The Health Index
MIDDLESEX-LONDON HEALTH UNIT
www.healthunit.com

ALCOHOL USE AND DRINKING & DRIVING

Issue 24, March, 2010

KEY POINTS

- In general, daily alcohol use and drinking and driving remained stable from 2001 to 2008.
- Males had a higher prevalence of all drinking behaviours.
- Between 2006 and 2008 the prevalence of exceeding the low-risk drinking guidelines dropped somewhat.
- Male drinking and driving increased slightly over time.
- Exceeding the low-risk drinking guidelines and drinking and driving decreased in prevalence by age.
- Daily drinking increased with age.
- Students had a high likelihood of exceeding the low-risk drinking guidelines.
- Retired people had the largest proportion of daily drinkers.
- No statistically significant differences were noted between those living in the City of London and those living in Middlesex County with regards to any of the measured drinking behaviours.

INDEX

BACKGROUND

Alcohol has been well documented as the most prevalent drug used in Ontario with 81.5% of Ontario residents reporting alcohol consumption in the last 12 months and 5.9% reporting daily drinking[1]. The widespread popularity of alcohol combined with its social, cultural, and economic significance in Canada has made it an embedded commodity in society today. Unfortunately, the established presence of alcohol contributes to vast health and social harms making it an important public health concern.

The overall social cost of alcohol in Canada in 2002 was estimated to be $14.6 billion or $463 for every living Canadian[2]. In addition to this financial burden, alcohol can lead to individual human suffering through acute injury and chronic disease as well as hardships in employment, family life, relationships, education, housing, and social unity. As such, the negative societal impact of alcohol remains a dominating problem both on a local and global scale.

In November 2008, the new Ontario Public Health Standards (OPHS) was introduced to set out the minimum requirements for fundamental public health programs and services targeted at prevention of disease, health promotion and health protection. One of the changes in these new standards is a clear move to ensure health units are identifying alcohol misuse as a risk factor within their assessment and surveillance activities, and health promotion and policy development as it relates to chronic disease prevention and substance misuse and injury prevention.

Timely and relevant data on alcohol use is a necessary prerequisite for effective health and social policy, programming, and for the monitoring of established health and social objectives[3]. Given the importance of data collection in assessing the ever-changing scope of alcohol use and the potential of such data in building knowledge regarding the harms of alcohol misuse, the need for local data to guide practice is paramount.

Although the availability of national (Canadian Addiction Survey) and provincial (Centre for Addiction and Mental Health Monitor) alcohol data is considerable, gaps in local information remain. Nevertheless, the Rapid Risk Factor Surveillance System (RRFSS) does provide some useful local data to help guide alcohol programming. Analyses of these data are the focus of this report.

Three different drinking behaviour outcomes are presented in this report: daily alcohol use, exceeding the low-risk drinking guidelines and drinking and driving. For the purpose of this report we have defined these as follows:

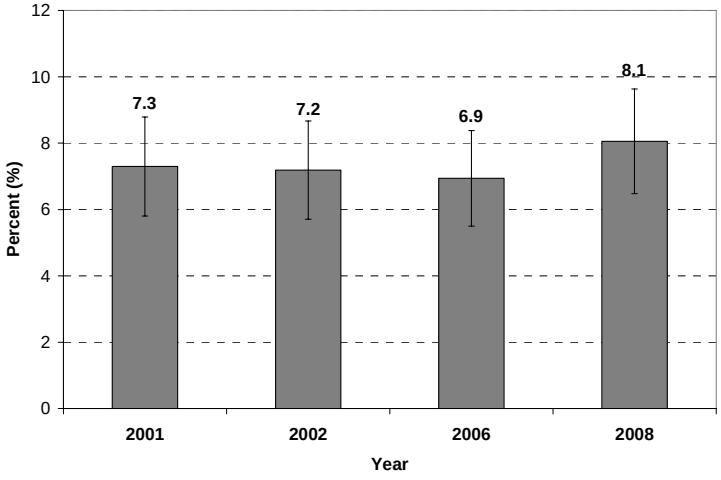
Definition of drinking behaviours

Daily alcohol use:	Drinking alcohol every day.
Exceeding the Ontario low-risk drinking guidelines (LRDG):	Drinking more than two standard drinks on any one day or drinking more than nine standard drinks per week for *women* and 14 standard drinks per week for *men*.
Drinking & driving (motor/recreational vehicle):	Having ever driven a motor/recreational vehicle within the hour of drinking two or more alcoholic drinks in the past 12 months.

DAILY ALCOHOL USE

Among past year alcohol users the overall prevalence of daily drinking was 7.3%, and the rate of daily alcohol use was stable across the years 2001, 2002, 2006 and 2008 (Figure 1).

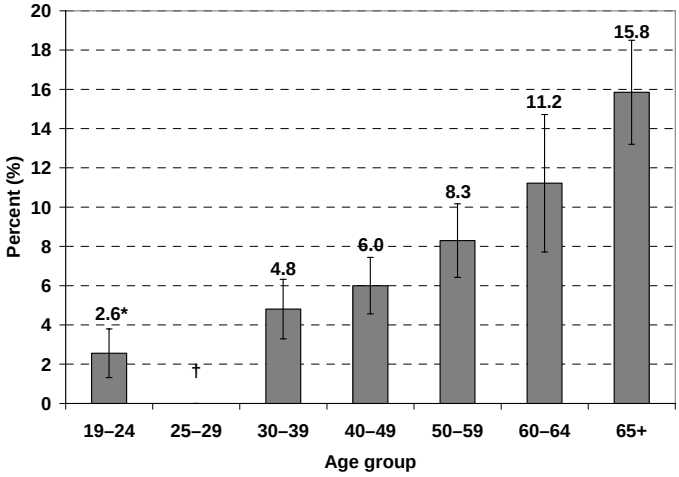
Figure 1. Daily Alcohol Use by Year.
Adults 19 Years and Older. Middlesex-London 2001, 2002, 2006 and 2008.



Gender: Males were more than twice as likely to be daily drinkers (10.7%), compared to females (4.6%)

Age: Daily drinking increased significantly by age group (Figure 2), and was higher among males in all age groups.

Figure 2. Daily Alcohol Use by Age Group.
Adults 19 Years and Older. Middlesex-London 2001, 2002, 2006 and 2008.



* Less reliable due to small numbers. Use with caution.
† Too unreliable to be released due to small numbers.

Education and gender: Daily drinking was somewhat more common among those with less than high school (14.2%) compared to those with high school or more, and those with post-secondary education (10.8% and 9.9%, respectively). However, this difference was not statistically significant.

Employment status: Among the groups for which we have reliable estimates, the highest rate of daily alcohol use is found among those who were retired (15.5%) and self-employed (11.2%), and the lowest rate is found among those who were employed for wages (5.2%).

Marital status: No statistically significant difference was seen in daily drinking between people who were single and those living with a partner.

Language: Daily drinking was slightly more common among English-speaking (7.5%) compared to those who mainly speak other languages at home (5.3%), however the difference is not statistically significant (p=0.1).

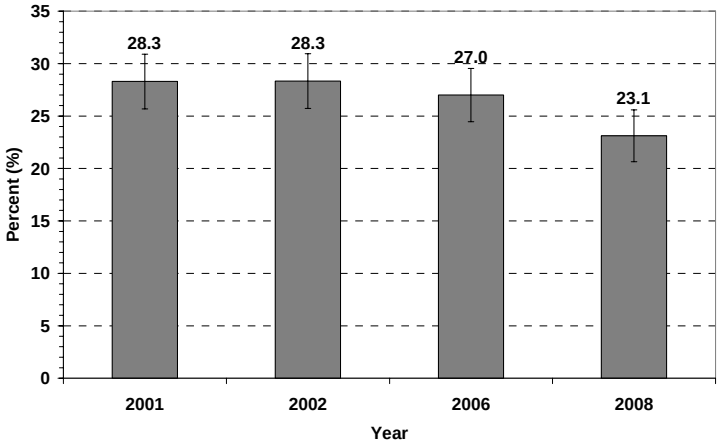
Area: The rate of daily drinking was similar for those living in the City of London (7.3%) compared to those living in other parts of Middlesex County (7.6%).

EXCEEDING THE LOW-RISK DRINKING GUIDELINES

Overall the proportion of people exceeding the low-risk drinking guidelines (LRDG) during the years 2001, 2002, 2006 and 2008 was 26.7%.

Year: There was a downward trend in the prevalence of exceeding the LRDG. In 2008 the prevalence was significantly lower than in 2001 and 2002 ((23.1% vs. 28.3%, respectively) (Figure 3).

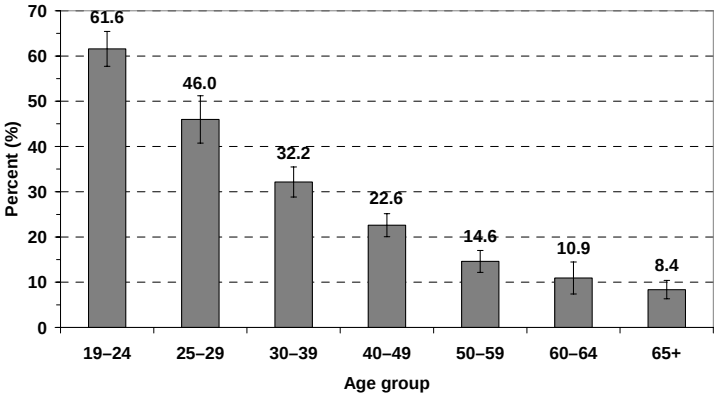
Figure 3. Exceeding the LRDG by Year.
Adults 19 Years and Older. Middlesex-London 2001, 2002, 2006 and 2008.



Gender: Males were significantly more likely to exceed the LRDG (33.1%) than females (21.6%).

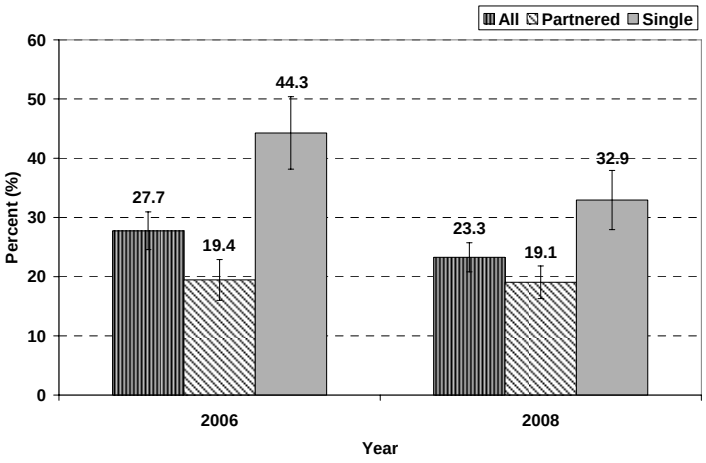
Age: The proportion of people exceeding the LRDG decreased significantly by age group starting at 61.6% among those 19-24 years of age and going down to 8.4% among those 65 years of age or older (Figure 4). The same pattern was seen among both males and females.

Figure 4. Exceeding the LRDG by Age Group.
Adults 19 Years and Older. Middlesex-London 2001, 2002, 2006 and 2008



Marital status: A higher proportion of single people (27.7%) exceeded the LRDG than those who had a partner (19.3%). However, for single people the prevalence decreased markedly from 44.3% to 32.9% between the years 2008 and 2006 (Figure 5).

Figure 5. Exceeding the LRDG by Marital Status and Year.
Adults 19 Years and Older. Middlesex-London 2006 and 2008.



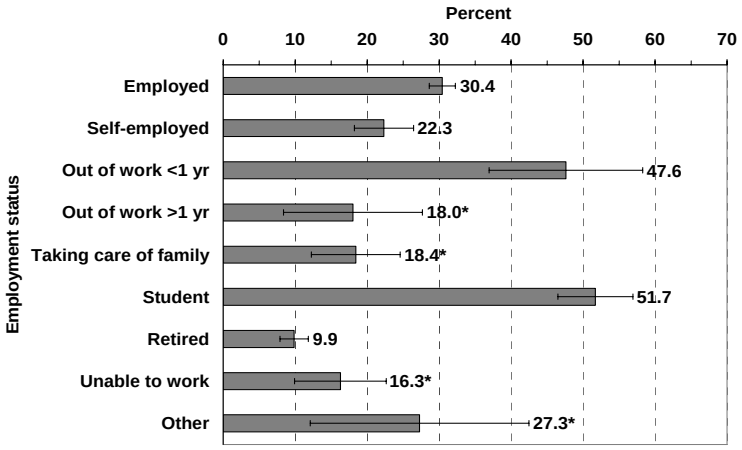
Education: The highest proportion of people exceeding the LRDG was found among those with an intermediate level of education, i.e. high school or some post-secondary education (32.5%), compared to those with the lowest (22.4%) and the highest level of education (23.9%). This pattern was found both among males and females.

Language: English-speaking people were more likely to exceed the LRDG (27.6%) compared to those who mainly spoke another language at home (16.2%).

Employment: Exceeding the LRDG was most common among those who had been out of work for less than a year (47.6%) and among students (51.7%). The lowest rate was found among retired people (9.9%). The rate was lower among self-employed (22.3%) compared to those who were employed for wages (30.4%). A significant difference was also found when comparing those who had been out of work for less than a year (47.6%) with those who had been out of work for more than a year (18.0%) (Figure 6).

Figure 6. Exceeding the LRDG by Employment Status.

Adults 19 Years and Older. Middlesex-London 2001, 2002, 2006 and 2008.



* Less reliable du to small numbers. Use with caution.

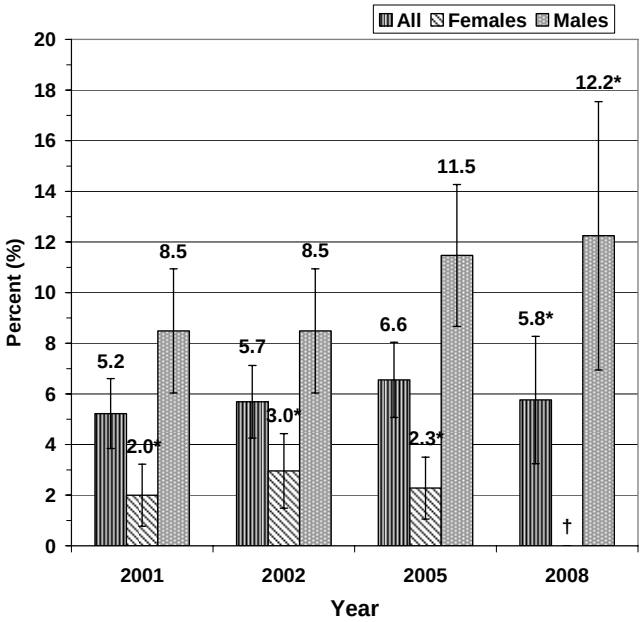
Area: There was no difference overall between those living in the City of London and those living in Middlesex County with regards to exceeding the LRDG.

DRINKING AND DRIVING OF MOTOR VEHICLE

Throughout the years 2001, 2002, 2005 and 2008 (last four months) the overall prevalence of drinking and driving in the past 12 months was 5.8%. Among males only, an increasing trend (p=0.042) in the prevalence of drinking and driving could be distinguished (Figure 7).

Figure 7. Self-Reported Drinking and Driving of Motor Vehicle by Year.

Adults 19 Years and Older. Middlesex-London 2001, 2002, 2005, and 2008.



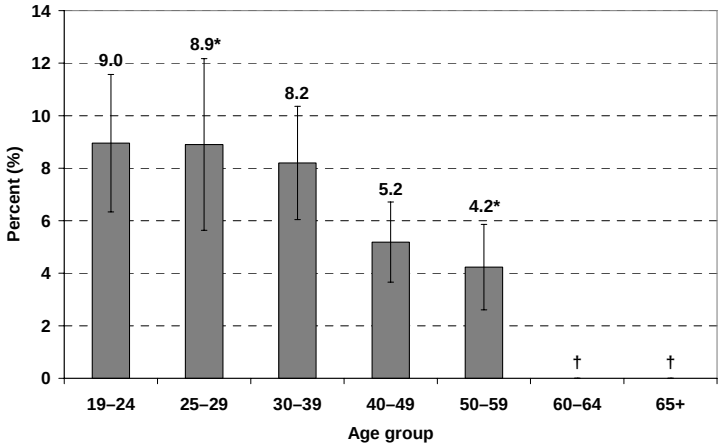
* Less reliable due to small numbers. Use with caution.
† Too unreliable to be released due to small numbers.

Gender: A significantly higher proportion of males than females reported drinking and driving (9.7% vs. 2.2%).

Age group: The prevalence of drinking and driving appears to fall after age 39 and was notably lower for those aged 50-59 (4.2%) compared to those 19-24 and 30-39 years of age (9.0% and 8.2%, respectively). The data for the two highest age groups are omitted because of unreliable estimates (Figure 8).

Figure 8. Self-Reported Drinking and Driving of Motor Vehicle by Age Group.

Adults 19 Years and Older. Middlesex-London 2001, 2002, 2005 and 2008.



* Less reliable due to small numbers. Use with caution.
† Too unreliable to be released due to small numbers.

Education: Overall there was no significant difference in drinking and driving between different levels of education.

Marital status: Drinking and driving did not differ significantly for those who were living with a partner and those who were single.

Language: There was no difference in drinking and driving with respect to language.

Employment status: The estimates for drinking and driving by employment status were too unreliable to be released.

Area: Self-reported drinking and driving tended to be more prevalent among those living in the Middlesex County (7.5%) compared to those living in the city of London (5.1%), but the difference was not statistically significant.

DRINKING AND DRIVING OF RECREATIONAL VEHICLE

Overall the prevalence of drinking and driving a recreational vehicle was 7.8% among those who indicated that they had been driving a recreational vehicle during the years 2001, 2002, 2005 and 2008. When looking at drinking and driving by different sociodemographic variables the estimates were generally too unreliable to present or not statistically significant.

IMPLICATIONS

While most residents in Middlesex-London are considered low-risk drinkers, certain subsets of the community report exceeding the LRDG, which can result in both short and long term negative drinking consequences. Alcohol contributes significantly to individual human suffering through acute injury and chronic disease as well as hardships in employment, family life, relationships, education, housing, and social unity.

As young males continue to represent the highest risk drinkers, an effort to reach this demographic as well as the younger "pre-drinking" population is fundamental. The continuation of current programming targeted at children/youth and young adults to increase alcohol knowledge, understand drinking consequences, and ultimately equip them with a variety of skills and techniques to delay alcohol initiation and/or limit negative consequences of consumption is essential. Influencing post-secondary campus environments through policy work will also continue as an essential component to prevention of alcohol misuse.

These current RRFSS data indicate that daily drinking increases with age, particularly with individuals 50 years of age and older. It has also been shown elsewhere that aging Ontario residents have an increased usage of daily medication[5]. These two factors emphasize the need for public health to understand the repercussions and develop strategies to address older adults combining medication and alcohol. An effort to educate seniors, their families, and their physicians is extremely important in future programming.

It is evident from the current findings that the Middlesex-London Health Unit's initiatives must address the following: a higher prevalence of daily drinking among the older population, exceeding the LRDG among young males, and the continued behaviour of drinking and driving. Alcohol-related programming will require multi-pronged strategies for targeted populations in partnership with many levels of government. Locally, community partnerships are vital in providing effective programs.

FUTURE DIRECTIONS

Our local goals need to align with the Recommendations for a National Alcohol Strategy (April 2001), the work of Ontario Public Health Association alcohol working group and the Ontario Public Health Standards.

The National Alcohol Strategy states: "The notion of sensible alcohol use, or developing a culture where moderation is the goal"[6]. Moving towards a culture of moderation signals a new way of thinking about alcohol use that includes an understanding of when, when not, and how much to drink, appropriate motivations for drinking and settings in which responsible drinking should take place.

Local programming will work towards the long-term goals of the Ontario Public Health Standards 2008 for the Prevention of Injury and Substance Misuse and Chronic Disease Prevention:

1. To reduce the frequency, severity, and impact of preventable injury and of substance misuse.
2. To reduce the burden of preventable chronic diseases of public health importance.

In the short-term, the Middlesex-London Health Unit will continue to educate the public about the LRDG and the older population about alcohol and medication interactions. In addition to our education efforts regarding drinking and driving, the Health Unit will also support current and new impaired driving legislation.

METHODS AND DEFINITIONS

All data are from RRFSS and were collected for the MLHU by the Institute for Social Research, York University, between 2001 and 2008 (inclusive). Monthly, about 100 adults (age 18+) were randomly selected from households with telephones in London and Middlesex County.

Data collection periods were as follows for questions relating to:

- Daily and weekly alcohol use: 2001, 2002, 2006 and 2008.
- Drinking and driving (motor vehicle and recreational vehicle): 2001, 2002, 2005 and last four waves of 2008.

The response rates for Middlesex-London for the relevant years were: 63% in 2001 and 2002, 61% in 2005 and 2006, and 54% in 2008. All point estimates were analyzed with 95% confidence intervals. Differences in proportions were considered significant at $p<0.05$. The presented results are statistically significant,

unless otherwise specified. Data were adjusted to account for differing household sizes.

The analyses were restricted to respondents who were 19 years of age or older, since this is the legal drinking age in Ontario.

Outcome Variables

Three different drinking behaviour outcomes are reported in this report: daily alcohol use, exceeding the low-risk drinking guidelines, and drinking and driving. The definitions of these drinking behaviours are provided on page 2.

Daily alcohol use was based on the RRFSS question: Do you drink alcohol every day?

The analyses of *exceeding the low-risk drinking guidelines* were based on two RRFSS questions:

- How many days a week do you drink alcohol?
- On the days when you had a drink, about how many drinks did you have on average?

Based on Ontario's low-risk drinking guidelines[7] those who drank no more than 2 standard drinks on any one day and drank no more than 9 standard drinks per week for women and 14 standard drinks per week for men were categorized as low-risk drinkers.

The analyses of *drinking and driving (motor vehicle)* excluded those who had not been driving a motor vehicle (including cars, vans, trucks, motorcycles) within the past 12 months, and were based on the following RRFSS question: In the past 12 months have you driven a motor vehicle when you've had two or more drinks in the hour before you drove?

Drinking and driving (recreational vehicle) analyses included those who had not been drinking within the past 12 months, excluded those who had not been driving a recreational vehicle within the past 12 months, and were based on the following RRFSS question: In the past 12 months have you driven a recreational vehicle such as a snowmobile, boat or all terrain vehicle when you've had two or more drinks in the hour before you drove?

Sociodemographic Variables

Marital status was based on the RRFSS question: At present, are you married, living with a partner, widowed, divorced, separated, or have you never been married? Those who were married and living with partner/common law were categorized as non-single (partnered). Widowed, divorced, separated and never married were categorized as single. This variable was only measured in the last 8 waves of 2006 and the full year of 2008.

Education was based on the RRFSS question: What is the highest level of education you have obtained? The following categories were used: Less than high school, High school or more (combining two original response categories: high school graduates and those with some post-high school education), and Post-secondary graduate.

Language was based on the RRFSS question: What language do you speak most often at home? The different languages were categorized into two groups: English/other.

Employment status was based on the RRFSS question: Are you currently: employed for wages, self-employed, been out of work for less than one year, been out of work for more than 1 year, taking care of family, a student, retired, or unable to work? The following groups were analyzed: Employed for wages, Self-employed, Out of work for less than 1 year, Out of work for more than 1 year, Taking care of family, Student, Retired, Unable to work (includes on disability), and Other. The options taking care of family, student and retired included those also working part-time.

Area was based on the responses to the question 'In which municipality do you live?' The region was divided into two areas, the City of London and the County of Middlesex (excluding the City).

REFERENCES

1. Adalf, E.M., Lalomiteanu, A. & Rehm, J. (2009). CAMH Monitor eReport: Addiction & Mental Health Indicators Among Ontario Adults, 1977-2007 (CAMH Research Document Series No. 25). Centre for Addiction & Mental Health, Toronto.

2. Rehm J., Ballunas, D., Brochu, S., Flescher, B., Gnam, W., Patra, J., Popova, S., Sarnoclnska-Hart, A. & Taylor, B. (2006). *The Costs of Substance Abuse in Canada 2002*. Ottawa: Canadian Centre on Substance Abuse.

3. Adlaf, E.M., Begin, P., & Sawka, E. (Eds.) (2005). Canadian Addiction Survey (CAS): A national survey of Canadians' use of alcohol and other drugs: Prevalence of use and related harms: Detailed repot. Ottawa, ON: Canadian Centre on Substance Abuse.

4. Gruenewald, P,. Hill, L., Holder, H., Homel, R., Österberg, E., Rehm, J., Room. R. & Rossow, I. (2003) Alcohol: No Ordinary Commodity – Research and Public Policy. Oxford and London: Oxford University Press.

5. Ramage-Morin, P.L. (2009) Medication use among senior Canadians. Health Rep. Mar;20(1):37-44.

6. National Alcohol Strategy Working Group on recommendations for a National Alcohol Strategy (April2007). Reducing Alcohol-Related Harm in Canada: Toward a Culture of Moderation: Recommendations for a National Alcohol Strategy. Drug Strategy and Controlled Substances Programme Health Canada

7. http://www.lrdg.net/guidelines.html. Accessed Nov 20, 2009.

CONTACTS

Authors: Magdalena Lagerlund
Melissa Rennison
Joyce Castanza

Contacts: **For questions related to data and analysis:**

Magdalena Lagerlund (PhD), Contract Epidemiologist, Research, Education, Evaluation and Development Services (REED)
Middlesex London Health Unit
Phone (519) 663-5317 ext. 2357 Fax: (519) 432-9430
Email: magdalena.lagerlund@mlhu.on.ca

For program related questions:

Joyce Castanza, Public Health Nurse, Environmental Health & Chronic Disease Services
Middlesex London Health Unit
Phone (519) 663-5317 ext. 2672 Fax: (519) 663-9276
Email: joyce.castanza@mlhu.on.ca

Melissa Rennison, Public Health Nurse, Environmental Health & Chronic Disease Services
Middlesex London Health Unit
Phone (519) 663-5317 ext. 2252 Fax: (519) 663-9276
Email: melissa.rennison@mlhu.on.ca

This report is also available at: www.healthunit.com.

The authors wish to acknowledge their colleagues Evelyn Crosse, Health Unit Epidemiologist, REED Services, and Mary Lou Albanese, Program Manager, Environmental Health and Chronic Disease Services, for valuable advice; Virginia McFarland, Data Analyst, REED Services, for assistance with data analyses, Pat Holmes, Program Assistant, REED Services, for her work on the layout, and the Institute for Social Research, York University, for data collection.