An Overview Of Health Risks in Alberta

Chronic disease takes an emotional, physical and psychological toll on many Albertans and their families. Chronic diseases such as cancer, cardiovascular disease and diabetes share some of the same risk factors including:

- Tobacco use;
- Obesity;
- Low levels of vegetable and fruit intake; and
- Physical inactivity.

The prevalence of these diseases and risk factors is influenced by health behaviours, living and working conditions, social support and environmental factors. Accurate and timely information on risk factors is an essential part of chronic disease control.

The information presented in An Overview of Modifiable Health Risks in Alberta is intended for health professionals who plan and implement chronic disease prevention interventions. Our aim is to provide an overview of the distribution of behaviours across the province.

This document provides a snapshot of how Alberta and its nine Health Regions compare in terms of the above chronic disease risk factors. Data from the Canadian Community Health Survey (CCHS) and the Alberta Cancer Board’s Tomorrow Project cohort study have been analyzed at the regional level to provide such comparisons. Graphs presented in this report include data from the CCHS 3.1 2005, which collected a sample of 11,800 Albertans aged 12 and over.¹

¹ The CCHS targets Canadians who are living in private dwellings in the ten provinces and the three territories. Persons living on Indian Reserves or Crown lands, residents of institutions, full-time members of the Canadian Armed Forces and residents of certain remote regions are excluded from this survey. The CCHS covers approximately 98% of the Canadian population aged 12 or older. The breakdown by region in Alberta was as follows: Chinook Regional Health Authority - 1,031, Palliser Health Region - 813, Calgary Health Region - 2,648, David Thompson Regional Health Authority - 1,303, East Central Health - 884, Capital Health - 2,543, Aspen Regional Health Authority - 1,019, Peace Country Health - 923, Northern Lights Health Region - 636
Tobacco is the leading cause of premature death, preventable illness and disability in Alberta. An estimated 3,400 Albertans die each year from tobacco use and thousands more suffer from tobacco-related illness.

**Highlights:**

- According to CCHS 3.1 2005, the rate of smoking in Alberta (22.7%) is slightly higher than Canada overall (21.7%).

- The Calgary Health Region had the lowest rate of smoking in 2005 at 19.8%, while the Northern Lights Health Region had the highest rate at 30.3% (see Figure 1).

- Smoking in Canada and across the province of Alberta was higher among males than among females (data not shown).

- According to the Canadian Tobacco Use Monitoring Survey (CTUMS), there has been a decreasing trend of smoking in Alberta from about 25% in 1999 to approximately 20% in 2004.

- According to the 2004 CTUMS survey, slightly fewer urban Canadians 15 years and older smoke (19%) compared to rural residents (24%).

- The highest rates of smoking are among 20-24 year-olds at 28% (see Figure 2).

Over 610,000 Albertans over 12 still smoke and urgently need to quit.

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2 Differences in data collection methods may be the cause of different results in CCHS and CTUMS data.
Figure 1: Current Daily or Occasional Smokers in Canada, Alberta and the Alberta Health Regions for Responders 12 and over

Figure 2: Smoking Prevalence in Alberta and Canada for Age Groups 15 and Over and 20-24 from 1999 to 2004

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3 Statistics Canada, Canadian Community Health Survey (CCHS 3.1), 2005 (CANSIM table 105-0427)
4 Reference: Canadian Tobacco Use Monitoring Survey (CTUMS) – Health Canada 1999-2004
Obesity is a condition of excess body fat. It is the most common form of malnutrition in the western world. Being overweight or obese increases the risk for high blood cholesterol, high blood pressure, and diseases such as diabetes, coronary heart disease, some cancers and kidney diseases.

When a person consumes more food energy than is needed to provide for all of the day’s activities, excess body fat will accumulate. Physical activity levels, diet, genetics and metabolism, in addition to environmental, social, economic, psychological, behavioural and biological factors all contribute to obesity. However, inactivity and poor diet are the strongest contributing factors to excessive weight gain.

Body Mass Index (BMI) is a relationship between weight and height that is associated with body fat and health risk. BMI is used because it correlates better with the amount of body fat than weight alone. It is calculated as one’s weight in kilograms divided by the square of their height in meters. Table 1 shows the classifications of BMI.

<table>
<thead>
<tr>
<th>BMI</th>
<th>Considered</th>
</tr>
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<tbody>
<tr>
<td>Below 18.5</td>
<td>Underweight</td>
</tr>
<tr>
<td>18.5 to 24.9</td>
<td>Healthy Weight</td>
</tr>
<tr>
<td>25.0 to 29.9</td>
<td>Overweight</td>
</tr>
<tr>
<td>30 or higher</td>
<td>Obese</td>
</tr>
</tbody>
</table>

**Example of BMI Calculation:**

A woman who is 125 pounds (56.7 kilograms) and five feet tall (1.52 metres) would have a BMI of 24.5:

\[
\frac{56.7 \text{ kg}}{1.52 \text{ m}^2} = \frac{56.7}{2.31} = \text{BMI of 24.5 (healthy weight)}
\]

It is estimated that over 1.2 million Albertans age 12 and over are obese or overweight and need to lose weight in order to reduce their risk of chronic diseases.⁶

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⁵ A convenient BMI calculator can be found at: http://www.hc-sc.gc.ca/fn-an/nutrition/weights-poids/guide-adult/bmi_chart_java-graph_imc_java_e.html

⁶ Statistics Canada, Canadian Community Health Survey (CCHS 3.1), 2005 (CANSIM table 105-0409)
**Highlights:**

- As shown in Figure 3 below, the self-reported weights and heights of Albertans aged 18 and over reveal a slightly higher proportion in both the obese and overweight BMI categories than in Canada overall. Over half of Albertans are overweight or obese (15.8% in Alberta vs. 15.5% in Canada are obese, and 34.7% in Alberta vs. 33.4% in Canada are overweight).

- Self-reported height and weight put 18.2% of Albertans aged 12-17 in the obese and overweight BMI categories. This was also slightly higher compared to Canada overall at 17.9%.

- According to the 2003 CCHS survey, fewer urban Canadians are overweight or obese than rural Canadians (34% of urban responders compared to 36% of rural responders are overweight and 15% of urban responders compared to 19% of rural responders are obese).

- The region with the highest proportion in the obese and overweight categories was the Peace Country Health Region with 61.2% falling in these two categories.

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**Figure 3:** Self-Reported Obesity and Overweight in Canada, Alberta and the Alberta Health Regions for Responders 18 and over, excluding pregnant females

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7 Most likely this is an underestimate of BMI. When comparing self-report to measured BMI in the CCHS data overall, men tended to over-report their height and women tended to under-report their weight resulting in lower BMIs. Unfortunately, measured BMI is not available at the health region level due to the very small numbers of responders measured.
A daily diet containing five or more servings of vegetables and fruit has been linked to maintaining a healthy weight and to lowering the risk of cardiovascular disease, diabetes and cancer.

**Highlights:**

- Figure 4 shows that the proportion of Albertans age 12 and over who are eating LESS than the five servings per day is greater than Canadians overall (57.8% in Alberta compared to 53.3% in Canada).
- The region with the highest percentage of the population that reported eating five or more servings of vegetables and fruit daily was Aspen Regional Health.
- The area with the highest proportion not consuming at least five servings per day was seen in the Northern Lights Health Region.
- The Alberta Cancer Board conducted the Nutrition, Knowledge, Attitudes and Behavior (NKAB) Survey in 1999 and again in 2004. Findings indicate that the proportion of Albertans eating 5 or more servings of fruit and vegetables per day has increased slightly since 1999 (data not shown).

**Figure 4: Insufficient Daily Vegetable and Fruit Consumption (less than 5 servings per day) by Alberta Health Region**

Although improvements have been seen, over 1.5 million Albertans could benefit from changing their diets to include five or more servings of vegetables and fruit a day.

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8 Statistics Canada, Canadian Community Health Survey (CCHS 3.1), 2005 (CANSIM table 105-0449)
Lack of physical exercise or an inactive lifestyle is also a risk factor for cancer, cardiovascular disease and diabetes. A sedentary lifestyle is also related to risk factors such as obesity, high blood pressure, and high blood cholesterol. Regular, moderate physical activity helps to control and reduce these risk factors.

**Highlights:**

- Figure 5 below indicates that the proportion of inactive Albertans is slightly less than the proportion in Canada overall (44.6% in Alberta compared to 46.7% in Canada).
- In fact, the majority of the health regions in Alberta show more activity than the national rate, with only Peace Country Health (47.4%), East Central Health (49.3%) and Palliser Health Region (55.6%) having more inactive people.
- Calgary Health Region and Chinook Health Region show the least inactivity (most activity) with less than 42% of the responders reporting leisure-time physical inactivity.

**Figure 5:** Leisure-time Physical Inactivity\(^9\) by Alberta Health Region\(^10\)

Although the level of leisure time physical inactivity in Alberta is less than Canada overall, approximately 1.2 million inactive Albertans could reduce their risk of many chronic diseases and reduce their weight by becoming more active.

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\(^9\) The Canadian Community Health Survey (CCHS) defines a participant as physical inactive or “sedentary” if they report a daily usual leisure-time energy expenditure of less than 1.5 kilocalories per kilogram of body weight per day.

\(^10\) Statistics Canada, Canadian Community Health Survey (CCHS 3.1), 2005 (CANSIM table 105-0433)
In addition to using available CCHS data, researchers at the Alberta Cancer Board collect ongoing provincial data as part of The Tomorrow Project, a cohort study on the lifestyle factors related to the development of cancer. Data collected from the 12,790 subjects age 35-69 that were recruited between February 2001 and November 2004 have been used to make additional comparisons between health regions in Alberta. The Tomorrow Project study investigates whether or not the following healthy behaviours are practiced:

1. Moderate/vigorous physical activity: at least 150 minutes per week of leisure time (based on at least 30 minutes of moderate to vigorous leisure time physical activity at least five days per week).
2. Daily consumption of vegetables and fruit: at least 5 servings per day.
3. Cigarette smoking: never or ex-smoker.
4. Body mass index: underweight or normal weight (BMI ≤ 24.9 kg/m² or less).

**Highlights:**

Based on the responses recorded in The Tomorrow Project survey disseminated in 2004, each participant was categorized as following 0, 1, 2, 3 or 4 recommendations.

- As shown in Figure 6, the Calgary Health Region had the highest proportion of participants (16%) who followed all 4 recommendations.
- Peace Country was the region with the lowest proportion of participants (7%) who followed all 4 recommendations.
- Overall, in Alberta, 3% reported following 0 recommendations, 15% 1 recommendation, 35% 2 recommendations, 35% 3 recommendations (all not shown) and 12% reported following all 4 recommendations (see Figure 6).

**Figure 6:** Proportion of The Tomorrow Project Participants who Complied with all 4 Health Recommendations

![Figure 6: Proportion of The Tomorrow Project Participants who Complied with all 4 Health Recommendations](image-url)
The solutions to increasing healthy behaviours are complex and not well understood, particularly with regards to creating supportive environments. Knowing Albertans’ behaviour and risk factor prevalence in Canada is important for identifying what needs to be done and assessing what impact interventions are having.

The Alberta Cancer Board’s Cancer Prevention Program (in the Division of Population Health & Information) aims to provide useful information on regional risk factors to help guide programs and interventions in order to create a healthier Alberta. We invite your comments and feedback on the information presented in this document as well as future risk factor surveillance needs. Contact the Cancer Prevention Program by e-mail at prevention@cancerboard.ab.ca or by phone at (403) 355-3270.

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Professionals involved in health promotion in Alberta are in a unique position to help the majority of Albertans to adopt more health behaviours in order to reduce their risk of morbidity and mortality.