CHAPTER 9

Per adult consumption of alcohol in

4. Canadian Addiction Survey

A secondary analysis was conducted on data from the Canadian Addiction Survey (Health Canada, 2004). This data was used to estimate the per adult consumption of beverages from home brew.

5. Socioeconomic data

Socio-economic variables for each district were obtained from the BC Statistics Website (www.bcstats.gov.bc.ca/). Socio-economic indicators included age and sex groups, average household income, percentage of multiple origins to population and percentage of aboriginal origins (Statistics Canada, 2003).

Average *household income* refers to the weighted mean total income of households in 2000. *Aboriginal identity* refers those persons who reported identifying with at least one aboriginal group, i.e., 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 who were members of an Indian Band or First Nation. *Multiple origins* were based on ethnic origins, which refer to the ethnic or cultural groups to which the respondent's ancestors belong. An ancestor is someone from whom a person is descended and is usually more distant than a grandparent. Respondents were asked to specify as many groups as applicable.

6. Tourism data

Room revenue as an indicator of tourism associated with alcohol consumption was also analyzed. Room revenue data for years 2001-2005 was obtained from the BC Statistics Website (www.bcstats.gov.bc.ca/). Room revenue is the only statistic that provides detailed geographical breakdowns related to the tourism sector in BC on a monthly basis.

7. Statistical analyses

Descriptive analyses of absolute alcohol consumption were conducted by dividing the total litres of absolute alcohol by the population aged 15 and older. The groupings varied for different analyses by calendar year, 3-month periods, and type of establishment. Pearson r correlations were conducted between alcohol and sex ratio, percentage of population aged 20-29 to total population, room revenue for the 28 regional districts and other demographic indicators.

Results

1. Changes in total absolute alc ohol consumption over -time and between regions

TABLE 9.1 p resents per adult absolute alcohol consumption in litres of U-Brew/U-Vint production and sales from all sources for 28 regional districts and by calendar year (2002-2005). Absolute alcohol consumption increased in the province over the period from 8.18 in 2001 to 8.53 in 2005. Alcohol consumption of sales tended to increase in most regional districts during this period. Alcohol

9. Comox-Strathcona				
Ubrew/Uvint	0.60	0.58	0.71	0.73
Sales	9.61	10.04	10.20	10.27
All sources	10.21	10.62	10.91	11.01
10. Cowichan Valley				
Ubrew/Uvint	0.51	0.61	0.58	0.57
Sales	8.72	8.93	9.08	9.15
All sources	9.24	9.54	9.66	9.72

TABLE 9.1 (continued)

Regional district		Year					
	2002	2003	2004	2005			

11. East Kootenay

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FIGURE 9.3: Per Adult Alcohol Consumpt ion in 28 BC Regional Districts, 2004



FIGURE 9.4: Per Adult Alcohol Consumption in 28 BC Regional Districts, 2005





Table 9.2 presents per adult alcohol consumption in litres by type of establishment in 28 regional districts in 2005. As shown in the table, the majority of alcohol purchased in BC was from take-out sales from either government liquor stores (3.66) or private liquor stores (2.84). Sales from government stores was generally higher than from private liquor stores in the more urbanized areas, such as Greater Vancouver and the Victoria area, whereas this pattern was reversed in rural areas, such as the Northern Rockies and Stikine districts. Table 9.3 shows the number of establishments for the various categories from

which alcohol can be purchased. Private liquor stores were much more common (938) than government liquor stores (208) in 2005.

In 2002, the government permitted private operators to sell all alcohol products for take-out sales and this period showed a substantial growth. Changes in per adult consumption by type of establishment from 2001 to 2005 and changes in the number of establishments are shown in Table 9.4. In this time period, the number of private liquor stores increased dramatically from 539 to 938, while the number of government liquor stores declined marginally. Correspondingly, per adult sales at private liquor stores increased from 1.56 to 2.84, whereas sales at government liquor stores dropped from 4.31 to 3.66.

	Establishments					
					Private	
Regional districts					take	
-	Ubrew/				out	
	Uvint	Restaurant	GLS †	Bars	store	All
Alberni-Clayoquot	0.13	0.64	4.81	1.47	5.18	12.23
Bulkley-Nechako	0.19	0.22	4.38	1.01	3.23	9.03
Capital	0.59	0.68	3.87	1.22	3.51	9.86
Cariboo	0.23	0.23	2.97	0.81	5.11	9.36
Central Coast	None ‡	0.13	4.75	2.28	5.68	12.83
Central Kootenay	0.33					

TABLE 9.2: Per adult absolute alcohol consumption in litres by establishments in BC regional districts in 2005

TABLE 9.3: Number of each type of establishments for 28 regional districtsin BC in 2005

	_	Establishments					
Regional districts	Ubrew/ Uvint †	Restaurant	GLS ‡	Bars	Private store	All	
Alberni-Clayoquot	2	45	3	30	10	90	

TABLE 9.4: Per adult pure alcohol consumption in litres by establishments in BC in 2002 and 2005

	Number of		Per Adult Alcohol in	
Type of Establishments	Establishments †		Litres	
	2002	2005	2002	2005
U-Brew/U-Vint	287	322	0.41	0.36
Food restaurants	3,776	4,045	0.55	0.60
Bars	1,869	1,866	1.24	1.08
Government Liquor Store (take- out)	222	208	4.24	3.66
Private Liquor store (take-out)	648	938	1.75	2.84
All	6,802	7,379	8.18	8.53

4. Average alcohol contents in the 4 beverage groups

The data provided allows for an examination of the average alcohol content in the four beverage groups of beer, coolers, wines and spirits. Sales data provided by Statistics Canada for each province includes the litres sold in each of these beverage categories without detailed conversions to absolute alcohol. The average percent of alcohol used by Statistics Canada to calculate absolute alcohol is: spirits - 40%, liqueurs - 20%, coolers - 5%, and wines -11.5% (Statistics Canada, 2006). As can be seen on Table 9.5, each of these beverage categories has a range of products that varies in alcohol content. Although the conversion factors used by Statistics Canada for beer and spirits appear fairly

5. Estimates of home brew consumption

Since home brew data is not officially recorded, this information must be collected from either population surveys or extrapolations from secondary sources. The estimates provided below were derived from an analysis of 986 BC respondents to the Canadian Addiction Survey (Health Canada, 2004), who were asked whether they made beer or wine at home or at other home or at a U-Brew or U-Vint outlet. The average for the weighted sample was 0.712 litres of absolute alcohol per person. Applying this number to the total adult BC population results in 0.712 X 3,561,941 (population 15 years and older) = 2,536,102 litres. This number reflects estimates of both U-Brew/U-Vint and home brew production. The final population estimate was calculated by subtracting the known U-Brew/U-Vint sales: 2,536,102 -1,223,115 (U-Brew/U-Vint sales) = 1,312,987 litres of absolute alcohol from home brew. This figure represents about 4.3% of total alcohol consumption and is likely an underestimate of the true amount, because data from surveys typically underestimate actual consumption. Additional estimates are planned using other secondary data sources, such retail sales and the BC grape marketing board (see Macdonald et al., 1999).

6. Touris m adjustment: alcohol consumption for summer versus winter months

Tourism analyses included the ratio of alcohol consumption between summer (July-September) versus winter (January-March) sales for each of the 28 regional districts for aggregated 2002-2005 data. More alcohol was sold in the summer months than in the winter months in 26 regional districts. The exceptions were the Northern Rockies and Squamish-Lillooets Sa -(s)4l9(200)10(s)4l9(200a1(S)1.3(ais)4l9(200ic

The relationship between the average of per adult alcohol sales (2002 to 2005) and the sex ratios (i.e., males and females aged 15 and over) in the regional districts was also examined (see Figure 9.8). A regression line showed a significant positive relationship (R^2 = 0.2217, p<0.0067).

The ratio of population aged 20-29 to population aged 15 and over was calculated for each district in order to examine the relationship between alcohol consumption and young population ratio (see Figur e 9.9). This relationship was also significant (R^2 =0.1797, p=0.0142).

The relationship between per adult alcohol consumption and other socioeconomic indicators was examined. No significant relationships were found between per adult consumption and hous

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Discussion

The sales data presented here provide an accurate picture of the recorded alcohol consumption, showing year-to-year changes among the 28 regions of BC. Although alcohol consumption from official sales and U-Brew/U-Vint sources accounts for most of the total consumption,

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- Stockwell, T., Zhao, J., Chikritzhs, T. and Greenfield, T.K. *What did you drink yesterday*? Public health relevance of a recent recall method used in the 2004 Australian National Drug Strategy Household Survey presented in the international research symposium of the Monitoring Alcohol and Other Drug Related Harm: Building Systems to Support Better Policy, May 7 -10, 2007 Victoria, BC Canada.
- Statistics Canada. (2006). *The control and sale of alcoholic beverages in Canada:* Fiscal year ended March 31, 2005. Public Institutions Division System of National Accounts