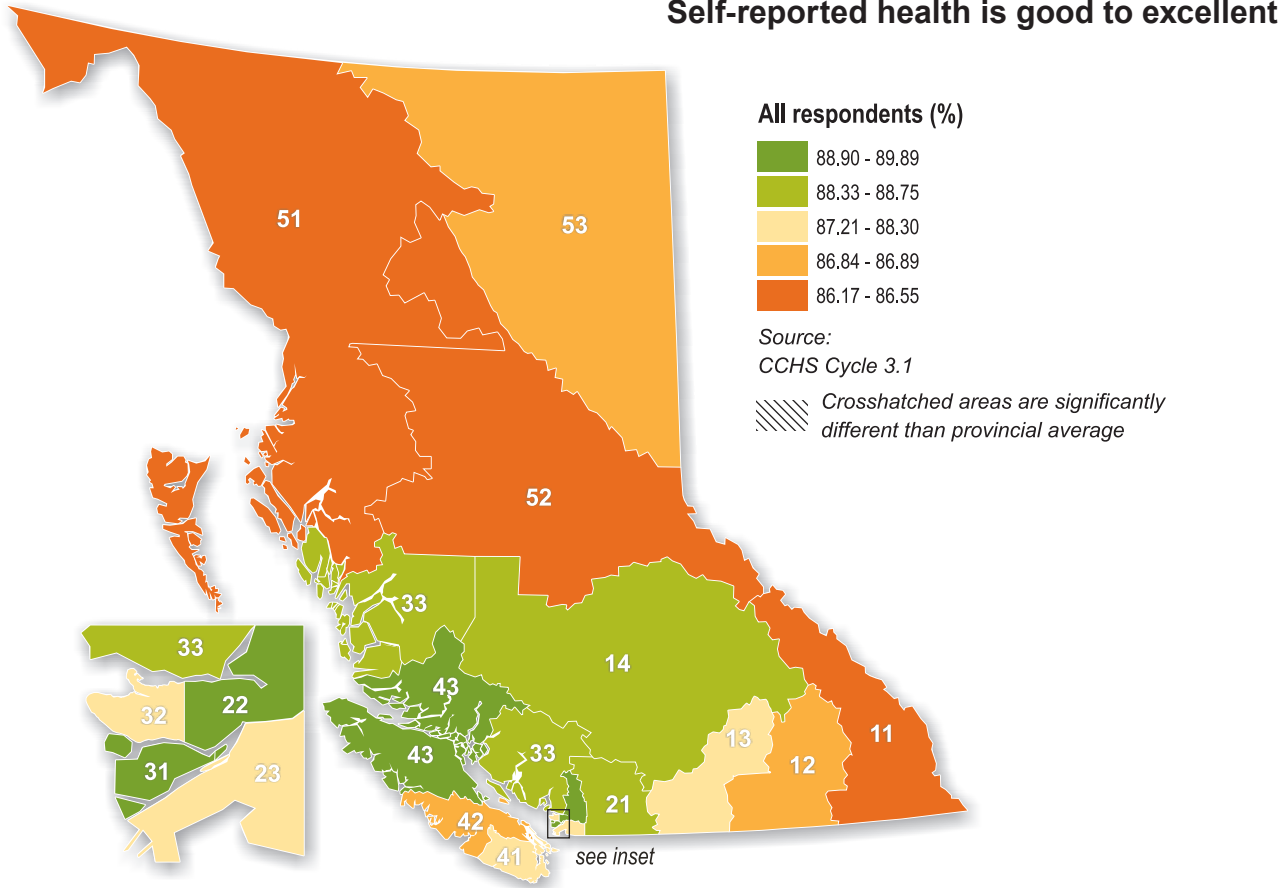
While the highest values in BC were recorded in Fraser North and Richmond (both nearly 90%), the lowest values were only marginally lower in the north and southeast of the province. Provincially, males generally had higher levels of self-reported good to excellent health at 89%, compared to 87.32% for females; this difference was not significant. Males in most HSDAs reported higher good to excellent health than females, but they were not significantly different statistically. For Northern Interior, however, males (81.59%) were significantly lower than females (91.78%) in the HSDA (see above table), and significantly lower than the provincial average for males.

In terms of age, teens for the province overall were significantly more likely to perceive their health as good to excellent than the two older age groups, and Fraser South, East Kootenay, and Northwest teens were significantly higher than the older age cohorts in their HSDAs. Provincially, seniors as a group, at 73.48%, had lower values. In all but one HSDA, Central Vancouver Island, the percent of seniors reporting self-perceived health as good to excellent was significantly lower than younger age groups in their HSDAs.

Among teens, the highest values were recorded in the extreme northwest and southeast of the province. East Kootenay and Northwest both had values greater than 98%, and both were significantly statistically higher than the provincial average for their teen peers elsewhere in the province. The lowest value HSDAs were in the central and northern part of Vancouver Island and in the extreme northeast of the province.

For seniors, there was a large geographical variation in self-perceived health. North Shore/Coast Garibaldi, with 80.53% of its seniors indicating good to excellent health, was significantly higher statistically than the average for all seniors provincially. In contrast, Northeast had fewer than 6 out of every 10 seniors recording good to excellent health.

Self-reported health is good to excellent



Self-reported mental health is good to excellent

Feelings about mental health is also an important indicator of wellness among individuals. The CCHS asked respondents: “*In general, how would you say your mental health is...?*” and more than 9 out of every 10 (92.30%) respondents answered that it was good, very good, or excellent. Although the difference was small, the value for Canadians as a whole was significantly higher statistically at 93.22%, indicating that, overall, Canadians have a higher level of self-reported mental health than BC residents. For BC Aboriginal respondents, 89.82% felt their mental health was good to excellent. This response value was not statistically significantly different from the overall BC provincial value.

For all respondents, the geographical differences were small, although the lowest values occurred in the southwest of the province and the southern half of Vancouver Island. Only Fraser South respondents had significantly higher values than the provincial average. The difference between the highest and lowest value HSDAs was less than 4 percentage points.

Males as a group had marginally higher perceived mental health values than females, but not significantly so. There were no HSDAs for either males or females that were significantly different than the provincial averages by gender, indicating no real geographical variation through the province.

Among the three age groups (see table above), seniors were significantly less likely to perceive their mental health as good to excellent than were the other two age groups, but no individual HSDA had significantly lower values for seniors than other age groups.

For teens, there were some important geographical variations: 12- to 19-year-olds in the extreme corners of the province rated their mental health significantly better than their peers in the rest of BC. Northwest (98.69%) and East Kootenay (97.73%) teens both had significantly high values, statistically, when compared

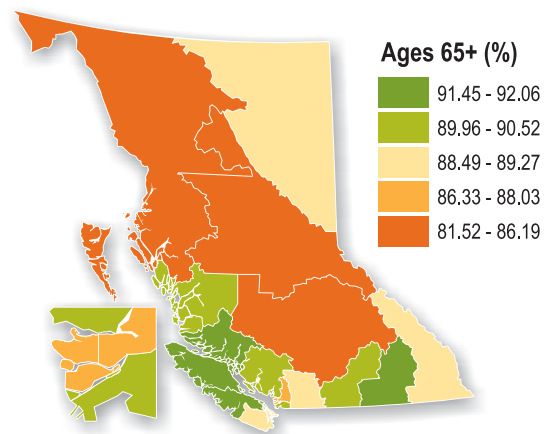
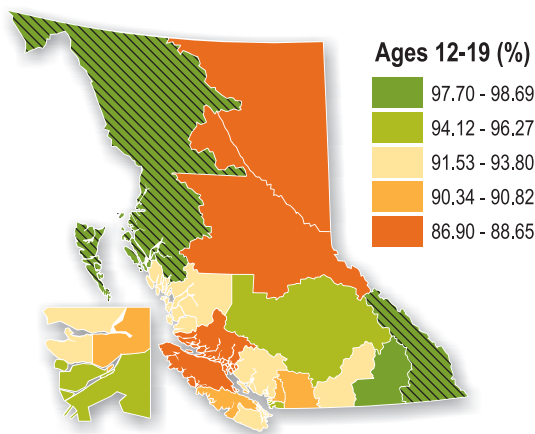
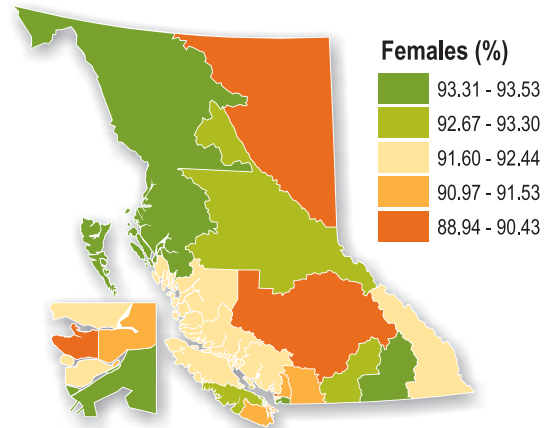
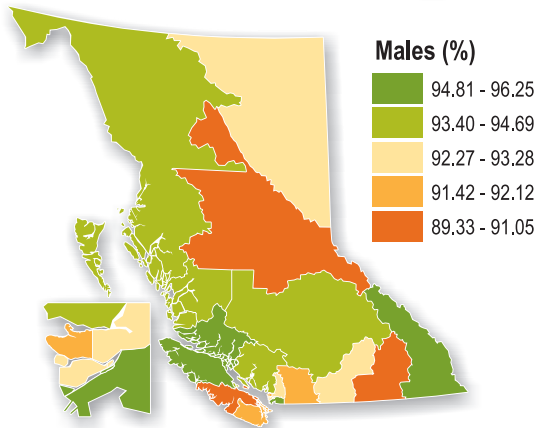
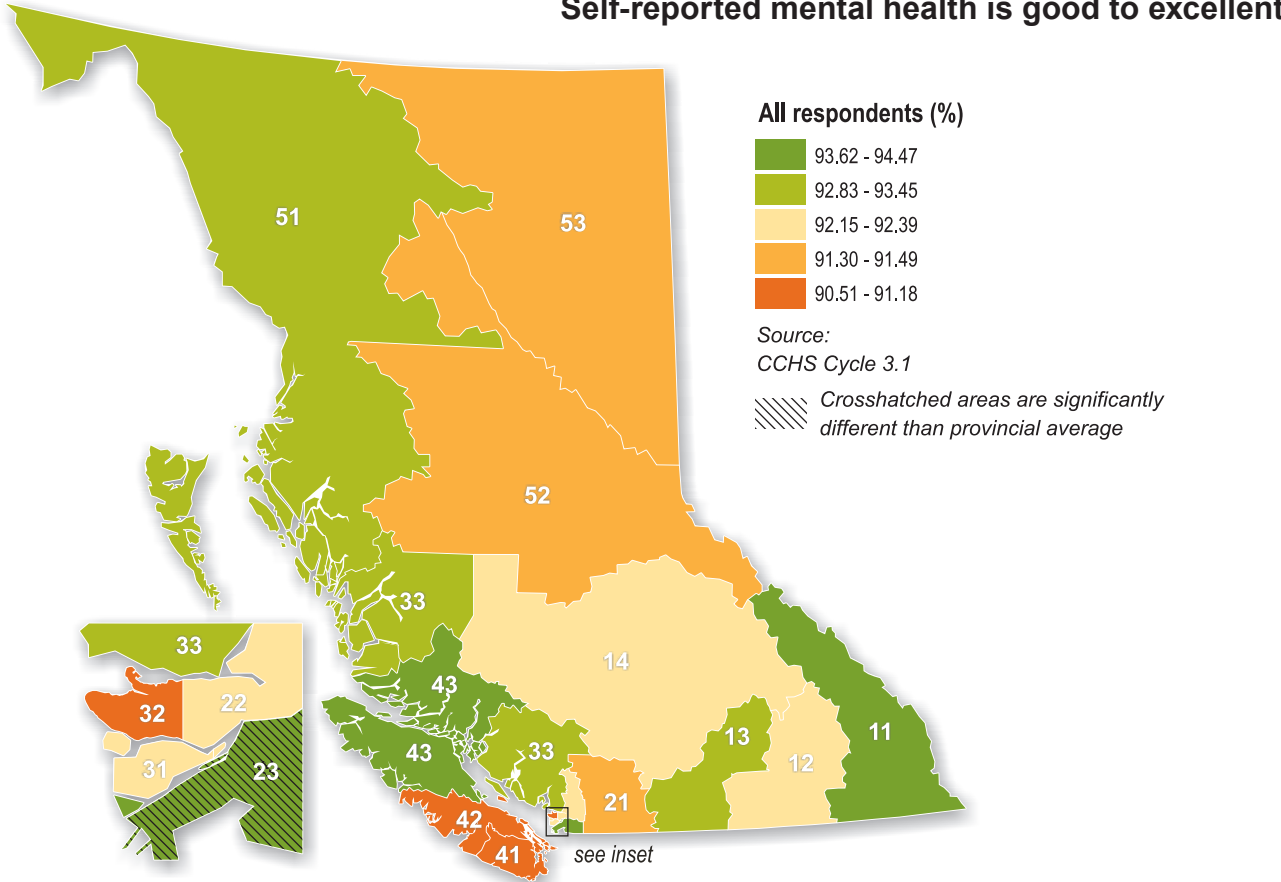
Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
023 Fraser South	94.47	95.43	93.53	94.12	95.34	89.96
011 East Kootenay	93.95	96.25	91.60	97.73	94.28	89.27
043 North Vancouver Island	93.62	94.81	92.44	86.93	95.26	92.06
033 North Shore/Coast Garibaldi	93.45	94.69	92.28	91.53	94.39	90.52
051 Northwest	93.42	93.40	93.44	98.69†	93.88	81.52
013 Okanagan	92.83	92.34	93.30	93.80	93.55	90.02
022 Fraser North	92.39	93.28	91.53	90.34	93.44	87.93
031 Richmond	92.34	92.27	92.40	95.03	92.80	88.03
012 Kootenay Boundary	92.17	91.05	93.31	97.70	91.38	91.45
014 Thompson Cariboo Shuswap	92.15	94.21	90.10	96.27	92.77	86.19
053 Northeast	91.49	92.47	90.43	86.90	92.79	88.62
052 Northern Interior	91.45	89.96	93.02	88.65	92.76	85.93
021 Fraser East	91.30	91.57	91.03	90.82	91.91	88.99
041 South Vancouver Island	91.18	91.42	90.97	93.78	91.50	88.49
042 Central Vancouver Island	91.03	89.33	92.67	90.53	90.89	91.82
032 Vancouver	90.51	92.12	88.94	93.69	90.92	86.33
999 Province	92.30	92.90	91.72	92.71	92.96	88.83†

† Age group differs significantly from 20-64 group

to their provincial counterparts. The former also had significantly higher values than older age cohorts in the HSDA.

For the 20 to 64 age group, Fraser South in the lower mainland had significantly higher reported mental health than the provincial average for this age cohort.

Self-reported mental health is good to excellent



Did not feel sad or blue for two or more weeks in the past year

Sometimes individuals, while not clinically depressed, can get “down in the dumps,” thus interfering with their enjoyment of life and overall wellness. The CCHS asked the question: “*During the past 12 months was there ever a time when you felt sad, blue, or depressed for two weeks or more in a row?*” and 85.89% of respondents answered “never.” It should be noted that the value is less than the value for the previous question on reported mental health.

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
051 Northwest	89.03	90.56	87.38	94.21	88.59	84.15
023 Fraser South	88.64	91.32	86.01	89.77	89.46	82.87
053 Northeast	88.06	89.09	86.94	87.79	87.89	89.98
013 Okanagan	87.79	90.33	85.40	86.25	87.85	88.49
012 Kootenay Boundary	87.69	87.76	87.62	95.81†	86.12	88.20
022 Fraser North	87.27	89.86	84.75	84.50	87.61	87.70
031 Richmond	86.95	89.17	84.88	95.57‡	86.93	80.96
043 North Vancouver Island	86.02	91.96†	80.13†	85.96	85.70	87.52
011 East Kootenay	85.69	90.44	80.82	87.88	84.75	88.15
021 Fraser East	85.59	87.09	84.13	86.15	85.61	84.99
014 Thompson Cariboo Shuswap	85.33	90.50†	80.20†	87.04	85.65	82.58
041 South Vancouver Island	84.39	89.57†	79.72†	88.39	83.52	85.39
033 North Shore/Coast Garibaldi	83.90	88.92†	79.11†	84.03	84.05	83.13
032 Vancouver	83.70	84.92	82.51	90.87	82.97	83.51
052 Northern Interior	83.23	85.75	80.58	86.99	82.86	80.54
042 Central Vancouver Island	82.67	84.25	81.15	81.21	82.24	85.02
999 Province	85.89	88.70†	83.17†	87.63	85.81	84.95

‡ Age group differs significantly from 20-64 group
† Males differ significantly from females

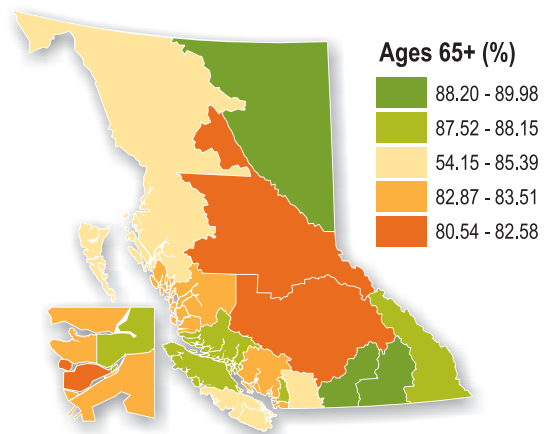
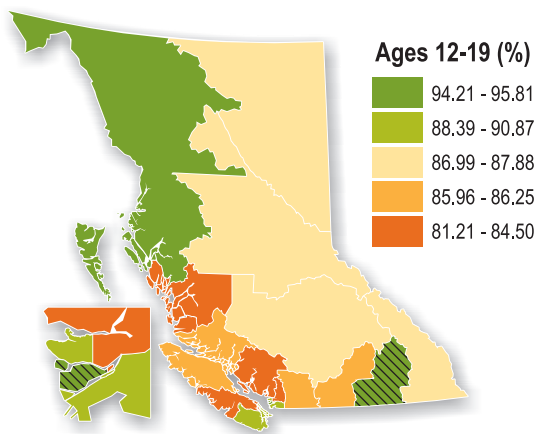
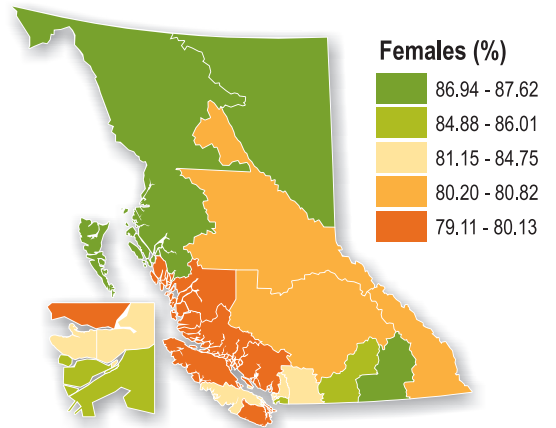
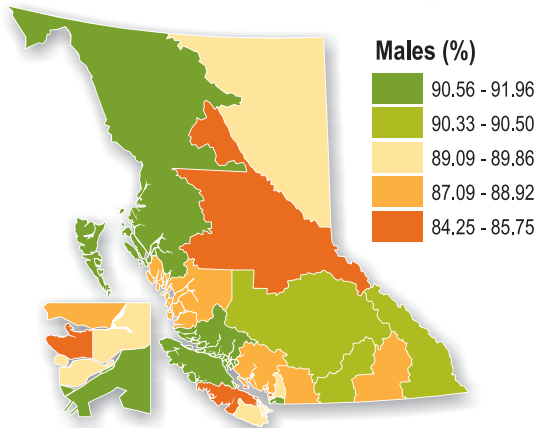
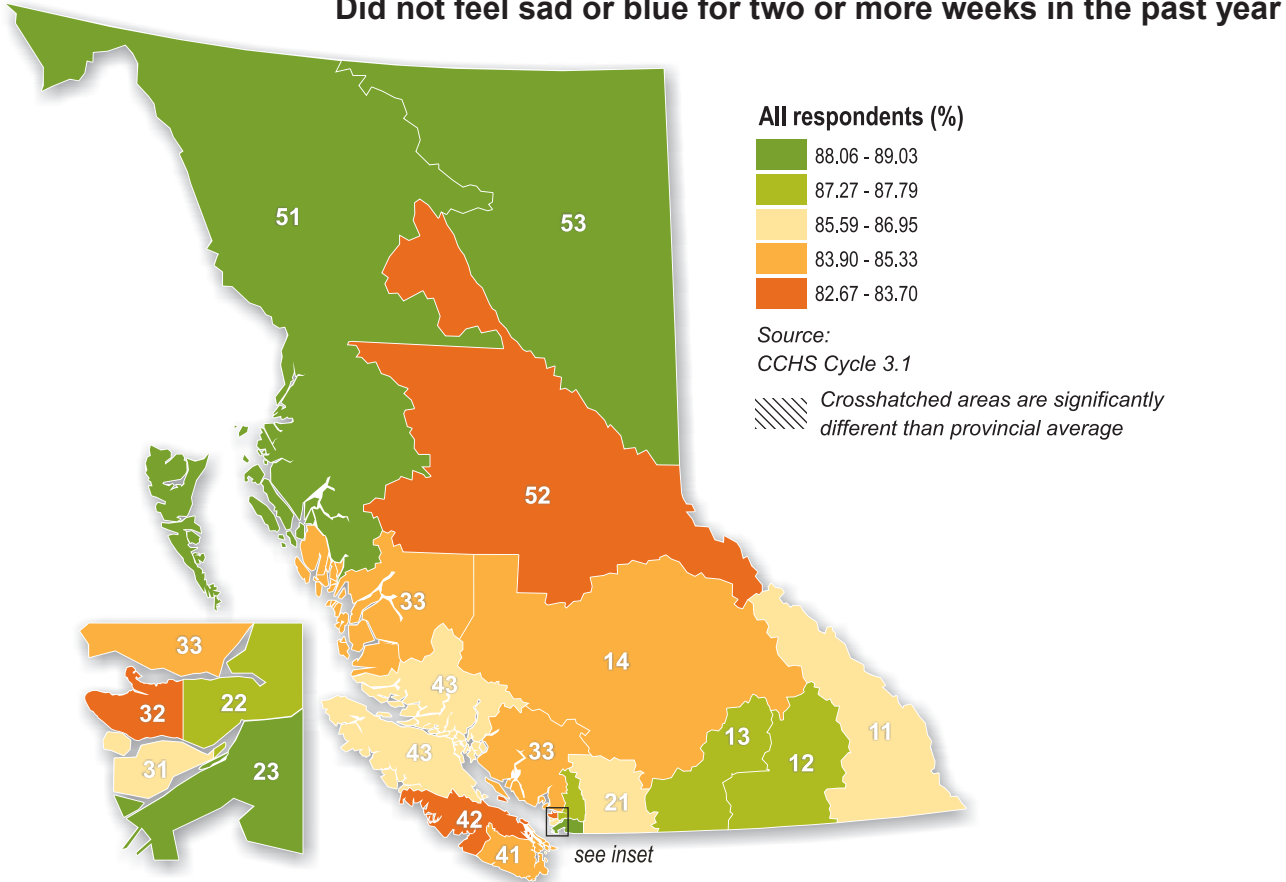
For all respondents, the range in values between the highest and lowest value regions was small (less than 7 percentage points) and there was no significant geographical variation. The highest value was Northwest (89.03%) and the lowest was Central Vancouver Island (82.67%).

Geographically, there were no significant differences among males and females as separate groups. A look at the above table, however, shows that there was a significant difference between the genders based on the provincial average: males overall were significantly more likely to never feel sad, blue, or depressed for two weeks or more (88.70%) when compared to females (83.17%). The difference between the genders was consistent for each HSDA individually, and for North Vancouver Island, Thompson Cariboo Shuswap, South Vancouver Island, and North Shore/Coast Garibaldi these differences were significant statistically.

While there was a reduction with age in those never feeling sad, blue, or depressed for two or more weeks in a row in the previous 12 months, the differences were not significant. Among 12- to 19-year-olds, two HSDAs in different geographical regions were significantly less likely to feel sad, blue, or depressed for two or more weeks in a row than the teen average for the province: these were Richmond in the southwest and Kootenay Boundary in the south east. With values in excess of 95%, the teens in these two HSDAs also had significantly higher values statistically than the other age groups in their regions.

There were no significant differences among seniors geographically, although for the 20 to 64 age group, Fraser South in the southwest of the province had a significantly higher value than the same age cohort for the province as a whole.

Did not feel sad or blue for two or more weeks in the past year



No chronic conditions

As part of the CCHS, respondents were asked to answer “yes” or “no” to over 30 individual questions concerning different chronic conditions, including food allergies, asthma, arthritis/rheumatism, high blood pressure, chronic bronchitis, diabetes, heart disease, cancer, cataracts, and several mental disorders, to mention just a few. The results of those who answered “no” to all of the questions are referred to here as having no chronic conditions—an important wellness asset or indicator. For the provincial sample as a whole, only 3 out of every 10 answered negatively

(31.39%) to all of the questions, indicating that most BC residents have some kind of chronic health-related problem. It should be noted that this is the same as the Canadian average. For BC Aboriginal respondents, only 25.03% had no chronic conditions, significantly lower than the BC population as a whole

For all respondents, there were clear geographical variations throughout the province. Most regions with values above the provincial average of 31.39% were located in the lower mainland. The one exception to this was Northwest. Richmond, North Shore/Coast Garibaldi, and Vancouver residents were significantly less likely, statistically, to have any chronic conditions (all more than 37% free from chronic conditions), while five HSDAs had values below 26.5% and all were significantly low compared to the provincial average. These were: North, Central, and South Vancouver Island, Okanagan, and Kootenay Boundary. The range in values between the highest and the lowest was 17 percentage points, reflecting the high level of regional variation throughout the province.

There was a significant difference between genders provincially. Males, with a value of 36%, were significantly more likely to be free of chronic conditions when compared to females (26.91%). With one exception (Northern Interior), this was consistent for every HSDA, and the difference was statistically significant for Vancouver, Fraser North, Fraser South, Thompson Cariboo Shuswap, and South Vancouver Island.

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
031 Richmond	39.16	44.60	34.08	58.42‡	40.93	F
033 North Shore/Coast Garibaldi	37.41	43.29	31.80	52.38	40.24	F
032 Vancouver	37.05	42.13†	32.11†	54.98‡	39.54	F
021 Fraser East	34.16	38.07	30.35	47.82	35.94	F
051 Northwest	34.14	38.01	29.97	55.72	33.29	F
022 Fraser North	32.02	36.89†	27.28†	44.75	33.65	F
023 Fraser South	30.96	35.67†	26.35†	57.51‡	29.77	10.89E‡
052 Northern Interior	29.97	29.73	30.22	58.10‡	28.16	F
053 Northeast	29.73	29.82	29.64	53.62‡	27.47	F
014 Thompson Cariboo Shuswap	28.77	36.15†	21.43†	45.86	29.94	F
011 East Kootenay	28.38	34.10	22.52	51.96‡	27.30	F
042 Central Vancouver Island	26.41	31.84	21.19	48.35‡	27.79	F
013 Okanagan	26.29	28.71	24.02	45.28‡	29.20	F
041 South Vancouver Island	26.28	31.16†	21.87†	37.40	29.78	F
043 North Vancouver Island	24.14	27.72	20.60	F	23.18	F
012 Kootenay Boundary	22.22	28.37	16.04	F	21.44	F
999 Province	31.39	36.00†	26.91†	50.24‡	32.77	10.10‡

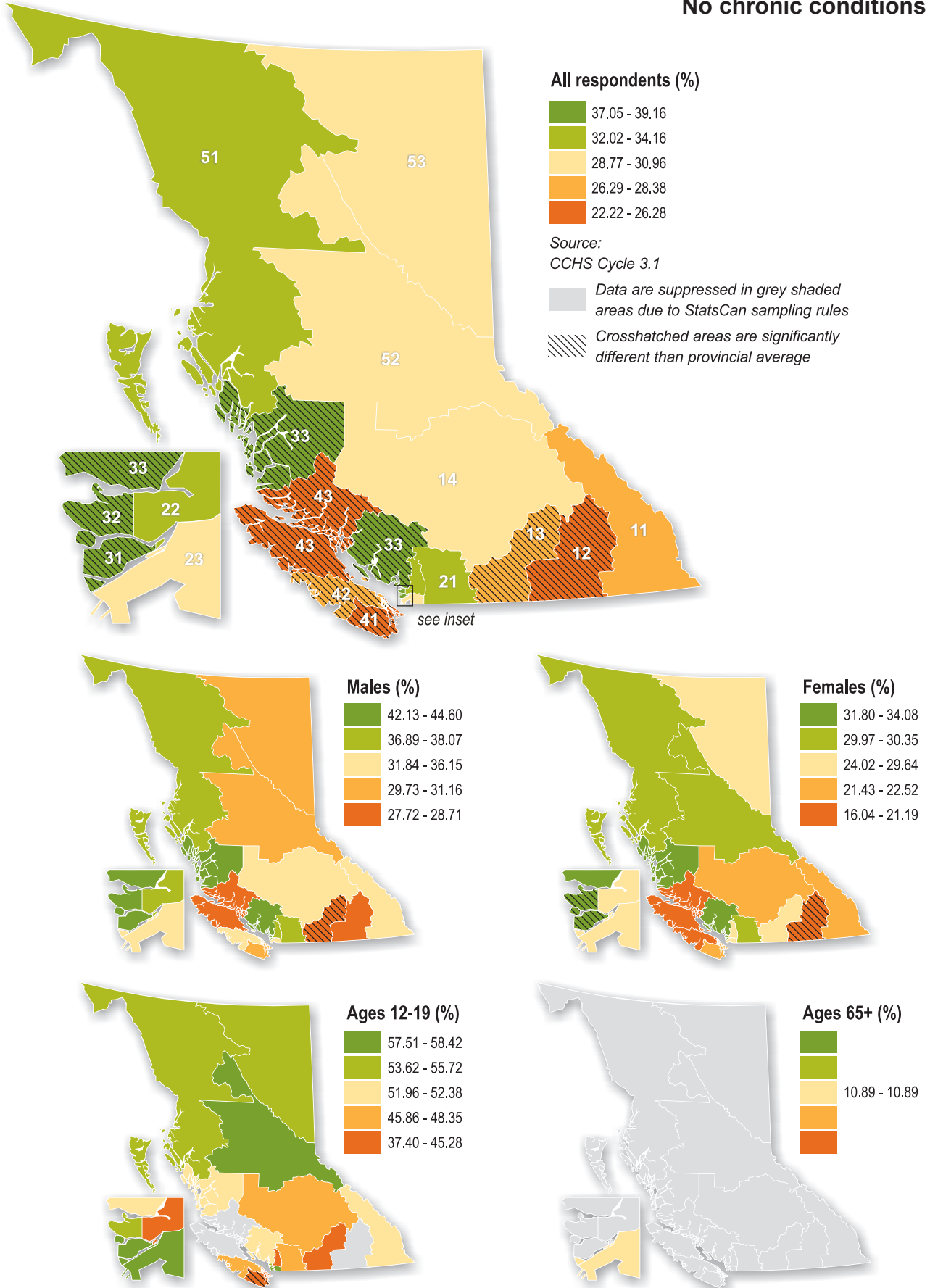
‡ Age group differs significantly from 20-64 group
 † Males differ significantly from females
 E Interpret data with caution (16.77 < coefficient of variation < 33.3)
 F Data suppressed due to Statistics Canada sampling rules

While the range from highest to lowest for males was about 16 percentage points, only one HSDA, Okanagan (28.71%), was significantly statistically lower than the average for males. For females, however, Richmond (34.08) and Vancouver (32.11) were significantly higher, and Kootenay Boundary (16.04%) significantly lower than the provincial average for females.

As expected, there was a very steep gradient by age, with the youth at 50.24% having a higher percentage being free of chronic conditions than 20- to 64-year-olds (32.77%), which in turn had a higher value than seniors (10.10%). These differences are statistically significant.

For teens, two HSDAs had too few data to be able to report the results (North Vancouver Island and Kootenay Boundary), but for the rest there was a 20 percentage point difference between the high of 58.42% for Richmond and the low of 37.40% for South Vancouver Island. The latter value was significantly lower statistically than the provincial average for youth. For seniors, only one HSDA had reportable findings indicating that there were very few seniors who did not have a chronic condition. The pattern for the 20 to 64 age group was very similar to that for the population as a whole.

No chronic conditions



Injury-free in the past year

The Atlas includes two questions from the CCHS related to injury-free status. Injuries can certainly detract from health and wellness, so being injury-free is a wellness asset.

One question asked was: *“In the past 12 months did you have any injuries which were serious enough to limit your normal activities?”*

and 82.23% of the respondents indicated that they had been free of injuries that might have curtailed activity during this period. While the difference is small, BC had a significantly lower level of injury-free status when compared to Canada as a whole (84.92%). For BC Aboriginal respondents, the value was 77.24%, which, while lower, was not significantly different from the provincial average.

For all respondents, there was a relatively small spread between the highest HSDA, Richmond at 86.90%, and the lowest, Northwest at 77.65%. Geographically there was no clear pattern, with relatively high percentages of injury-free individuals in both the lower mainland and extreme northeast, while Northwest, South Vancouver Island, and Okanagan had lower figures. Only Richmond had a value that was statistically significantly higher than the provincial average.

Females had higher levels of injury-free status than males, and for the province as a whole this difference was significant statistically. This difference was consistent for each HSDA, except North Vancouver Island and Northern Interior. The gender difference was only significant in three HSDAs: Central Vancouver Island, Fraser South, and Okanagan.

For males, there was no clear geographic pattern as no HSDA was statistically significantly different than the provincial average. For females, Richmond had a high of 90.04% and Northwest had a low of 77.74% of respondents who are injury-free. Both were significant statistically. The geographical patterns for both males and females were quite similar to that for the province as a whole.

There was a very clear and statistically significant gradient with age. Youth had lower injury-free status (71.01%), while seniors had the highest (88.12%).

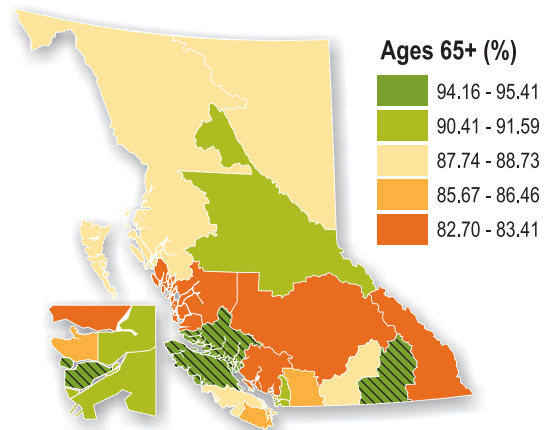
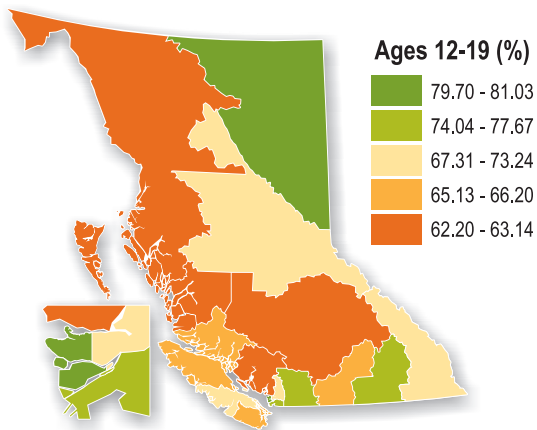
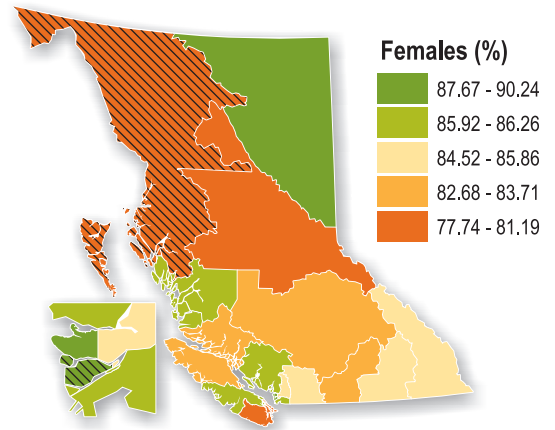
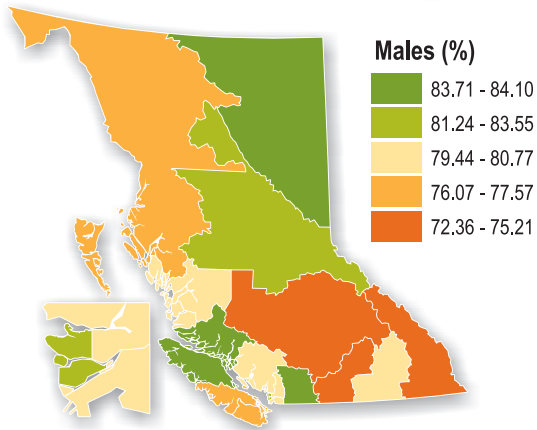
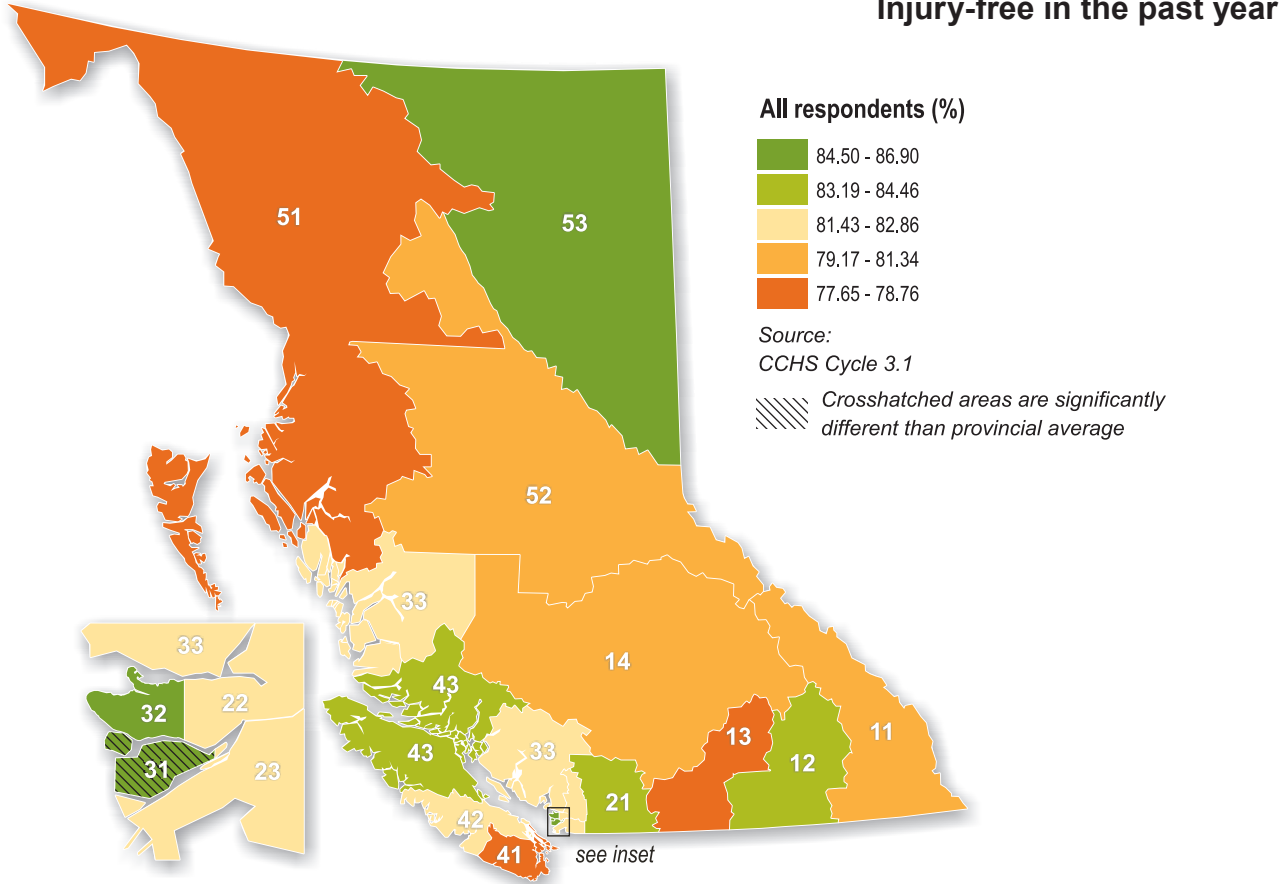
Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
031 Richmond	86.90	83.55	90.04	81.03	86.06	95.41‡
053 Northeast	86.90	83.79	90.24	80.35	88.19	87.74
032 Vancouver	84.50	81.24	87.67	79.70	84.80	85.67
021 Fraser East	84.46	84.10	84.82	74.74	86.01	86.46
012 Kootenay Boundary	83.31	80.77	85.86	77.67	81.52	94.16‡
043 North Vancouver Island	83.19	83.71	82.68	65.13	84.20	94.36‡
023 Fraser South	82.86	79.44†	86.21†	74.04	83.05	90.72‡
033 North Shore/Coast Garibaldi	82.85	79.63	85.92	62.42‡	85.91	83.41
022 Fraser North	82.64	79.87	85.33	70.97‡	83.09	90.41‡
042 Central Vancouver Island	81.43	76.41†	86.26†	67.31‡	81.83	88.73
052 Northern Interior	81.34	81.53	81.14	73.24	81.51	91.59
014 Thompson Cariboo Shuswap	79.37	75.21	83.51	62.20‡	81.66	83.10
011 East Kootenay	79.17	73.94	84.52	68.79	80.31	82.70
041 South Vancouver Island	78.76	76.07	81.19	66.20	78.83	85.72
013 Okanagan	78.21	72.36†	83.71†	65.76	77.16	88.62‡
051 Northwest	77.65	77.57	77.74	63.14	79.28	88.29
999 Province	82.23	79.16†	85.22†	71.01‡	82.82	88.12‡

‡ Age group differs significantly from 20-64 group
† Males differ significantly from females

For teens, every HSDA had a lower injury-free status than the older age groups, and North Shore/Coast Garibaldi, Fraser North, Central Vancouver Island, and Thompson Cariboo Shuswap were significantly lower than the 20- to 64-year-olds in the same HSDAs. For seniors, Richmond, Kootenay Boundary, North Vancouver Island, Fraser South and North, and Okanagan were all significantly higher statistically than the younger groups in their HSDAs.

While there was a large range between the highest and lowest HSDA for teens, there was no significant difference between any of these regions. This was also the case for the 20- to 64-year-olds. For seniors, however, several HSDAs were significantly higher statistically than the average for their age group: Richmond, North Vancouver Island, and Kootenay Boundary (all above 94% injury-free).

Injury-free in the past year



No repetitive strain injury in the past year

Many tasks are repetitive in nature and can lead to repetitive strain injury. Similar in scope to the previous question, the CCHS canvassed this issue and asked: *“In the past 12 months, did you have any injuries due to repetitive strain which were serious enough to limit your normal activities?”* and more than 19 out of 20 respondents (95.35%) for the province answered negatively, indicating a high level of wellness on this indicator.

Geographically, there was very little variation among HSDAs throughout the province. Only North Shore/Coast Garibaldi at 97.26% was significantly different from the provincial average for all respondents. The range from highest to lowest was a little more than 4 percentage points.

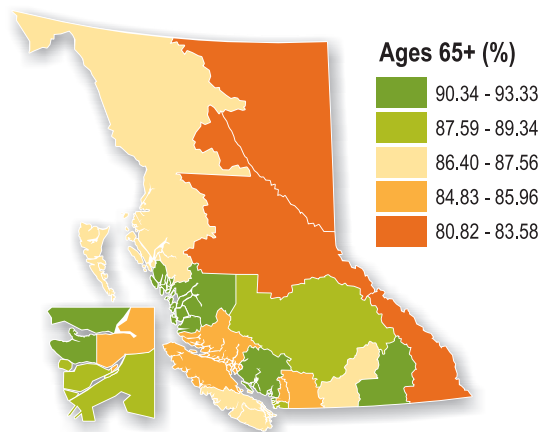
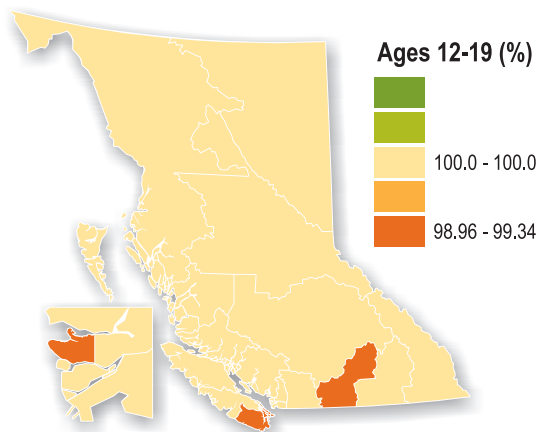
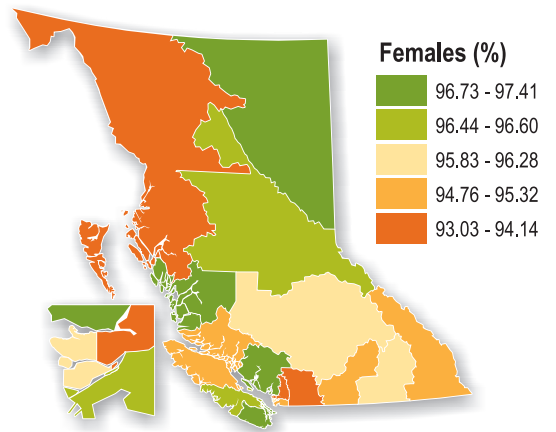
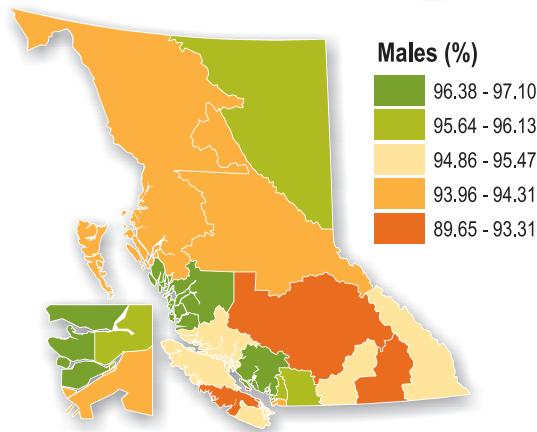
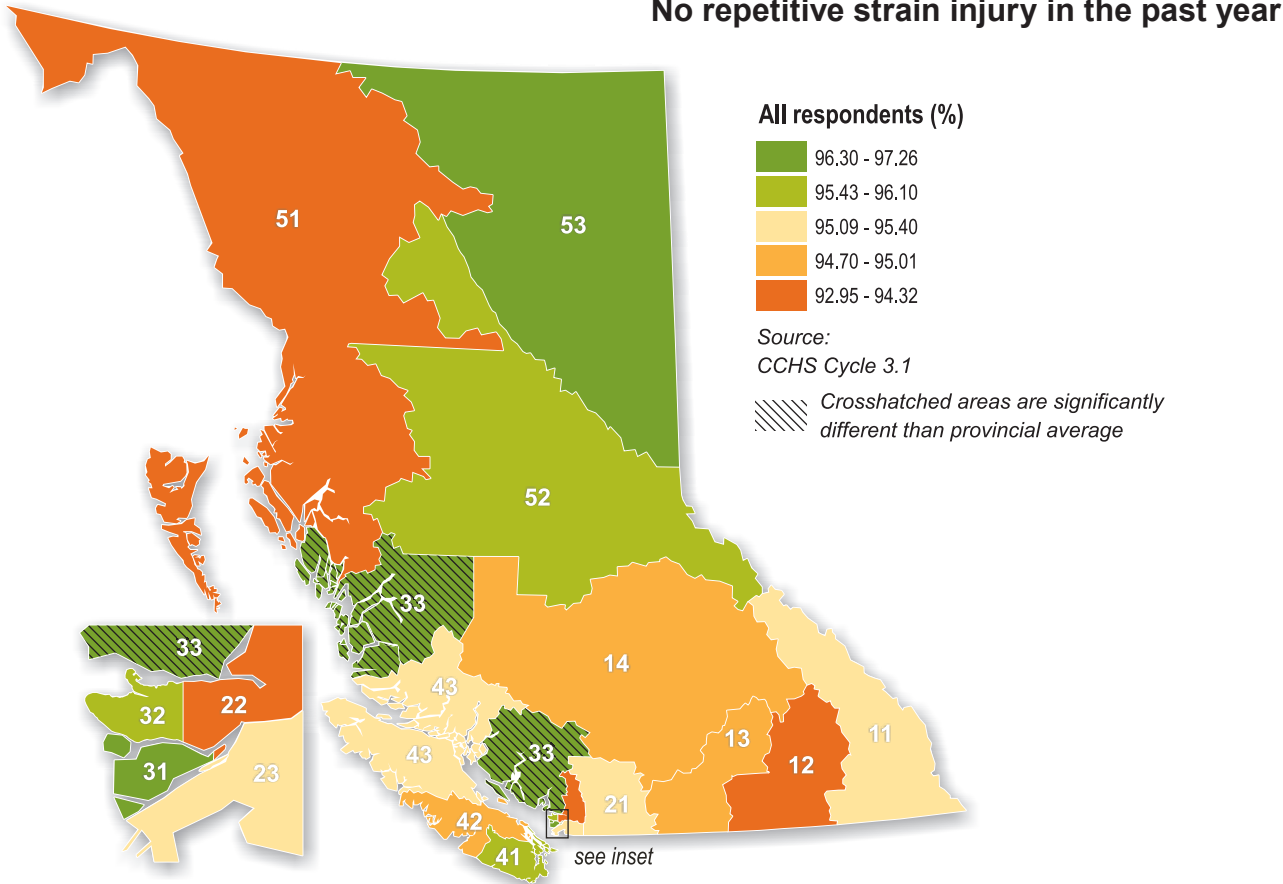
By gender there was little difference, but repetitive strain injury increased significantly with age. Seniors were much less likely to be free from repetitive strain injury than younger age groups. This difference was statistically significant. For most regions, seniors were significantly less likely to be free of the injury than their younger counterparts, a reversal in trend when compared to the results of the previous question. Only in Kootenay Boundary were seniors less likely to have this injury than the 20 to 64 age group.

Only three HSDAs recorded repetitive strain injury for youth, indicating that this condition is not one which affects teens and is very much related to the older age groups.

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
033 North Shore/Coast Garibaldi	97.26	97.10	97.41	100.0‡	98.34	90.34‡
031 Richmond	96.57	96.87	96.28	100.0‡	97.50	89.34‡
053 Northeast	96.30	95.72	96.92	100.0‡	97.02	83.52‡
032 Vancouver	96.10	96.38	95.83	98.96	96.68	91.21
041 South Vancouver Island	95.84	94.86	96.73	99.34	97.49	87.56‡
052 Northern Interior	95.43	94.31	96.60	100.0‡	96.55	80.82‡
043 North Vancouver Island	95.40	95.47	95.32	100.0‡	96.74	85.38‡
023 Fraser South	95.21	93.96	96.44	100.0‡	95.70	87.59‡
021 Fraser East	95.11	96.13	94.13	100.0‡	96.16	85.96‡
011 East Kootenay	95.09	95.42	94.76	100.0‡	96.70	83.58‡
013 Okanagan	95.01	94.94	95.08	99.11	96.78	87.05‡
042 Central Vancouver Island	94.75	92.94	96.49	100.0‡	96.24	86.57‡
014 Thompson Cariboo Shuswap	94.70	93.31	96.09	100.0‡	95.38	87.59
022 Fraser North	94.32	95.64	93.03	100.0‡	95.05	84.83‡
051 Northwest	94.07	94.01	94.14	100.0‡	93.84	86.40
012 Kootenay Boundary	92.95	89.65	96.25	100.0‡	91.59	93.33
999 Province	95.35	95.07	95.63	99.77‡	96.26	87.56‡

‡ Age group differs significantly from 20-64 group

No repetitive strain injury in the past year



No long-term physical, mental, or health condition that reduces activity at home

The CCHS asked a series of questions related to health and physical conditions that might interfere with an individual's ability to function well for certain activities.

The first question was: *“Does a long-term physical condition or mental condition or health problem reduce the amount or kind of activity you can do at home (sometimes, often, never)?”*

More than four in every five respondents (81.53%) answered negatively, indicating a relatively high ability to function because of no disabling conditions.

There were major geographical differences within BC. For all respondents, the lower mainland region had the best rates for being free of conditions that restrict activities in the home. Richmond and Vancouver both had significantly high rates statistically (both in excess of 87%), while five HSDAs had significantly low values when compared to the provincial average. These were South Vancouver Island, Okanagan, Northeast, East Kootenay, and Kootenay Boundary. With the exception of South Vancouver Island, they were all in the southeast or the extreme northeast of the province. Generally, lower values were recorded moving away from the urbanized lower mainland toward more rural areas.

Males were significantly more likely to answer the question negatively than females, indicating that they had fewer or less severe long-term conditions that hindered their activities around the home. This difference was consistent for all HSDAs (except Northeast), but only Thompson Cariboo Shuswap, Fraser South, and Fraser North were significantly different between genders at the HSDA level.

Generally, the geographical patterns were the same for the population as a whole as they were for males and females separately, but significant differences were much more dominant among males: Richmond and Vancouver were significantly high, and South Vancouver Island, Okanagan, Northeast, and Kootenay Boundary were significantly low. For females, only Vancouver at 85.06% was significantly different, statistically, from the provincial female average of 78.95%.

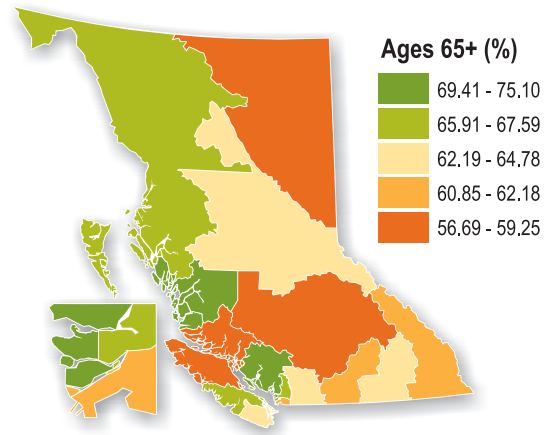
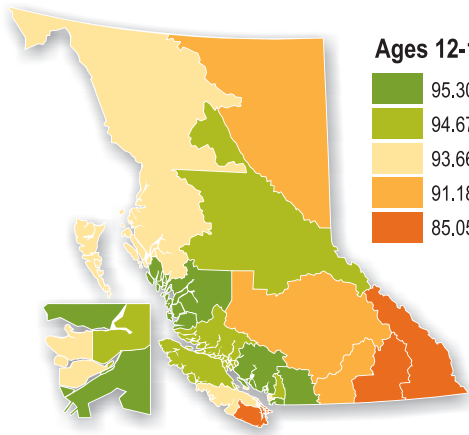
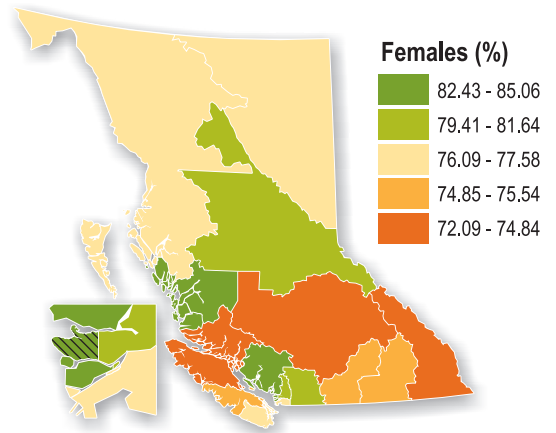
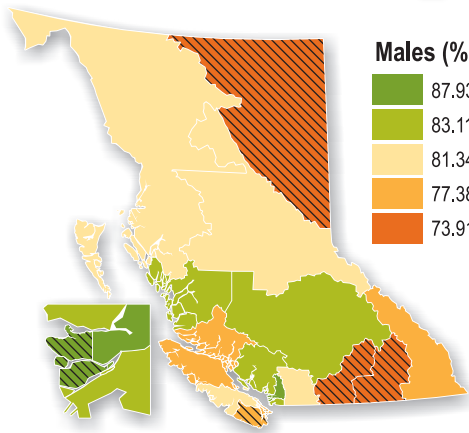
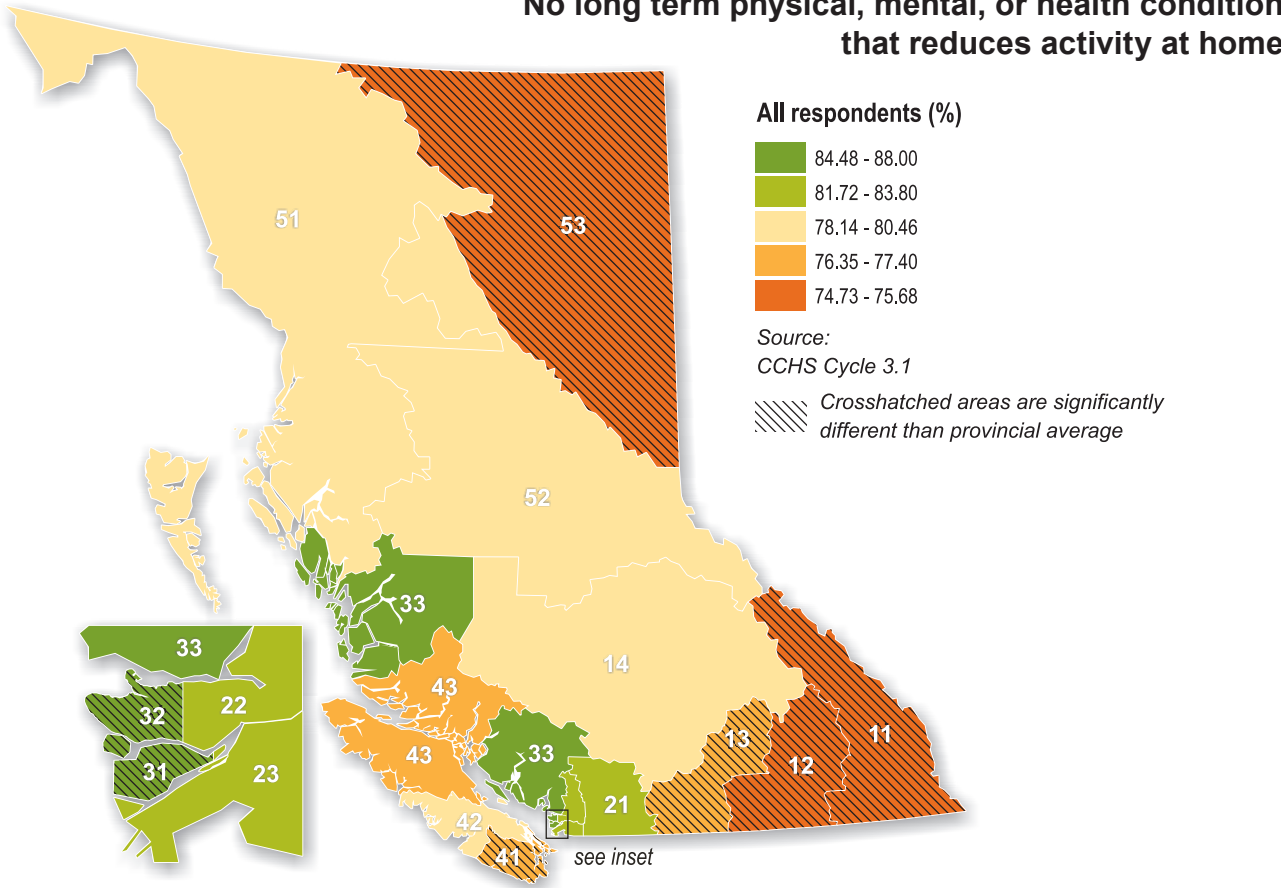
Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
031 Richmond	88.00	91.59	84.64	93.78	89.70	75.10†
032 Vancouver	87.28	89.56	85.06	93.78	88.96	74.12†
033 North Shore/Coast Garibaldi	84.48	86.62	82.43	95.61†	86.03	69.41†
022 Fraser North	83.80	87.93†	79.78†	94.71†	84.94	67.16†
023 Fraser South	82.09	86.99†	77.28†	95.30†	83.26	62.14†
021 Fraser East	81.72	81.80	81.64	95.53†	82.94	63.63†
052 Northern Interior	80.46	81.45	79.41	95.09†	80.11	62.19†
051 Northwest	79.26	81.71	76.62	93.66†	78.02	65.91
042 Central Vancouver Island	78.38	81.34	75.53	94.38†	78.68	67.59†
014 Thompson Cariboo Shuswap	78.14	83.11†	73.21†	92.26†	80.07	58.60†
043 North Vancouver Island	77.40	79.98	74.84	94.67†	78.10	59.25†
041 South Vancouver Island	76.91	77.83	76.09	91.13†	77.96	64.78†
013 Okanagan	76.35	77.22	75.54	91.18†	78.57	60.85†
053 Northeast	75.68	73.91	77.58	91.56	74.56	56.69
011 East Kootenay	74.77	77.38	72.09	85.05	75.62	62.18
012 Kootenay Boundary	74.73	74.61	74.85	90.97†	74.51	64.38
999 Province	81.53	84.18†	78.95†	93.73†	82.84	65.73†

† Age group differs significantly from 20-64 group
 † Males differ significantly from females

The restriction of activities increases with age for the province as a whole. At 93.73% for teens, 12 of the 16 HSDAs were significantly higher than the 20 to 64 age group, while 12 of the 16 areas were significantly lower for seniors than for 20- to 64-year-olds.

Geographically, there was no statistically significant variation for either teens or seniors, but for the 20 to 64 age group the geographical pattern was very similar to that of the population as a whole.

No long term physical, mental, or health condition that reduces activity at home



No long-term physical, mental, or health condition that reduces activity outside the home

Various health- or disability-related conditions can interfere with individuals' abilities to undertake activities beyond the home environment. The CCHS canvassed this situation as follows: *“Does a long-term physical condition or mental condition or health problem reduce the amount or kind of activity you can do in other activities, for example, transportation or leisure?”* In BC, four out of every five respondents (80.69%) answered “never” to this question, indicating a relatively high level of disability-free living. Although the difference is small, the response was significantly lower than the Canada-wide response of 82.77% to this question, suggesting that BC residents have a higher level of restrictions on activities.

For all respondents, there were major geographical differences throughout the province and the range in values between the highest and lowest was nearly 16 percentage points. Most of the lower mainland or southwest of the province had relatively high values with respect to no reduction in other activities outside of the home. Two HSDAs, Richmond and Vancouver, were significantly higher than the provincial average. At the other extreme, East Kootenay, North Vancouver Island, and South Vancouver Island all had significantly lower than average values. Geographically, those with lower values tended to be more rural in nature, except South Vancouver Island, although the north region of the province was in the middle of the pack with respect to no reductions in activities.

By gender there was also a significant difference, statistically, for the province as a whole; males (82.69%) when compared to females (78.75%) were significantly less likely to be restricted by any of the above-noted conditions. By HSDA, all but one showed higher values for males (Fraser East is the exception), but only Fraser North showed a significant difference between genders.

Geographically, the patterns for males and females separately were very similar to that of the population as a whole. For males, Richmond and Fraser North, and South Vancouver Island and East Kootenay were high

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
031 Richmond	87.22	88.03	86.47	93.96	87.68	80.05
032 Vancouver	84.27	87.19	81.43	94.71†	85.00	74.08‡
021 Fraser East	83.28	82.69	83.85	92.93	84.51	68.93‡
033 North Shore/Coast Garibaldi	82.82	83.76	81.93	93.85‡	83.75	70.68‡
022 Fraser North	82.60	86.85†	78.45†	93.84‡	84.44	61.39‡
023 Fraser South	82.35	84.64	80.10	95.58	82.78	66.55‡
051 Northwest	81.68	81.90	81.45	88.65	81.69	70.59
052 Northern Interior	79.05	80.44	77.58	91.48‡	78.57	64.87
013 Okanagan	77.40	78.84	76.05	89.31	79.84	62.88‡
053 Northeast	76.91	77.22	76.57	88.53	76.61	58.55
042 Central Vancouver Island	76.87	78.70	75.12	89.92‡	77.14	67.99
041 South Vancouver Island	76.67	76.85	76.50	92.52‡	77.32	65.06‡
012 Kootenay Boundary	76.66	77.35	75.97	86.29	77.60	66.36
014 Thompson Cariboo Shuswap	76.62	80.79	72.49	85.70	76.91	68.18
043 North Vancouver Island	73.15	75.12	71.20	86.45	72.46	64.70
011 East Kootenay	71.91	73.50	70.28	77.48	71.55	68.87
999 Province	80.69	82.69†	78.75†	91.92‡	81.61	67.53‡

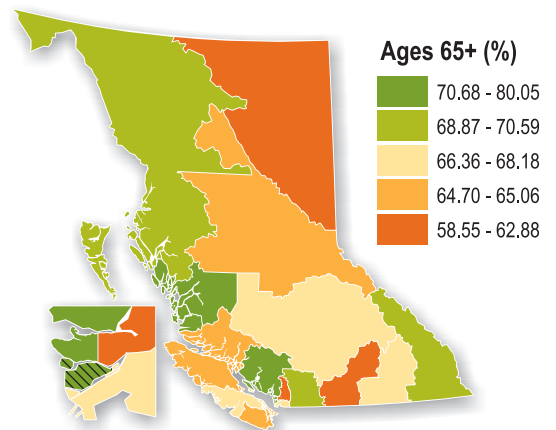
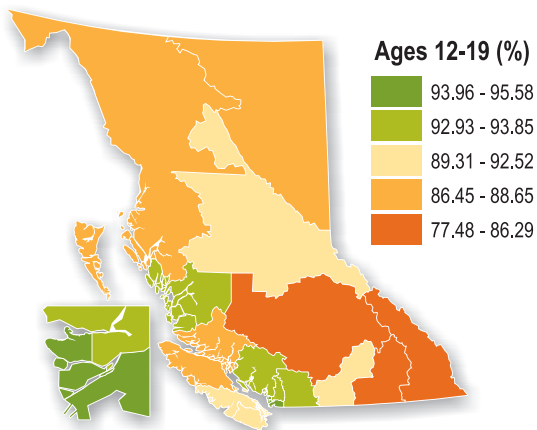
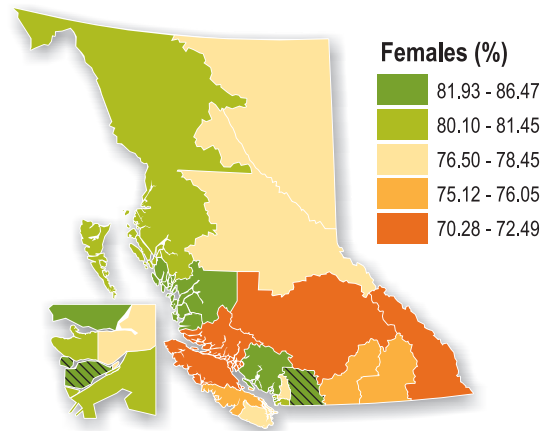
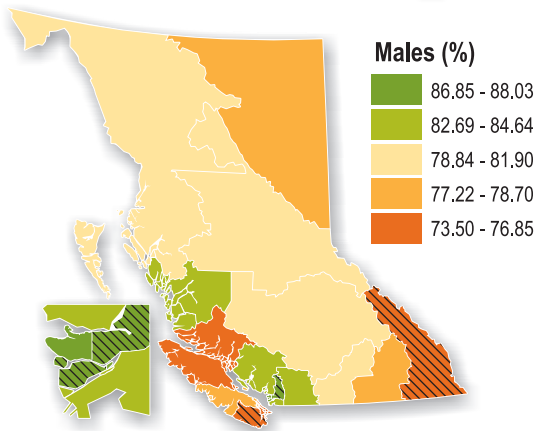
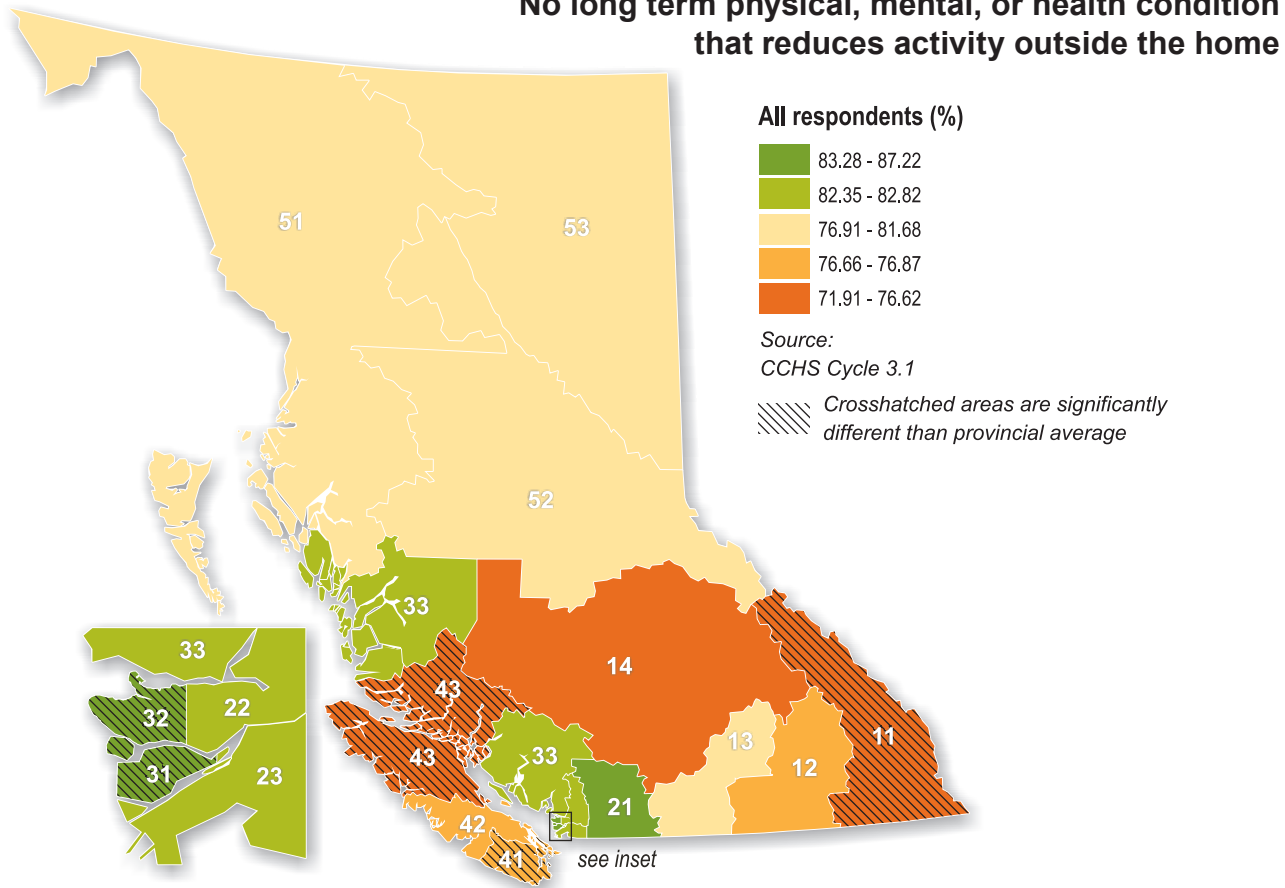
‡ Age group differs significantly from 20-64 group
 † Males differ significantly from females

and low, respectively, from a statistical significance perspective. For females, Richmond and Fraser East had significantly higher values than the average for females in the province.

There was a significant difference, statistically, among the age groups for the province as a whole. As expected, teens were much more restriction-free (91.92%) than 20- to 64-year-olds, and in turn, this latter group was much more restriction-free than seniors (67.53%). These differences were consistent not only for the province, but for each individual HSDA, and 7 of the 16 HSDAs were significantly higher for teens than for the 20 to 64 age cohort. For seniors, 7 HSDAs were significantly lower, statistically, than the 20 to 64 age group in their HSDA. They were Vancouver, Fraser East, North Shore/Coast Garibaldi, Fraser North, Fraser South, Okanagan, and South Vancouver Island.

Among the youth group, there was no significant difference geographically. For the 20 to 64 age group, however, significant differences occurred and the pattern was very similar for the population as a whole (see top map). For seniors, only Richmond, with a value of 80.05%, was significantly different from the provincial average for seniors of 67.53%.

No long term physical, mental, or health condition that reduces activity outside the home



Good health utility index score

The Health Utility Index (HUI) is a multi-attribute health and wellness indicator and provides a single summary score for a variety of indicators (Horsman, Furlong, Feeney, and Torrance, 2003). Key attributes that go into the index include sensation (see, hear, speak), mobility, dexterity, emotion (happiness), cognition (learns and remembers), and pain status. A score of 0.8 or higher is considered to be very good or perfect health; scores below 0.8 are considered to indicate moderate or severe functional health problems. For BC

respondents, 6.5% had index values below 0.50 and 12.6% had values between 0.5 and 0.79 (4.3% were not stated). The material presented here is based on mapping the percentage of the population by HSDA that scored at least 0.80 on the index.

The overall percentage for all respondents in the province scoring an index of at least 0.80 was 76.81% (or just over three out of every four respondents). For BC Aboriginal respondents, the percentage was a little higher (just above 78%), but not significantly so. The range from highest (North Shore/Coast Garibaldi, 80.70%) to lowest (North Vancouver Island, 71.16%) was nearly 9 percentage points, indicating a relatively small variation geographically. There was no clear pattern overall, although higher values prevailed in the extreme southwest of the province and South Vancouver Island. Only Central Vancouver Island, with a value of 71.75%, was statistically significantly different from the provincial average.

For males, higher values were evident in the southwest and lower values occurred in the eastern part of the province, although only North Vancouver Island was significantly lower than the provincial average for males; at 65.52% it was a clear outlier from the values for other HSDAs. For females, Northern Interior (81.48%) and Central Vancouver Island (66.98%) were statistically significantly higher and lower, respectively, than the provincial average for females. At the HSDA level, only Central Vancouver Island had a significantly higher

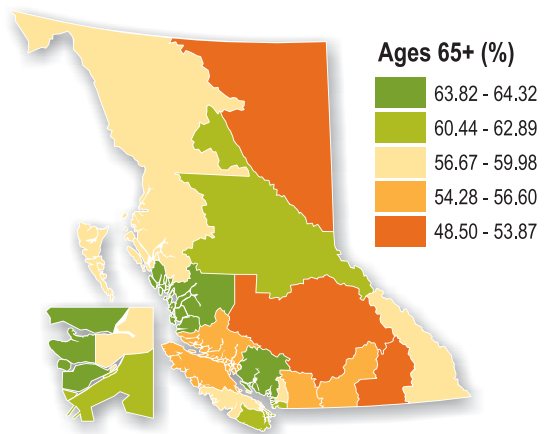
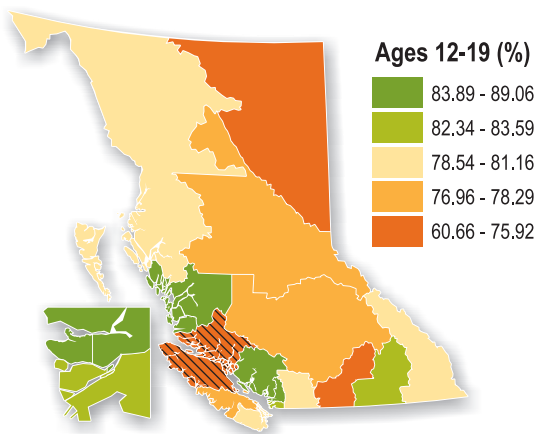
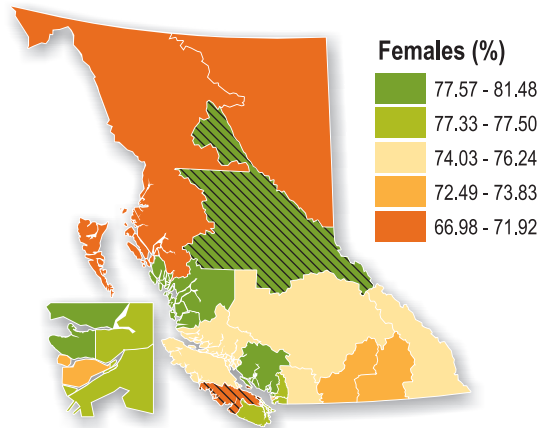
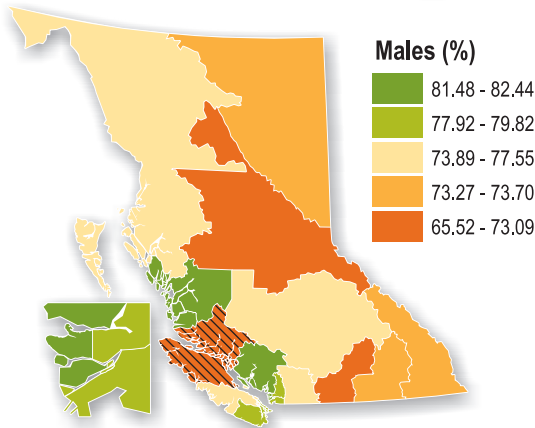
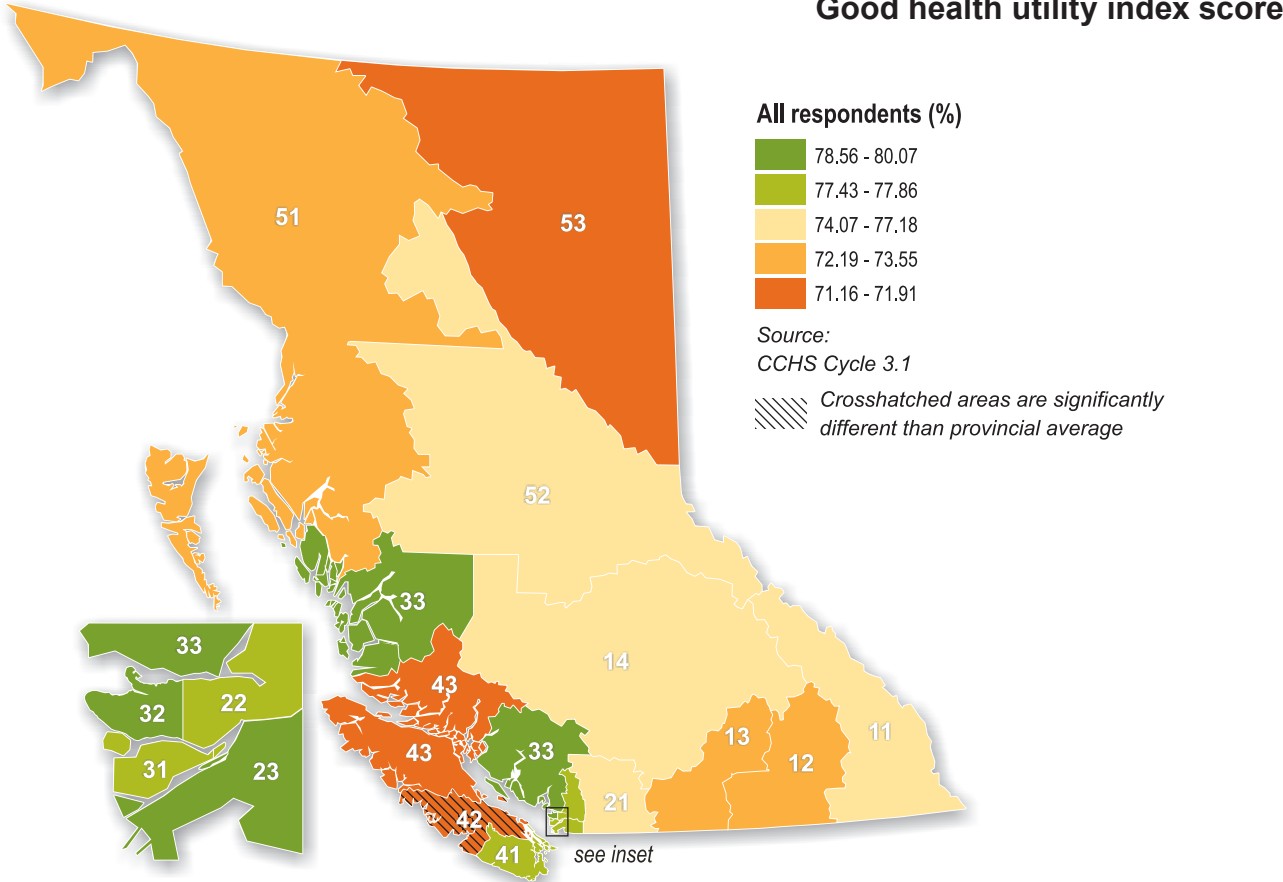
Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
033 North Shore/Coast Garibaldi	80.07	81.48	78.72	87.26	82.50	63.82‡
032 Vancouver	79.94	82.37	77.57	89.06	81.80	64.23‡
023 Fraser South	78.56	79.82	77.33	82.67	81.04	60.44‡
041 South Vancouver Island	77.86	78.26	77.50	80.05	81.47	62.89‡
022 Fraser North	77.63	77.92	77.34	83.89	80.07	57.26‡
031 Richmond	77.43	82.44	72.74	82.34	79.29	64.32
052 Northern Interior	77.18	73.09	81.48	78.18	79.25	60.81‡
014 Thompson Cariboo Shuswap	76.39	77.11	75.69	78.29	81.49	52.83‡
021 Fraser East	75.77	77.55	74.03	78.98	79.54	55.98‡
011 East Kootenay	74.07	73.70	74.45	78.54	76.68	58.30‡
012 Kootenay Boundary	73.55	73.27	73.83	83.59	76.83	53.87‡
051 Northwest	72.94	73.89	71.92	81.16	72.93	59.98
013 Okanagan	72.19	71.88	72.49	75.92	77.16	54.28‡
053 Northeast	71.91	73.46	70.24	75.45	73.90	48.50E‡
042 Central Vancouver Island	71.75	76.70†	66.98†	79.96	75.30	56.67‡
043 North Vancouver Island	71.16	65.52	76.74	60.66	76.43	56.60‡
999 Province	76.81	77.85	75.80	81.00	79.81	59.17‡

‡ Age group differs significantly from 20-64 group
 † Males differ significantly from females
 E Interpret data with caution (16,77< coefficient of variation <33,3)

value for males than for females, although provincially, males had a higher percentage with the HUI at 0.80 or higher than females, but the difference was not significant statistically.

Geographically, there were no significant differences among the HSDAs for the 20 to 64 year and seniors age groups, but North Vancouver Island was statistically significantly lower than the provincial average for the youth group. While there was no significant difference provincially between the teen group and the middle age group, seniors had a significantly lower provincial value than the younger age groups. This pattern was evident for all but two (Richmond and Northwest) of the HSDAs (see above table).

Good health utility index score



Satisfied with life

Life satisfaction is an important measure of wellness. The CCHS asked the question:

“How satisfied are you with your life in general (very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied)?”

and 88.76% responded that they were very satisfied or satisfied.

While the difference is small, the Canadian average at 89.78% was higher, and this difference was statistically significant. Of Aboriginal respondents in BC, 90.83%

indicated they were satisfied or very satisfied with their life. This was not statistically significantly different from the provincial value for all respondents.

For the population as a whole, there were some interesting geographical differences, although the range in values was only 6 percentage points. The lowest values were recorded in the urbanized southwest of the province (South Vancouver Island, Vancouver, and Richmond), while the highest values were recorded in more rural areas, such as North Vancouver Island, Kootenay Boundary, and Thompson Cariboo Shuswap. The latter region, at 92.19%, was significantly higher than the provincial average of 88.76%.

There was no difference between the genders, and overall geographical patterns were quite similar to that for the population as a whole. Among males, Thompson Cariboo Shuswap (94.18%) was significantly higher for life satisfaction than the provincial male average. Females in Kootenay Boundary were significantly more satisfied with life than the provincial average for females.

Life satisfaction declined with age, but even seniors, although significantly lower than other age groups, had a high value for life satisfaction (85.33%).

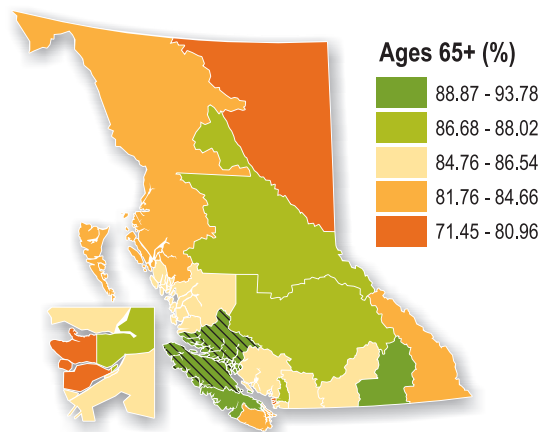
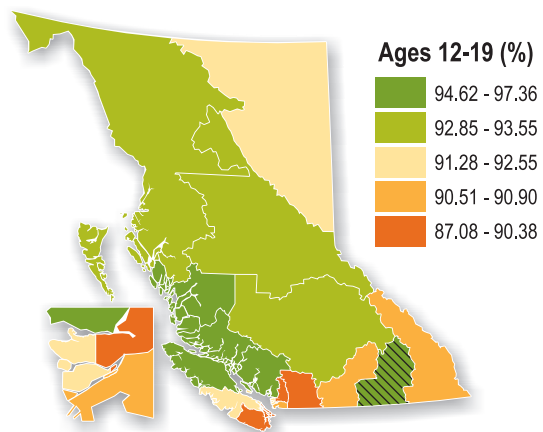
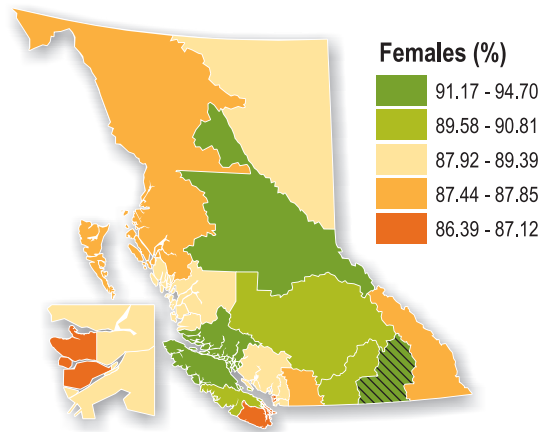
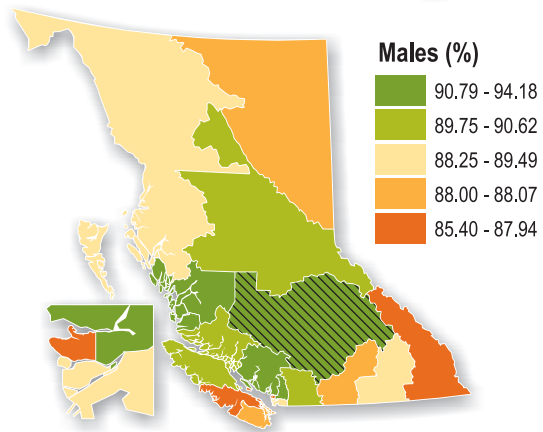
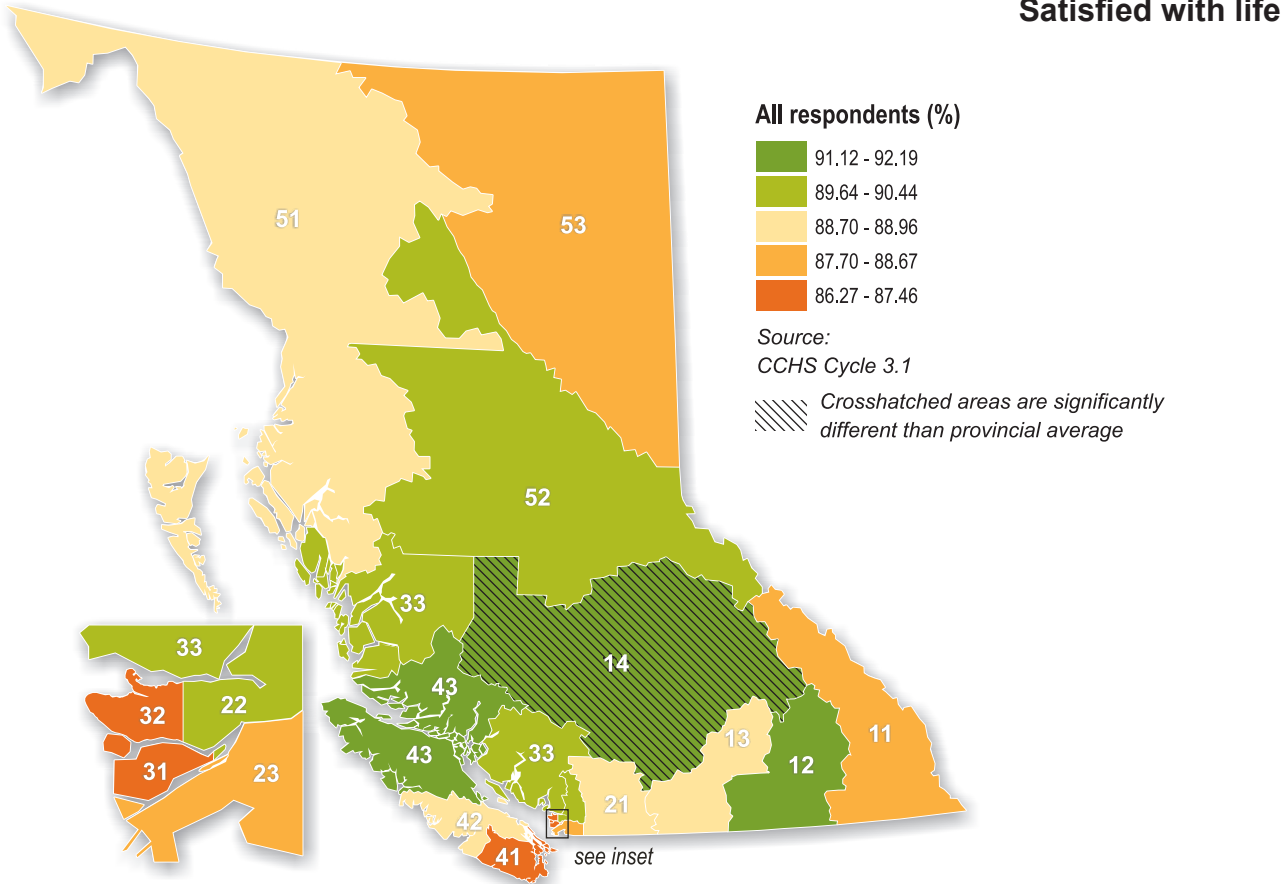
There was little variation among teens, although Kootenay Boundary youth had a significantly high life satisfaction (97.36%) when compared to provincial teens as a whole (91.30%). The HSDA with the lowest value for teens was Fraser North (87.08%). For the 20 to 64 age cohort, Thompson Cariboo Shuswap was

Health Service Delivery Area	All respondents (%)	Males (%)	Females (%)	Ages 12-19 (%)	Ages 20-64 (%)	Ages 65+ (%)
014 Thompson Cariboo Shuswap	92.19	94.18	90.21	93.34	93.20	86.88
012 Kootenay Boundary	91.47	88.25	94.70	97.36	90.77	90.15
043 North Vancouver Island	91.12	90.62	91.61	94.97	89.78	93.78
052 Northern Interior	90.44	89.75	91.17	92.85	90.31	88.02
033 North Shore/Coast Garibaldi	90.08	92.34	87.92	94.62	90.24	86.10
022 Fraser North	89.64	90.79	88.52	87.08	90.51	86.68
021 Fraser East	88.96	90.23	87.72	90.38	89.38	85.77
013 Okanagan	88.83	88.04	89.58	90.71	89.22	86.54
042 Central Vancouver Island	88.75	86.60	90.81	91.70	88.17	88.87
051 Northwest	88.70	89.49	87.85	93.55	88.44	82.98
053 Northeast	88.67	88.00	89.39	91.34	90.12	71.45
023 Fraser South	88.60	88.66	88.54	90.90	88.87	84.76
011 East Kootenay	87.70	87.94	87.44	90.51	88.47	81.76
041 South Vancouver Island	87.46	88.07	86.90	90.00	87.81	84.66
031 Richmond	87.32	88.31	86.39	91.28	88.09	80.48
032 Vancouver	86.27	85.40	87.12	92.55	86.55	80.96
999 Province	88.76	88.93	88.58	91.30	89.06	85.33

‡ Age group differs significantly from 20-64 group

significantly higher than its peers. For the seniors group, the range between Northeast and North Vancouver Island was 22 percentage points. North Vancouver Island seniors were significantly more satisfied with life than their provincial peers.

Satisfied with life



Life expectancy at birth

A key health and wellness indicator is life expectancy at birth. This is an outcome of a combination of many of the assets and other indicators already mapped in this Atlas. It is an indicator that is recognized internationally as important for comparative purposes. Data were received from BC Statistics for the total population, and also for each gender. The three maps opposite provide the average life expectancy at birth for the 5 year period 2001 to 2005. More detailed data are provided in the table.

The top map opposite provides a picture of the variation in longevity rates for the total population. While there are five groupings, the table indicates that not each group is a perfect quintile. This is because several HSDAs had similar figures and we felt it best not to split them between two “quintiles,” but rather to keep them together.

For BC, the average life expectancy at birth was 80.8 years for this 5 year period. This varied from a low of 78.4 years in Northern Interior to a high of 84.1 years in Richmond, a difference of 5.7 years. In terms of geographical patterns, there was a clear gradient moving east and north from the urbanized lower mainland and South Vancouver Island in the southwest corner of the province. The north had the lowest life expectancy rates, with the southeast of the province being in the middle for life expectancy, at the provincial overall rate or slightly below it.

For males, life expectancy was less than the provincial average, at 78.5 years. The range was 6 years between the best region, which was Richmond in the southwest at 82.3 years, compared with only 76.3 years for Thompson Cariboo Shuswap in the central interior of the province. Richmond had a 2.1 year greater life expectancy than the next highest region (North Shore/Coast Garibaldi at 80.2 years). Geographically, the overall pattern was very similar to that for the two sexes combined.

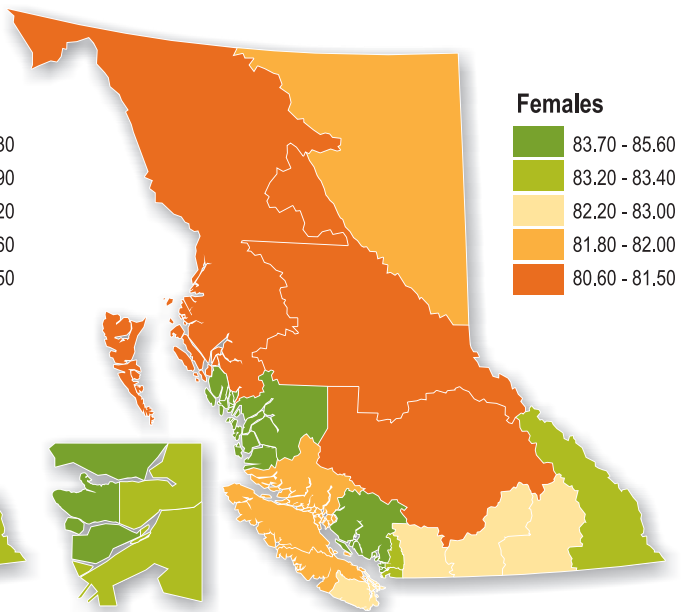
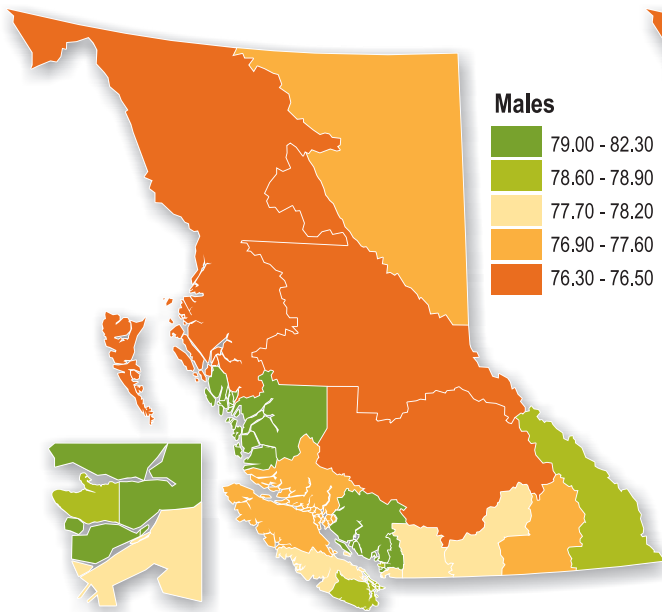
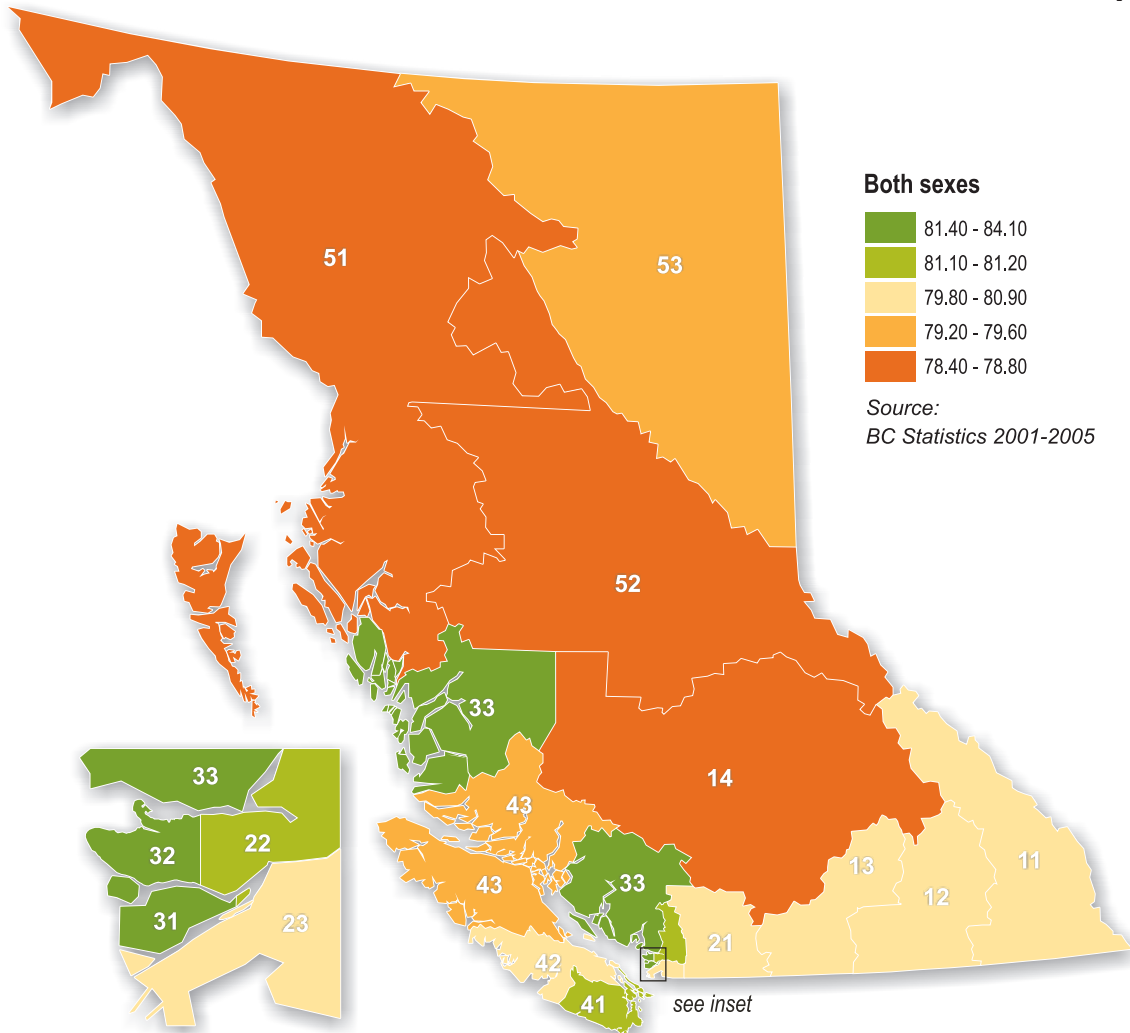
For females, the average life expectancy at 83.0 years for the 5 year period was 2.2 years greater than the provincial average. The range between Richmond, which was the highest life expectancy region at 85.6 years, and the lowest, which was Northern Interior at 80.6 years, was 5 years.

Each and every HSDA had a higher life expectancy for females than for males, and the geographical pattern was also similar to that for males.

Health Service Delivery Area	Age in years		
	Both sexes	Males	Females
031 Richmond	84.1	82.3	85.6
033 North Shore/Coast Garibaldi	82.0	80.2	83.7
032 Vancouver	81.4	78.8	84.0
022 Fraser North	81.2	79.0	83.2
041 South Vancouver Island	81.1	78.9	83.0
011 East Kootenay	80.9	78.6	83.4
023 Fraser South	80.9	78.2	83.3
013 Okanagan	80.5	78.0	83.0
021 Fraser East	80.0	77.7	82.4
042 Central Vancouver Island	79.8	77.7	81.8
012 Kootenay Boundary	79.8	77.6	82.2
043 North Vancouver Island	79.6	77.3	82.0
053 Northeast	79.2	76.9	81.8
014 Thompson Cariboo Shuswap	78.8	76.3	81.5
051 Northwest	78.6	76.5	81.0
052 Northern Interior	78.4	76.5	80.6
999 Province	80.8	78.5	83.0

In summary, life expectancies were higher in the urban southwest corner of the province, lower in the southeast of the province, and lowest in the north. Provincially, the difference in life expectancy between the genders was 4.5 years, with Vancouver and Thompson Cariboo Shuswap having the greatest differential at 5.2 years, and Richmond the least at 3.3 years.

Life expectancy at birth Age in years



Summary

There were some major differences in wellness outcomes by geography, gender, and age. Not all of these differences were consistent; they varied depending on the indicator. For many indicators, such as perceived good to excellent health and mental health, not feeling sad or blue, being free of both injuries and repetitive strain injury and Health Utility Index, respondents generally showed high values. On the other hand, the majority of respondents had some type of chronic condition, some of which restricted activities both inside and outside the home.

Geographically, there was little variation for indicators with high overall values, but for the indicators with lower overall provincial values, regional variations were more evident. The large majority of respondents had some type of chronic condition, but those in the lower mainland fared better than those on Vancouver Island and the interior HSDAs of Kootenay Boundary and Okanagan. Similarly, with regard to conditions that interfered with activities both inside and outside the home, the lower mainland HSDAs were better off than many of those in parts of the interior and Vancouver Island.

When it comes to satisfaction with life, however, lower mainland HSDAs were lower than those in the interior of the province.

There were several differences based on gender. Males were less likely to feel sad or blue, or suffer from chronic conditions generally, and were less likely to have activities curtailed because of chronic conditions than females. Alternatively, females were more likely to be injury free than were males.

For all but two of the CCHS indicators, seniors did less well than the younger age groups. When it comes to not feeling sad or blue there was no significant difference between age groups, and seniors were significantly more likely to be injury free than their younger age cohorts. The youngest age group (12 to 19 years old) generally had significantly higher wellness values than both of the older age groups, except for injury-free status.

There was no significant difference between values for the provincial population as a whole and Aboriginal respondents for perceived health, mental health, satisfaction with life, injury free status, and the Health Utility Index. Aboriginal respondents, however, were significantly more likely to report chronic conditions.

Life expectancy showed clear geographical variations with higher values being prevalent in the lower mainland and South Vancouver Island HSDAs and lower values in the northern and interior HSDAs. These patterns were consistent when males and females were considered separately. For every HSDA, females had a higher life expectancy than did males.