

# Non-medical Use of Prescription Opioids Among Ontario Adults: Data From the 2008/2009 CAMH Monitor

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## ABSTRACT

**Objective:** There are indications that non-medical prescription opioid analgesics use (NMPOU) in the general population has increased in Canada in recent years; however, existing estimates have limitations. Thus our objectives are to determine prevalence and associated demographics of 1) prescription opioid analgesics (PO) use, 2) NMPOU, and 3) use of PO for intoxication purposes in the adult population in Ontario.

**Methods:** Prevalence and the associations between sex, age, region, income, cigarette smoking, binge drinking, cannabis use and psychological distress with the above-noted types of PO use were assessed using data from the 2008 and 2009 samples (n=2030) of the CAMH Monitor. The statistical significance of the associations for all types of PO use was tested through bivariate associations using chi-square tests, and a two-step logistic regression was performed to test if demographics are associated with NMPOU.

**Results:** The prevalence of PO use was 21.3% (95% CI 19.1-23.4), and the prevalence of NMPOU was 2.0% (95% CI 1.2-2.8) of Ontario adults. There were no significant differences between men and women for either PO use or NMPOU. Bivariate associations indicated that NMPOU was associated with tobacco and cannabis use and psychological distress in men. Logistic regression showed a significant association between NMPOU and each of age, cannabis use, and psychological distress in men.

**Discussion:** NMPOU is an emerging epidemic in Canada across all income and age groups, and is associated with other substance use and mental health problems. Improved survey designs are required for more accurate population estimates of NMPOU.

**Key words:** Pain care; prescription opioids; general population surveys; Ontario; Canada; substance abuse

La traduction du résumé se trouve à la fin de l'article.

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Prescription opioid analgesics (PO) use in North America has become a major medical and public health concern with consumption of PO in Canada and the United States (US) being higher than anywhere else in the world.<sup>1-3</sup> In Canada, the amount of PO dispensed has doubled in the last decade alone.<sup>1</sup> Additionally, the number of opioid-related deaths (both prescription and illegal opioids) in Canada increased 41% from 1999 to 2004.<sup>4</sup> An analogous situation exists in the US, where the prevalence of PO use and non-medical prescription opioid analgesics use (NMPOU) and the incidence of mortality and morbidity associated with NMPOU have increased since the early 1990s.<sup>5-7</sup>

Prevalence of PO use and the amount of PO dispensed in a population for medical purposes is associated with 1) the prevalence of NMPOU,<sup>2,8,9</sup> and 2) the mortality and morbidity associated with opioid use (e.g., deaths due to overdose, and admissions to emergency rooms and treatment facilities for substance abuse), albeit with a time lag.<sup>4,10</sup> While the associations with PO use can be used to indirectly estimate NMPOU prevalence,<sup>9</sup> another possibility is to use surveys such as the Canadian Alcohol and Drug Use Monitoring Survey (CADUMS) 2008 which may be used to directly estimate the prevalence of NMPOU.<sup>11</sup>

However, NMPOU prevalence for Canada as measured by the CADUMS 2008 seems unrealistically low when compared to data obtained from the US National Survey on Drug Use and Health (NSDUH)<sup>12,13</sup> given per capita use in both countries.<sup>1</sup> Various reasons have been suggested for the differences between the results

obtained from the CADUMS 2008 and the NSDUH, such as sampling methods, response rates and item formulation.<sup>13-16</sup>

Utilizing the CAMH Monitor 2008 and 2009 to estimate the types of PO use in Ontario has many advantages over using the CADUMS 2008. Most importantly, the CAMH Monitor had a region-stratified sampling design as well as a higher response rate and, thus, should give more accurate results.<sup>16-18</sup> In this article, we use data from the CAMH Monitor 2008 and 2009 to assess: 1) the prevalence of a) PO use, b) PO use for intoxication purposes, and c) NMPOU; and 2) the associations of demographic variables with the types of PO use.

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**Conflict of Interest:** None to declare.

**Table 1.** Percentage Reporting Use of Prescription Opioid Pain Relievers During the Previous 12 months, Ontarians, Aged 18+, CAMH Monitor, 2008-2009

	N	Any Use of PO	Any Non-medical Use of PO	Used PO to Get High
Total Sample	2030	21.3 (19.1, 23.4)	2.0 (1.2, 2.8)	0.5 (0.0, 1.0)
Gender		NS	NS	NS
Men	896	19.9 (16.9, 22.9)	2.4 (1.0, 3.7)	0.8† (0.0, 1.7)
Women	1134	22.7 (19.6, 25.9)	1.6 (0.8, 2.5)	0.2† (0.0, 0.5)
Age (years)		NS	NS	*
18-29	189	18.4 (12.1, 24.7)	3.5 (0.4, 6.6)	1.8† (0.0, 4.4)
30-54	932	21.1 (18.1, 24.1)	2.1 (1.1, 3.2)	0.1† (0.0, 0.3)
55+	844	24.2 (20.8, 27.6)	1.0 (0.3, 1.7)	0.3† (0.0, 0.6)
Region		NS	NS	NS
Toronto	317	20.9 (15.8, 26.0)	1.9 (0.2, 3.7)	0.2† (0.0, 0.4)
Rest of Ontario	1713	21.3 (19.0, 23.7)	2.0 (1.1, 2.9)	0.6† (0.0, 1.0)
Income		NS	NS	NS
<\$30,000	250	23.2 (17.0, 29.3)	1.7† (0.0, 3.5)	0.3† (0.0, 1.0)
\$30,000-\$79,999	644	23.1 (19.2, 26.8)	2.5† (1.1, 3.9)	0.2† (0.0, 0.3)
\$80,000+	619	19.6 (16.1, 23.2)	1.7† (0.6, 2.8)	0.3† (0.0, 0.5)
Not stated	517	20.8 (16.2, 25.4)	1.9† (0.0, 3.9)	1.1† (0.0, 2.1)
Daily cigarette smoking		NS	NS	**
Yes	399	24.4 (18.9, 29.6)	4.0† (1.0, 7.0)	1.7† (0.0, 4.1)
No	1627	20.6 (18.8, 29.6)	1.5† (0.9, 7.0)	0.2† (0.0, 0.4)
Weekly binge drinking		NS	NS	NS
Yes	133	19.7 (11.9, 27.5)	4.0† (0.6, 7.4)	1.4† (0.0, 3.5)
No	1883	21.4 (19.2, 23.7)	1.9† (1.0, 2.7)	0.4† (0.0, 0.9)
Cannabis use		NS	***	***
Yes	206	24.2 (17.1, 31.3)	6.3† (2.0, 10.7)	2.7† (0.0, 6.2)
No	1810	20.8 (18.6, 23.0)	1.0† (0.2, 1.8)	0.1† (0.0, 0.3)
Psychological distress (GHQ 3+)		***	***	***
Yes	284	37.3 (30.0, 44.6)	7.5† (3.1, 11.9)	2.4† (0.0, 5.8)
No	1743	18.8 (16.7, 21.0)	1.2† (0.6, 1.7)	0.2† (0.0, 0.4)

Notes: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001; CI = 95% confidence interval; NS – no significant difference; † Estimate unstable (interpret with caution) or suppressed due to high sampling variability.

Definitions: “Any use of pain relievers” defined as reporting any use in the previous 12 months; “Any non-medical use of pain relievers” defined as reporting use “to get high”, obtained “from a prescription written for someone else” or “bought from someone else” or obtained “from any other source”; “Used pain relievers to get high” defined as reporting use to get high in the previous 12 months.

## METHODS

### Survey design

Our study is based on data derived from the 2008 and 2009 cycles of the CAMH Monitor, a county-stratified two-stage (telephone household, respondent) probability sampling of Ontario adults (18 years and older) performed in 24 waves between January 2008 and December 2009. The survey was conducted using random-digit-dialing methods and computer-assisted telephone interviewing with a response rate of 57% (see refs. 17 and 18 for sampling design details). Our analysis is based on a total sample of 2,030 adults. *A posteriori* population expansion weights were calculated for the CAMH Monitor by triangulating survey data with census information on age and gender.

### Selection of variables for analysis

The main PO indicators of interest from the CAMH Monitor 2008 and 2009 were as follows: 1) use of PO in the “past 12 months”

(i.e., medical or non-medical); 2) any NMPOU in the previous 12 months as computed by combining the responses of participants who reported they had used PO during the previous 12 months “to get high” and had a) used PO obtained “from a prescription written for someone else”, or b) used PO “bought from someone else, without a prescription” or “from any other source”; and 3) any use of PO for intoxication purposes was assessed by using PO during the “past 12 months” on at least one occasion “to get high?” (see refs. 17 and 18 for wording details).

Demographic variables included in our analysis included gender, age (grouped into three categories: 18-29, 30-54, 55+), region (living in Toronto, the rest of Ontario) and household income (<\$30,000, \$30,000-79,000, \$80,000+, not stated).

Substance use measures included tobacco use (defined as either daily or occasional (in the last 12 months) cigarette smoking), weekly binge drinking (defined as drinking five or more drinks on one occasion at least once a week in the previous 12 months), and

**Table 2.** Percentage Reporting Any Non-medical Use of Prescription Opioid Pain Relievers During the Previous 12 Months by Gender, Ontarians, Aged 18+, CAMH Monitor, 2008-2009

	Any Non-medical Use of POs			
	Men		Women	
	N	%	N	%
Total Sample	896	2.4† (1.0, 3.7)	1134	1.6† (0.8, 2.5)
Age (years)		NS		NS
18-29	100	4.9† (0.0, 10.1)	89	1.9† (0.0, 4.6)
30-54	420	2.3† (0.8, 3.9)	512	1.9† (0.5, 3.3)
55+	356	0.8† (0.0, 1.8)	488	1.2† (0.2, 2.1)
Region		NS		NS
Toronto	138	2.5† (0.0, 5.4)	179	1.4† (0.0, 3.4)
Rest of Ontario	758	2.3† (0.8, 3.8)	955	1.7† (0.7, 2.7)
Income		NS		NS
<\$30,000	87	1.2† (0.0, 3.0)	163	2.0† (0.0, 5.0)
\$30,000-\$79,999	289	2.4† (0.4, 4.4)	355	2.6† (0.6, 4.5)
\$80,000+	329	2.2† (0.6, 3.9)	290	1.1† (0.0, 2.3)
Not stated	191	2.9† (0.0, 6.9)	326	1.2† (0.0, 2.6)
Cigarette smoking		**		NS
Yes	206	6.5† (1.6, 11.3)	194	1.9† (0.9, 2.9)
No	690	1.2† (0.3, 2.1)	937	0.3† (0.0, 1.0)
Weekly binge drinking		NS		NS
Yes	106	4.2† (0.3, 8.1)	27	3.1† (0.0, 9.3)
No	781	2.1† (0.7, 3.5)	1102	1.6† (0.7, 2.5)
Cannabis use		***		NS
Yes	135	8.3† (2.3, 14.4)	71	1.9† (0.0, 2.5)
No	755	1.0† (0.2, 1.8)	1055	1.6† (0.7, 2.5)
Psychological distress (GHQ 3+)		***		NS
Yes	106	14.0† (4.1, 23.9)	178	3.2† (0.7, 5.8)
No	789	1.0† (0.3, 1.7)	954	1.3† (0.4, 2.3)

Notes: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001; CI = 95% confidence interval; NS – no significant difference; † Estimate unstable (interpret with caution) or suppressed due to high sampling variability.

Definitions: “Any use of pain relievers” defined as reporting any use in the previous 12 months; “Any non-medical use of pain relievers” defined as reporting use “to get high”, obtained “from a prescription written for someone else” or “bought from someone else” or obtained “from any other source”; “Used pain relievers to get high” defined as reporting use to get high in the previous 12 months.

cannabis use (defined as using cannabis at least once in the previous 12 months).

Psychological distress was measured by the 12-item General Health Questionnaire (GHQ-12),<sup>19</sup> a screening instrument that evaluates depression/anxiety and problems with social functioning. We used a cut-off score of 3 or more on the GHQ-12 as an indication of elevated psychological distress.

**Statistical analyses**

The results in this paper are based on “valid” responses (n’s), such that missing data (i.e., “don’t know” responses and refusals to respond) were excluded from our analyses. Stata 10.1 and SPSS 15.0 software were employed for our analyses.<sup>20,21</sup>

Prevalence of 1) any use of POs, 2) any NMPOU, and 3) the use of POs for intoxication purposes, was assessed for all of Ontario and by age, region, income, binge drinking, tobacco use, cannabis use and psychological distress. Any estimate with a coefficient of variation above 33.3 was considered unstable and should be interpreted with caution. Confidence intervals for the prevalence of PO use,

NMPOU, and the use of POs for intoxication purposes were calculated using the normal approximation as this method is deemed the most appropriate for complex survey data.<sup>22</sup> Significant differences were determined using chi-square tests. *A posteriori* population weights were used to estimate the prevalence of the types of PO use and in all bivariate analyses.

Two-step logistic regression models were implemented, one for men and one for women, to determine the variables associated with NMPOU. In step 1, we assessed the impact of demographic factors (age, region, and income); in step 2, we examined the impact of substance use (tobacco, cannabis, binge drinking) and psychological distress on NMPOU while also controlling for demographic factors. In all logistic regression models, variance inflation factors (VIF) were examined, with a VIF >5 considered evidence of collinearity. Model fit was assessed using the Hosmer-Lemeshow Goodness of Fit Test.<sup>23</sup> A modelling approach suggested by Groves was adopted so that we did not take into account *a posteriori* population expansion weights in our regression analyses.<sup>24</sup>

**Table 3.** Logistic Regression Models Predicting Non-Medical Use of Prescription Opioid Pain Relievers During the Previous 12 Months, Ontarians, Aged 18+, CAMH Monitor, 2008-2009

	Non-medical Prescription Opioid Use†									
	Men (N=858)				Women (N=1070)					
	Step 1 OR	Step 1 (95% CI)		Step 2 OR	Step 2 (95% CI)		Step 1 OR	Step 1 (95% CI)		
Age (ref. = 55+)										
18-29	6.65	(1.55, 28.50)		3.27	(1.27, 16.58)		1.61	(0.32, 8.10)		
30-54	3.68	(1.01, 13.47)		2.49	(0.64, 9.74)		1.44	(0.53, 3.96)		
Toronto (ref. = Rest of Ontario)	1.06	(0.30, 3.75)		1.18	(0.30, 4.65)		1.03	(0.30, 3.60)		
Income‡ (ref. = <\$30,000)										
\$30,000-79,999	1.08	(0.22, 5.30)		2.12	(0.36, 12.34)		1.14	(0.29, 4.43)		
\$80,000+	0.79	(0.16, 3.94)		1.51	(0.27, 8.61)		0.63	(0.13, 3.00)		
Not stated	0.37	(0.05, 2.74)		0.57	(0.07, 4.77)		0.69	(0.15, 3.14)		
Cigarette smoking (ref. = no)			2.29	(0.83, 6.32)				0.18	(0.02, 1.45)	
Weekly binge drinking (ref. = no)			0.88	(0.42, 4.13)				3.62	(0.41, 31.78)	
Cannabis use (ref. = no)			4.64	(1.60, 13.48)				0.52	(0.06, 4.32)	
Psychological distress (ref. = no)			7.55	(2.87, 19.88)				4.21	(1.61, 11.00)	
Odds of non-medical prescription opioid use for an individual who is in all reference categories	0.01**		0.00***			0.02***		0.01***		
Hosmer & Lemeshow test	19.39, p=0.02		17.2, p=0.51		18.6, p=0.69		18.1, p=0.07			

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001; CI = 95% confidence interval; † at least once in the previous 12 months; ‡ Canadian dollars; ref. = reference category.

**RESULTS**

Table 1 presents data on the use of PO by demographic characteristics, substance use and psychological distress. Any use of POs was reported by 21.3% (95% CI 19.1-23.4) of Ontario adults. No significant differences were found between men (19.9%, 95% CI 16.9-22.9) and women (22.7%, 95% CI 19.6-25.9). Bivariate analyses revealed significant differences only for psychological distress. Use of any PO was significantly higher among those reporting elevated psychological distress (37.3%, 95% CI 30.0-44.6). No significant differences were found for age, region, income, tobacco use, binge drinking and cannabis use.

Any NMPOU was reported by 2.0% (95% CI 1.2-2.8) of Ontario adults. There were no significant differences between men (2.4%, 95% CI 1.0-3.7) and women (1.6%, 95% CI 0.8-2.5). Significant differences were found only for cannabis use and psychological distress. Any NMPOU was significantly higher among those reporting cannabis use in the previous 12 months (6.3%, 95% CI 2.0-10.7 versus 1.0%, 95% CI 0.2-1.8) and among those reporting elevated psychological distress (7.5%, 95% CI 3.1-11.9 versus 1.2%, 95% CI 0.6-1.7).

Any use of POs for intoxication purposes was reported by 0.5% (95% CI 0.0-1.0) of Ontario adults. No significant differences were found between men (0.8%, 95% CI 0.0-1.7) and women (0.2%, 95% CI 0.0-0.5). Significant differences were found for age, tobacco use, cannabis use and psychological distress. Use of any POs for intoxication purposes was reported more frequently among those aged 18 to 29 (1.8%, 95% CI 0.0-4.4), among current smokers (1.7%, 95% CI 0.0-4.1), among people who used cannabis during the previous 12 months (2.7%, 95% CI 0.0-6.2), and among those reporting elevated psychological distress (2.4%, 95% CI 0.0-5.8).

In Table 2, we restrict our analysis to NMPOU only and present data separately for men and women by demographic characteristics, substance use and psychological distress. For both men and women, we found no significant differences by age, region, income and weekly binge drinking. Among women, NMPOU was significantly associated only with tobacco use but not weekly binge drink-

ing, cannabis use or psychological distress. Among men, NMPOU was significantly associated with tobacco use, cannabis use and psychological distress. Use was significantly higher among tobacco smokers (6.5%, 95% CI 1.6-11.3 versus 1.2%, 95% CI 0.3-2.1), among cannabis users (8.6%, 95% CI 2.3-14.4 versus 1.0%, 95% CI 0.2-1.8) and among men reporting elevated psychological distress (14.0%, 95% CI 4.1-23.9 versus 1.0%, 95% CI 0.3-1.7).

Table 3 presents logistic regression models of NMPOU for men and women, controlling for demographic characteristics in step 1 and for added substance use and psychological distress in step 2. Demographic characteristics (age, income and region) were not found to be significant predictors of NMPOU for women in step 1; however, age was found to be a significant predictor of NMPOU in men. When these factors were controlled for and substance use and psychological distress were included in step 2, cannabis use (OR=4.64) and psychological distress (OR=7.55) became significant predictors of NMPOU for men. For women, the logistic regression in step 2 revealed that psychological distress (OR=4.21) was significantly associated with NMPOU.

**DISCUSSION**

This study explored the prevalence and covariates of NMPOU in the Ontario adult general population. The key results from our analysis demonstrate, first of all, that NMPOU is not significantly associated with sex, age, income or region. As was the case in other studies, we found evidence to suggest that the predictors of NMPOU in Ontario are different for men and women in terms of age, cigarette smoking and psychological distress.<sup>25-28</sup> In addition to differences in the significance of these predictors, we also found a difference in the significance of cannabis use in the previous year as a predictor of NMPOU for men and women. Despite differences in the significance of predictors, the prevalence of NMPOU in Ontario was not significantly different by sex, as has been observed in countries other than Canada.<sup>28-30</sup> Although more research is needed to confirm these observations, it appears that all types of PO use, with the exception of PO use by younger adults for intoxica-

tion purposes, are equally prevalent in adult men and women of all income levels and regions in Ontario. PO use, either medically or non-medically, is the only psychoactive substance with no demographic differentiation; alcohol, tobacco and almost all illegal drugs are more prevalent in men and younger age groups, and benzodiazepine and most psychoactive medications are more prevalent in women and the elderly. In other words, NMPOU seems to be the first substance abuse problem that penetrates both sexes and different social strata almost at the same level.

Bivariate analysis indicated that PO use, NMPOU, and use of POs for intoxication purposes were all associated with psychological distress, and that NMPOU and PO use for intoxication purposes were significantly associated with cannabis use. Additionally, our logistic regression of NMPOU found that psychological distress and cannabis use were associated with the odds of NMPOU in the previous 12 months for men but not for women. The results from our study confirm previous results that suggest the NMPOU is associated with illicit drug use and mental illness in men.<sup>28-30</sup> This result confirms findings from a number of other recent studies, which have shown pronounced correlations between NMPOU and mental health problems as well as other substance use problems.<sup>31-33</sup> Thus, NMPOU commonly does not occur in isolation but occurs in the context of concomitant substance use and/or mental health disorders, the interaction dynamics of which are not well understood but have crucial implications for interventions.

This study is limited by the sample size available for analysis from the CAMH Monitor 2008 and 2009. Despite using two waves of a fairly large survey that provided a sample of 858 men and 1,070 women, we were not able to acquire a significant result for odds ratios below 3.0. Additionally, because of the small sample size, estimates of NMPOU when stratified by predictors were unstable (defined as having a coefficient of variation equal to or greater than 33.3). Unstable estimates were also a problem when stratifying by various variables the use of POs for intoxication purposes. Our finding that NMPOU in Ontario was 2.0% (2.4% of men and 1.6% of women) suggests that either a study investigating a specific population with a higher prevalence of NMPOU or a study with a larger sample size should be undertaken to investigate some of the weaker associations between NMPOU and predictors such as region and income. Despite the limitation of sample size, we were able to obtain significant associations that have been observed previously in other studies.<sup>25-28</sup>

Obtaining population estimates of NMPOU by means of telephone surveys will lead, in most cases, to an undercoverage of NMPOU.<sup>12,14</sup> Undercoverage of NMPOU cannot be ignored since accurate prevalence estimates of NMPOU in populations are necessary for interventions to be effectively targeted at this growing epidemic.<sup>2</sup> In the future, alternative survey designs, such as personal interviews and better measures of NMPOU, are imperative. Despite these limitations and the risk of underestimation, NMPOU was found to be relatively prevalent in Ontario, with approximately 1 in 30 adults (380,000) engaging in NMPOU in the previous 12 months.

NMPOU is a rising epidemic in Canada and abroad. Our study suggests that all types of PO use, including non-medical uses, are similarly prevalent across socio-demographic strata in Ontario. New prevention strategies and health policies for NMPOU that address all socio-demographic groups will have to be implemented. Clear-

ly, focusing on street drug users and their PO use and NMPOU will no longer be sufficient.<sup>34</sup>

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## RÉSUMÉ

**Objectif :** La consommation d'analgésiques opioïdes sans ordonnance médicale (CAOSOM) semble augmenter dans la population générale depuis quelques années au Canada, mais les estimations actuelles comportent des lacunes. Nous avons voulu déterminer la prévalence et le profil démographique associé à : 1) la consommation d'analgésiques opioïdes (AO) sur ordonnance, 2) la CAOSOM et 3) la consommation d'AO à des fins d'intoxication dans la population adulte de l'Ontario.

**Méthode :** La prévalence et les associations entre le sexe, l'âge, la région, le revenu, l'usage de la cigarette, les excès d'alcool, l'usage du cannabis et la détresse psychologique, d'une part, et les types de consommation d'AO indiqués plus haut, ont été évaluées à l'aide des données des échantillons de 2008 et de 2009 (n=2 030) du CAMH Monitor. La signification statistique des associations pour tous les types de consommation d'AO a été testée au moyen d'associations bivariées à l'aide du test du khi-carré, et une régression logistique en deux temps a été effectuée pour tester les associations possibles des données démographiques avec la CAOSOM.

**Résultats :** La prévalence de la consommation d'AO était de 21,3 % (IC de 95 % 19,1-23,4), et la prévalence de la CAOSOM était de 2,0 % (IC de 95 % 1,2-2,8) chez les adultes de l'Ontario. Il n'y avait aucun écart significatif entre les hommes et les femmes, ni pour la consommation d'AO, ni pour la CAOSOM. Les associations bivariées montrent que la CAOSOM est associée à l'usage du tabac et du cannabis et à la détresse psychologique chez les hommes. La régression logistique fait état d'une association significative entre la CAOSOM et, respectivement, l'âge, l'usage du cannabis et la détresse psychologique chez les hommes.


**Discussion :** La CAOSOM est une épidémie émergente au Canada dans tous les groupes d'âge et de revenu; elle est associée à la consommation d'autres substances et aux problèmes de santé mentale. Il faudrait améliorer les plans de sondage pour obtenir des estimations plus exactes de la CAOSOM dans la population.

**Mots clés :** prise en charge de la douleur; opiacés sur ordonnance; enquête de population générale; Ontario; Canada; toxicomanie

# EATSAFE

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**EAT SAFE!** is a new online resource that helps people minimize their personal risk from foodborne illness.

The website includes food safety fact sheets available as downloadable PDFs in English, French, and 11 other languages: Arabic, Chinese, Farsi (Persian), Inuktitut, Korean, Punjabi, Russian, Spanish, Tagalog, Tamil, and Urdu.

The production of this resource targeted at higher-risk groups, their caregivers and the broader Canadian population was made possible through an unrestricted educational grant from Maple Leaf Foods Inc.

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## Welcome

Welcome to this online guide to easy, practical steps you can take to make sure the food you eat is safe.

Canada's food safety system is one of the best in the world. But despite the best efforts of government and industry who produce our food, as well as what we do as consumers to protect the safety of the food we eat at home, there are still 11 to 13 million cases of foodborne illness across the country each year. You can protect your own health by following some simple, practical advice about choosing, storing, and preparing your food.

Food safety is particularly important for people in specific higher-risk groups that are more vulnerable to germs that are sometimes carried in our food.

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