

# Prescription Drug Misuse in Edmonton and Alberta: A Rapid Assessment

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# Executive Summary

## Alberta Adults

- In a representative sample of Alberta adults (18+ years) collected in 2002, 7.8% reported non-medical use of sedatives (barbituates), tranquilizers, and painkillers at least once in the previous year.
- Adults aged 18-24 were the largest proportion of non-stimulant prescription drug misusers (11.4%) followed by 35-44 year olds (8.5%).
- Analgesics (excluding normal use of over-the-counter analgesics such as acetaminophen; including such drugs as codeine, morphine, oxycodone, etc.) were the most commonly misused prescription drug (4.9%).
- Key informant interviews with representatives from the RCMP, physicians, pharmacists, and the Edmonton Drug Treatment and Community Restoration Court confirmed that oxycodone, hydromorphone, codeine, synthetic opioids, Fentanyl and benzodiazepines, narcotics and Tylenol 3 and 4 are commonly misused prescription drugs

## Alberta Youth

- Among a representative sample of Alberta youth in Grades 7-12, 7.4% of Alberta youth outside of Edmonton reported lifetime prescription drug misuse, and 6.1% reported misuse in the previous 12 months. Edmonton youth exhibit similar, though lower rates (6.4% and 5.8%, respectively).
- Females, senior grade level students, and students with a White ethnicity are more likely to report lifetime prescription drug misuse than other demographic and regional subgroups.

## Marginalized (inner-city Edmonton) Drug Users

- Current (past 30-day) prescription drug misuse is common among inner-city drug users. Some 89% - 93% of convenience samples in two primary studies of inner-city drug abuse reported misusing at least one prescription drug in the past 30 days.
- OxyContin/OxyCodone was the most commonly used prescription drug in one study, with 60.0% of participants reporting past-month use, followed by Dilaudid (50.0%), and Tylenol 3 or 4 (46.7%). In a second study, the most commonly used prescription drugs in the previous 30 days were Tylenol 3's or 4's (50.5%), Dilaudid (47.6%), and Valium or benzodiazepines (43.7%).
- The most commonly used drugs among inner-city key informants interviewed for this project included OxyContin and Tylenol 3 and 4. When asked which prescription drugs are most popular current user key informants identified Tylenol 3 or 4, morphine ('greys' and 'reds'), OxyContin, Valium, and Dilaudid ('dillies' or 'dilli 8').

## Polydrug Use

- Among current prescription drug misusers, use of other illicit drugs is the norm, rather than the exception.
- Tobacco and alcohol use were very frequently used among those who had misused prescription drugs in the past year. Among prescription drug misusers, 100.0% of Alberta adults, 59.8% of Edmonton youth, and 92.7% of inner-city opiate users had recently used tobacco. 89.7% of Alberta adults, 99.1% of Edmonton youth, and 66.7% of inner-city opiate users had also used alcohol in the past year.
- The most commonly used illicit drugs among prescription drug misusers are cannabis (26.4% concurrent use among Alberta adults; >80% concurrent use among Alberta youth) and among marginalized inner-city prescription drug misusers, crack cocaine (>65% concurrent use).

## Treatment Seeking

- From April 2006 – March 2007, 19% of adult AADAC clients reported using antidepressants, 13% tranquilizers, 6% barbiturates/sedatives, 5% stimulants, 2% steroids, and 1% Talwin and Ritalin. However, less than 3% of adults seeking treatment at AADAC who reported using any one type of prescription drug indicated that a prescription drug was their primary 'drug of concern'
- In AADAC's Opioid Dependency Clinic, about 30 clients are admitted per month for methadone maintenance treatment. Currently there are 530 clients in the ODC program (6% of all adult AADAC clients), with opioids and benzodiazepines reportedly being the prescription drugs most abused prior to treatment entry.
- From April 2006 – March 2007, 12% of youth attending AADAC treatment programs report using stimulants, 6% antidepressants, 5% tranquilizers, 2% barbiturates/sedatives, 2% Talwin and Ritalin, and 1% steroids. However, less than 2% of youth who use any one type of prescription drug indicated that that a prescription drug was their primary 'drug of concern'.

## Aboriginal Peoples

- Key informants noted that Status First Nations people are provided prescription drug coverage by the Federal government. Thus, there may be a greater incentive to obtain prescription drugs from legal, as opposed to illegal sources for this population.
- Representative from FNIHB also noted that "many start because of chronic pain care needs [and] because of things like post-traumatic stress disorder from sex abuse and the residential school system".
- Targeted assessment in collaboration with FNIHB would be helpful to describe the scope of prescription drug misuse in this population

### Access and Cost

- Among inner-city key informants, prescription drugs (except stimulants and Demerol) were more commonly acquired on the street, as opposed to a physician. Dilaudid was almost exclusively obtained from street sources, and rarely from physicians. However, some drugs such as downers and OxyContin tend to be acquired from both sources almost equally. This pattern is consistent with data from a survey of inner-city opiate users.
- Some 73% of inner-city prescription drug misusers reported that it is easy or very easy to get the drugs they use.
- The most expensive drugs include Talwin and Ritalin which can cost up to \$25 for one pill, or \$50 for a 'set' (1 Talwin and 1 Ritalin), downers (can cost up to \$30/pill), Dilaudid (up to \$40 for a 'dilli 8'), and morphine (up to \$25/pill, depending on the strength). Commonly used drugs such as Tylenol 3 and 4 only cost around \$.50-\$1.00 (T3) or \$1-2 (T4).

### Morbidity and Mortality

- Drug withdrawal syndrome accounted for the most prescription drug-related hospitalizations in the Capital Health Authority (CHA) between 2003 and 2006 (4.37 per 100,000), however, it is important to note that this category may include withdrawal due to drugs other than prescription drugs. The rate of disorders due to stimulants other than cocaine was also high, at 3.47 per 100,000.
- The pattern of hospitalizations for prescription drug-related causes between 2003 and 2006 in the CHA is fairly consistent among males and females, with males having slightly higher rates of hospitalization than females, and a decreasing trend over these four years.
- The most prevalent reason for prescription drug-related ED visits between 2003 and 2006 in the CHA was disorders due to stimulants other than cocaine (16.64 visits per 100,000). Males consistently evidenced higher rates of ED visits, compared to females, over these years.
- Poisoning with undetermined intent by means of unspecified drugs (4.07 per 100,000), or by means of narcotics or psychodysleptics (3.79 per 100,000) accounted for the highest death rates associated with prescription drugs between 2003 and 2006 in the CHA.
- While morbidity indicators (hospitalizations and ED visits related to prescription drugs) show an overall decrease between 2003 to 2006, death rates attributed to prescription drugs are fairly consistent over these two years.

# Introduction

## Background

In October, 2007 a consortium of Alberta stakeholders coordinated by the College of Physicians and Surgeons of Alberta expressed an interest in obtaining recent information about prescription drug misuse in the province. The Addiction and Mental Health Research Laboratory (AMHRL) at the University of Alberta responded to a request from this consortium to produce a rapid assessment of prescription drug misuse and was subsequently contracted by the College of Physicians and Surgeons of Alberta to complete this work. This document is the result of the work conducted to address this issue, and is intended to (1) provide recent data on the scope of this issue to the consortium and other interested stakeholders, (2) help inform other jurisdictions in Alberta about the types of data required to facilitate a Province-wide assessment and monitoring strategy for prescription drug misuse, and (3) provide input into a national model for rapid assessment and monitoring of prescription drug misuse.

Rapid assessments “combine new or existing quantitative and qualitative data to develop, within reasonable limits of time and resources, a composite picture of a problem such as illicit drug use. The data are then examined for consistency, reliability and validity using quantitative and qualitative data analysis methods so that reliable information can be extracted and incorporated into policy making and program development” (Ogborne, 2006).

## Definitions

Throughout this report, a number of key terms are used. Their definitions are provided below.

**Prescription drug misuse:** non-medical use of a prescription drug that occurs without a physician’s prescription, in greater amounts than prescribed, or use that occurs for reasons other than what the drug was prescribed for.

This includes:

- Use of a drug that requires a prescription in the absence of such a prescription
- Use of drug amounts in excess of prescribed quantities

So defined, prescription drug misuse does *not* include:

- Use of over-the-counter medications for any purpose
- Use of non-psychoactive pharmaceuticals, such as steroids
- Use of street-produced drugs (e.g., crystal methamphetamine, LSD, etc.).

**Ever users:** Individuals who self-report prescription drug misuse in their lifetime but not in the past 12 months.

**Current users:** Individuals who self-report prescription drug misuse within the past 30 days or past 12 months.

**Stimulants:** include drugs such as Adderall, Ritalin, and Talwin.

**Benzodiazepines:** include tranquilizers and sleeping pills such as Valium, Xanax, and Atavan.

**Opioids:** include codeine and morphine containing drugs such as OxyContin, Vicodan, and Tylenol 3 and 4.

## Aims of the Rapid Assessment

Following consultation with the consortium representatives, the following aims were agreed upon for the rapid assessment work:

1. To estimate the prevalence of prescription drug misuse in the general population and subpopulations of interest, such as street users, youth, and people seeking addiction treatment.
2. To determine the characteristics of users, including co-use of other illicit substances so that appropriate risk groups can be identified for possible interventions.
3. To document the impacts of prescription drug misuse on individual health, community safety, and service providers.
4. To document the policy and program initiatives that have been implemented locally, provincially, and nationally to address the issue of prescription drug misuse.
5. To establish a standardized protocol for rapid assessment that could be implemented in other jurisdictions in Alberta or in other provinces.

## Data Sources for this Report

In order to address the Aims of the Rapid Assessment, data from a variety of sources were obtained and collated. Data from three sources are presented in this report. First, **key informant interviews** were conducted with a variety of stakeholders in Edmonton and Alberta to gain a breadth of perspectives on the issue of prescription drug misuse. Second, a number of **secondary analyses of primary and administrative data** were undertaken to provide information about prevalence and patterns of use among adults, youth and inner-city populations in Edmonton and Alberta. Primary data sources include original research studies conducted by AMHRL at the University of Alberta. These data were supplemented by addiction treatment service data provided by the Alberta Alcohol and Drug Abuse Commission (AADAC), mortality, morbidity, and emergency room data provided by Capital Health, and data related to the cost of drugs in Canada from the Royal Canadian Mounted Police (RCMP). Finally, an **environmental scan** was conducted to gather information about policies and programs currently in place to address the issue of prescription drug misuse. A brief description of each of these data sources is provided below. To provide a reference point, data are provided for Edmonton and for other areas of Alberta, where possible.

### Data Source 1: Key Informant Interviews

A variety of key informants provided information about prescription drug misuse for this project.

**Inner-City Drug Users.** Interviews were conducted with 9 inner-city prescription drug misusers at the Boyle Street Co-op, located in the downtown Edmonton area. The brief structured interview included 11 questions designed to assess patterns of drug misuse, perceptions about prescription drug misuse and services providers, and the context of prescription drug misuse in Edmonton including information about cost and prevalence.

**Addiction Treatment Seekers.** Interviews were conducted with 4 recovering prescription drug misusers, three of whom resided in Edmonton's inner-city drug. The short interview included 17 questions designed to measure perceptions about treatment programs, service providers, the context of prescription drug misuse in Edmonton, and the pattern of drug misuse.

**Law Enforcement Representatives.** Interviews were conducted with 2 members of law enforcement agencies, including the Royal Canadian Mounted Police (RCMP) and the Edmonton Police Service (EPS). The interview included six questions designed to assess perceptions of prevalence, common demographic characteristics of prescription drug misusers, the context of prescription drug misuse in Edmonton and Alberta, and recommendations to deal with the situation. Interviewees were also asked to provide any secondary data pertinent to this report.

**Service Providers.** Three individuals representing different service providers in Edmonton and Alberta were invited to participate in a short interview. Service providers included the Alberta Alcohol and Drug Abuse Commission (AADAC), the Edmonton Drug Treatment and Community Restoration Court (EDTCRC), and the Salvation Army Anchorage Program. Each interview included 14 questions designed to measure perceptions about the context of prescription drug misuse in Edmonton and the services available to deal with the situation, prevalent use, common trends and demographic characteristics, and trends in their programs and services. Participants were also asked to provide secondary data and information pertinent to this report.

**Pharmacists.** Pharmacists in Edmonton, primarily around the downtown core, individuals in the Department of Pharmacy at the University of Alberta, and the College of Physicians and Surgeons were contacted and invited to participate in a short interview. The short interview included 4 questions designed to assess common trends and perceptions about the context of prescription drug misuse in Edmonton and current policies and programs available to deal with this issue. Participants were also asked to provide secondary data and information pertinent to this report.

**Physicians.** Physicians from a variety of practices including the Department of Anaesthesiology & Pain Medicine at the University of Alberta Hospital Pain Clinic, the Boyle McCauley Health Centre, and Streetworks were invited to participate in brief interview consisting of seven questions. These questions were designed to gather information about the context and prevalence of prescription drug misuse in Edmonton and perceptions about programs and policies in place to deal with this issue.

**Aboriginal Experiences.** In order to gain information about prescription drug misuse among the Aboriginal, First Nation, Inuit and Métis population in Alberta key informants who work closely with this population were contacted and invited to participate in a short interview. Key informants from the First Nations and Inuit Health Branch (FNIHB) and the Addiction and Mental Health Research Laboratory (AMHRL) agreed to participate. Questions in this survey were designed to measure the context and prevalence of prescription

drug misuse in Edmonton and Alberta and perceptions about programs and policies in place to deal with this issue.

### **Data Source 2: Administrative Data**

A number of secondary analyses were conducted to inform the rapid assessment. The following administrative data were provided to AMHRL during the work leading to this report:

**College of Physicians and Surgeons of Alberta.** Secondary data were obtained from the Health Information System of the College of Physicians and Surgeons of Alberta, pertaining to trends in prescription drug misuse and prescribing patterns in Edmonton.

**Capital Health Data.** AMHRL asked Capital Health to provide aggregate data for mortality, morbidity, and emergency department visits for a variety of prescription-drug related ICD 10 codes. These were provided for the calendar years 2003 - 2006.

**AADAC Reports.** A variety of reports from the Alberta Alcohol and Drug Abuse Commission (AADAC) were reviewed for information relevant to crack and/or cocaine, including policy statements and administrative data collected from clients attending AADAC-funded treatment facilities.

**RCMP Drug Cost Data.** The RCMP provided information regarding the cost of crack and cocaine. Information was collected through phone interviews.

### **Data Source 2: Primary Research Data**

In addition to these secondary datasets, analyses of primary research data from 4 primary research studies conducted by the Addiction and Mental Health Research Lab (AMHRL) at the University of Alberta was obtained

**Seven Addictive Behaviours Study.** Data for this project were collected via a computer-aided telephone (CATI) survey administered to a stratified random probability sample of 3511 Albertans 18 years of age and older in 2002. The study assessed behaviours and attitudes related to tobacco, alcohol, cannabis, cocaine, heroin, gambling and use of alcohol during pregnancy. This sample included 1171 participants from Edmonton. As part of this study, participants responded to four questions regarding current (past year) non-medical use of sedatives (barbiturates), tranquilizers, stimulants (including crystal meth, as well as prescription drugs such as Ritalin and Dexedrine) and painkillers. Data presented in this report from this source were weighted to reflect population-level proportions of males and females 18 years of age and older living in the province at the time the survey was conducted.

**The Alberta Youth Experience Survey (TAYES) 2005.** The purpose of this study, commissioned by ADDAC, was to better gather prevalence data regarding alcohol, tobacco, other drug use, and gambling behaviour among Alberta's youth. The stratified random probability sample included 3,915 students in Grades 7-12 from public, Catholic, and charter school systems throughout Alberta. Respondents answered questions alcohol, tobacco, and illicit drug use as well as gambling activity. As part of this study, students were asked about

non-medical use of seven specific or classes of prescription drugs in two time frames (ever used in one's lifetime, and use in the 12 months preceding the survey): barbiturates, stimulants (other than cocaine, including 'uppers', 'bennies', 'dexies'), tranquilizers (Valium, Librium), Oxycontin, Vicodin, and Ritalin. Data were collected in 2005 and analyzed by AMHRL. Data presented in this report from this source were weighted to reflect population-level proportions of males and females in the targeted grades across the province at the time the survey was conducted.

**Assessment of Risk Contexts (ARC) study.** Structured interviews were conducted with a convenience sample of 91 inner-city injection drug users in Edmonton recruited using snowball referral and outreach methods between November 2006 and March of 2007. Data were collected as part of a larger series of studies aimed at developing a new measure of the social dynamics of injection drug use. As part of this study, participants were asked about current prescription drug misuse (past 30 days) with respect to the following specific drugs/drug classes: OxyContin/oxycodone, Dilaudid, Percocet/Percodan, street methadone, Tylenol 3's/Tylenol 4's, morphine, Demerol, Talwin and Ritalin, Valium, downers, Kadian, and codeine.

**OPICAN study.** OPICAN was a multi-site Canadian cohort study of out-of-treatment opiate users conducted in seven cities across Canada, beginning in 2001. The purpose of this study was to gather information about the lifestyles (e.g. demographic information, poly-substance use), attitudes (e.g. treatment motivation), and health challenges (psychiatric co-morbidity) of untreated illicit opiate users to help define the harms, social costs, treatment needs, and prospects of the opiate using population in Canada. Data presented in this report were drawn from interviews conducted with a convenience sample of 103 opiate users recruited in the inner-city of Edmonton for the baseline interview. As part of this study, participants were asked about current prescription drug misuse (past 30 days) with respect to: the following specific drugs/drug classes: Talwin and Ritalin, Valium, downers, Tylenol 3's/Tylenol 4's, street methadone, Demerol, and Dilaudid.

### **Data Source 3: Environmental Scan**

Finally, an environmental scan of available literature and information was conducted revealing reports generated by AADAC, the City of Grand Prairie, the Edmonton Journal, and the CPA of Alberta pertaining to program and policy information about prescription drug abuse.

Table 1. Summary of data sources for this report

Data Source	Reference Population	Information Available	
<b>1. Key Informant Interviews</b>			
• Inner-City Drug Users	Inner-city illicit drug users		
• Addiction Treatment Seekers	Former illicit drug users		
• Law Enforcement	Alberta Adults	Prevalence and pattern of use, perceptions	
• Service Providers	Alberta Adults and Youth		
• Pharmacists	Alberta Adults and Youth		
• Physicians	Alberta Adults and Youth		
• Aboriginal Perspective	Alberta Aboriginal, First Nation, Métis, and Inuit		
<b>2. Secondary Analyses</b>			
• Capital Health (administrative data)	Users accessing Edmonton-area health services, 2003 - 2006		Mortality, morbidity, and emergency department presentations
• AADAC Treatment Service Data 2006 (administrative data)	Adult and youth treatment seekers in AADAC-funded facilities	Drug of choice, concerns about drug use	
• RCMP Cost Data (administrative data)	n/a	Cost of illicit drugs in Canada	
• 7 Addictive Behaviours Study 2002 (primary data)	Alberta adults, 2002	Current (past 12-month) prevalence and patterns of use	
• TAYES 2005 (primary data)	Alberta youth, 2005	Lifetime prevalence and patterns of use	
• OPICAN 2001 (primary data)	Inner-city opiate users, 2001	Current (past-month) prevalence, patterns of use	
• ARC 2007 (primary data)	Inner-city illicit drug users, 2006-07	Current (past-month) prevalence, patterns of use, perceptions of accessibility	
<b>3. Environmental Scan</b>			
• Agency, City, and Journal Reports	Alberta general population Aboriginal population	Program and policy, and recommendations	

# Prevalence of Non-Medical Prescription Drug Use

## Alberta Adults (General Population)

Table 2 displays the demographic characteristics of Alberta's general adult population who reported non-medical use of prescription drugs at least once in the 12 months preceding the population survey (AMHRL, U of A, 7 Addictive Behaviours Study, 2002). Data presented in Table 2 were derived from responses to four questions regarding past year non-medical use of sedatives (barbiturates), tranquillizers, stimulants (including crystal methamphetamine, as well as prescription drugs such as Ritalin and Dexedrine) and painkillers. These four variables were combined into a single indicator of prescription drug misuse in the past year. Because the stimulant category refers to both pharmaceutical as well as street manufactured drugs, data are also presented in Table 2 with stimulants excluded.

Excluding stimulants, 7.8% of adults in Alberta reported non-medical use of sedatives (barbiturates), tranquilizers, and painkillers at least once in the previous year. Adults aged 18-24 were the largest proportion of non-stimulant prescription drug misusers (11.4%) followed by 35-44 year olds (8.5%). With regard to region, 9.2% of Edmonton's adults, 7.5% of Calgary adults, and 7.1% of adults in other areas of the province reported non-medical use of non-stimulant prescription drugs in the past year.

*Table 2. Proportion of Alberta's general population of adults who reported non-medical use of any type of prescription drug in the previous 12 months, by selected demographic characteristics*

Demographics	Excluding Stimulants	Including Stimulants
Total	7.8%	8.9%
Gender		
Males	7.5%	9.0%
Females	8.0%	8.9%
Age		
18 – 24 years	11.4%	16.7%
25 – 34 years	7.4%	9.0%
35 – 44 years	8.5%	8.9%
45 – 54 years	7.0%	7.0%
55 – 64 years	8.2%	8.3%
65+ years	4.4%	4.4%
Region		
Edmonton	9.2%	10.4%
Calgary	7.5%	8.4%
Other areas of Alberta	7.1%	8.3%

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, 7 Addictive Behaviours Study, 2002*

Key informants representing law enforcement, primary health care, and service providers were asked which groups, from their perspectives, show higher rates of prescription drug misuse. A representative from AADAC's Opioid Dependency Clinic (ODC) estimated that males outnumber females 2 to 1 with regard to clients with a prescription drug problem seen in that clinic. Although not evident in the general population data presented in Table 2, a key informant pharmacist believed that prescription drug misuse is more common among lower-socioeconomic and elderly customers.

Table 3 displays the proportion of Alberta's general population of adults who reported non-medical use of specific types of prescription drugs in the past year (excluding stimulants). Analgesics (excluding normal use of over-the-counter analgesics such as Acetaminophen; including such drugs as Codeine, Morphine, Oxycodone, etc.) were the most commonly misused prescription drug (4.9%). Tranquilizers were the least commonly misused prescription drug among adults in Alberta (.9%).

Key informants from law enforcement and health service providers were asked which type of prescription drugs are most commonly misused, in their experience. Consistent with the population data presented in Table 3, representatives from the RCMP, physicians, pharmacists, and the Edmonton Drug Treatment and Community Restoration Court listed oxycodone, hydromorphone, codeine, synthetic opioids, Fentanyl and benzodiazepines, narcotics and Tylenol 3 and 4 as the most commonly misused prescription drugs (personal communications, 2008). The ODC indicated in a key informant interview that MSContin, OxyContin, Dilaudid, and benzodiazepines such as Lectorpam, Clonazepam, Lorazepam, and Diazepam were the most commonly used prescription drugs among their clients.

*Table 3. Proportion of Alberta's general population of adults who reported non-medical prescription drug use in the previous 12 months, by drug type*

<b>Drug Type</b>	<b>Percent</b>
Analgesics or other pain killers (e.g., codeine, morphine)	4.9%
Sedatives including barbiturates (e.g., Seconal, Halcyon)	3.0%
Stimulants (including crystal meth, Ritalin, speed)	1.6%
Tranquilizers (e.g., Ativan, Valium, Xanax)	0.9%

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, 7 Addictive Behaviours Study, 2002*

## Alberta Youth (General Population)

Information about prescription drug use among Alberta's youth population is presented in Table 4, and is derived from secondary analysis of the TAYES 2005 study. The sample includes youth in grades 7 through 12. Information comparing use among Edmonton's and Alberta's youth for specific prescription drugs is presented in Table 5. Students across the province were asked about non-medical use of seven specific or classes of prescription drugs in two time frames (ever used in one's lifetime, and use in the 12 months preceding the survey): barbiturates, stimulants (other than cocaine, including 'uppers', 'bennies', 'dexies'), tranquillizers (Valium, Librium), Oxycontin, Vicodin, and Ritalin. Data are presented on current (past 12-month) prevalence for two geographic areas: Edmonton only, and regions other than Edmonton. Comments about differences across subgroups are provided here for descriptive purposes, but regional differences should be interpreted with caution due to low sample sizes.

Overall, misuse of prescription drugs appears to be lower among Edmonton students compared to students from other areas of the province. Among Edmonton students, 6.4% reported having ever misused at least one prescription drug at least one time in their lifetime, compared to 7.4% of students from other areas of the province. With regard to past year misuse of prescription drugs, 5.8% of Edmonton students and 6.1% of students from other areas had misused at least one prescription drug.

As shown in Table 4, regardless of region, females, senior grade level students, and students with a White ethnicity are more likely to report current (past 12 month) prescription drug misuse compared to other demographic and regional subgroups. However, a greater proportion of White Edmonton students (12.2%) report having ever misused prescription drugs compared to White students from other areas of the province (9.1%).

*Table 4. Proportion of Edmonton and Alberta students in Grades 7-12 who reported ever (lifetime) and current (past 12-month) prescription drug misuse, by selected demographic characteristics*

Demographics	Lifetime Use		Past Year Use	
	Edmonton students	All other students	Edmonton students	All other students
Total	6.4%	7.4%	5.8%	6.1%
Gender				
Males	5.5%	6.5%	4.6%	5.9%
Females	7.2%	8.2%	6.7%	7.5%
Grade Level				
Junior High School	3.8%	4.7%	3.3%	4.1%
High School	7.6%	8.8%	6.9%	8.2%
Ethnicity				
White/Caucasian	12.2%	9.1%	3.3%	4.1%
First Nation, Métis	2.1%	6.8%	6.9%	8.2%
Other	3.1%	6.0%	3.3%	4.1%

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, TAYES, 2005*

With regard to past year use, 5.8% of Edmonton students had misused at least one type of prescription drug, compared to 6.1% of students from other areas of the province. Consistent with the prevalence rates of lifetime misuse of prescription drugs, more females (6.7% in Edmonton and 7.5% in other areas of Alberta) than males (4.6% in Edmonton, and 5.9% in other areas of Alberta) misused prescription drugs in the past year. Further, a greater proportions of older students (6.9% in Edmonton, and 8.2% in other areas of Alberta) than younger students (3.3% in Edmonton, and 4.1% in other areas of Alberta) had misused prescription drugs in the past year.

Table 5 displays current (past 12 month) prescription drug misuse by drug. The most commonly misused prescription drug (past 12 month prevalence) among Edmonton students was Ketamine (3.3%), while nonmedical use of stimulants other than cocaine are the most popular prescription drug among students in the rest of the province (5.7%). Ritalin was more commonly misused among students outside of Edmonton (3.6%) than among students from Edmonton (.9%), as were tranquilizers (other areas = 2.1%, Edmonton = 1.4%) and barbiturates (other areas = 1.5%, Edmonton = 0.0%). Among Edmonton students and students in other areas of the province Vicodan was the least commonly used drug (0.0% and 0.5% of students respectively).

*Table 5. Proportion of Edmonton and other Alberta students in Grades 7-12 who reported current (past 12-month) prescription drug misuse, by drug type*

<b>Drug Type</b>	<b>Edmonton Students</b>	<b>All other Students</b>
Ketamine	3.3%	1.5%
Stimulants	2.1%	5.7%
Tranquilizers	1.4%	2.1%
Ritalin	0.9%	3.6%
OxyContin	0.8%	0.8%
Barbiturates	0.0%	1.5%
Vicodan	0.0%	0.5%

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, TAYES, 2005*

## **Marginalized Populations: Inner-City Drug Users**

Information about prescription drug use among the inner-city population was gathered from secondary analysis of the OPICAN and ARC studies conducted by AMHRL as well as from key informant interviews with current drug users and service providers. Both the OPICAN and ARC studies assessed any use of a variety of prescription drugs in the previous 30 days. Participants in the OPICAN study were asked about their use of the following specific drugs/drug classes: Talwin and Ritalin, Valium, downers, Tylenol 3's/Tylenol 4's, street methadone, Demerol, and Dilaudid. Participants in the ARC study were asked about their use of: OxyContin/oxycodone, Dilaudid, Percocet/Percodan, street methadone, Tylenol 3's/Tylenol 4's, morphine, Demerol, Talwin and Ritalin, Valium, downers, Kadian, and codeine.

Table 6 presents demographic characteristics among inner-city drug users in the OPICAN and ARC studies who reported using at least one prescription drug in the past 30 days. Key informants' drug use was measured as current use or use within the past 30 days. Current (past 30-day) prescription drug

misuse is common among inner-city drug users. Indeed 89.0% of participants in the ARC study and 93.2% in the OPICAN study reported misusing at least one prescription drug in the past 30 days.

*Table 6. Proportion of inner-city drug users who reported misusing any prescription drug in the past 30 days, by selected demographic characteristics*

Demographics	Data Source	
	ARC	OPICAN
Total	89.0%	93.2%
Gender		
Males	89.2%	94.4%
Females	88.0%	90.3%
Age		
18 – 24 years	100.0%	--
25 – 34 years	85.0%	95.8%
35 – 44 years	89.5%	89.5%
45 – 54 years	88.9%	100.0%
55 – 64 years	100.0%	--
Ethnicity		
White/Caucasian	87.2%%	96.4%
First Nation	91.3%%	93.8%
Other	94.1%	81.3%

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, OPICAN, 2002; ARC, 2007*

Table 7 presents the proportion of inner-city drug users who reported misusing specific types of prescription drug in the previous 30 days. The ARC study indicated that OxyContin/Oxycodone is the most commonly used prescription drug, with 60.0% of participants reporting past-month use, followed by Dilaudid (50.0%), and Tylenol 3/4 (46.7%). Similarly, among OPICAN participants, the most commonly used prescription drugs in the previous 30 days were Tylenol 3/4 (50.5%), Dilaudid (47.6%), and Valium or benzodiazepines (43.7%).

Inner-city key informants were also asked about their personal use, as well as their perceptions of what is most popular right now among peers. The most commonly used drugs among inner-city key informants interviewed included OxyContin and Tylenol 3/4. When asked which prescription drugs are most popular right now, these key informants identified Tylenol 3/4, morphine, OxyContin, Valium, and Dilaudid. When asked which prescription drugs are most commonly misused the representative from the Salvation Army Anchorage Program identified opiates, OxyContin, and Tylenol 3/4. Finally, inner-city pharmacists who were interviewed reported narcotics, benzodiazepine, and Tylenol 3 and 4 are most commonly used by their customers. Taken together, there is a consensus across data sources that Tylenol 3/4's and OxyContin/Oxycodone are the most commonly misused prescription drugs among inner-city drug users.

Table 7. Proportion of Edmonton inner-city drug misusers who used each type of prescription drug in the past 30 days

Drug Type	Data Source	
	ARC	OPICAN
OxyContin (oxycodone)	60.0%	n/a
Dilaudid (hydromorphone)	50.0%	47.6%
Tylenol 3 or 4 (acetaminophen and codeine)	46.7%	50.5%
Kadian (morphine sulphate)	46.2%	n/a
Benzodiazepines/Valium (diazepam)	45.6%	43.7%
Codeine	23.4%	n/a
Percocet/Percodan (acetaminophen/aspirin and oxycodone)	20.0%	n/a
Talwin (pentazocine) and Ritalin	13.3%	22.3%
“Downers” (barbiturates)	11.1%	18.4%
Morphine	8.9%	n/a
Methadone (street; not prescribed)	7.8%	26.2%
Demerol (meperidine)	3.3%	4.9%

Source: Addiction and Mental Health Research Laboratory, University of Alberta, OPICAN, 2002, ARC, 2007; n/a = not asked

## Polydrug Use

### Alberta Adults (General Population)

Table 8 displays the proportions of Alberta adult prescription drug misusers who reported using other drugs, based on the Seven Addictive Behaviours study conducted by AMHRL. Among those who reported having misused at least one prescription drug in the past year (excluding stimulants), 27.8% had also used at least one other illicit drug (of inhalants, cannabis, cocaine, hallucinogens, or heroin). All prescription drug misusers reported having smoked in the past year, and 89.7% had used alcohol. More than a quarter (26.4%) of current prescription drug misusers in Alberta had also used cannabis in the past year. Hallucinogens had been used by 8.3% of prescription drug misusers, and cocaine had been used by 8.0% of prescription drug misusers in the past year.

Table 8. Proportion of Alberta adult prescription drug misusers (past 12 months) who also reported using other drugs in the last year

Drug	Excluding Stimulants	Including Stimulants
Tobacco	100.0%	100.0%
Alcohol	89.7%	91.1%
Marijuana or hash	26.4%	31.6%
Cocaine or crack cocaine	4.8%	8.0%
LSD or hallucinogens	4.4%	8.3%
Inhalants	2.6%	3.2%
Heroin	.4%	.6%

Source: Addiction and Mental Health Research Laboratory, University of Alberta, 7 Addictive Behaviours Study, 2002

## Alberta Youth (General Population)

Information about other drug use among Alberta youth who reported past year use of prescription drugs was derived from the TAYES 2005 study. Table 9 presents the proportion of Edmonton or Alberta students who have used at least one type of prescription drug in the past 12 months who have also used an illicit drug in the past 12 months. Alberta students refer to students outside of Edmonton (i.e., North, Central, South, and Calgary regions).

Past-year alcohol and cannabis use was reported by a strong majority of Edmonton and Alberta students who reported non-medical use of prescription drugs. In Edmonton, 99.1% of prescription drug misusers had also used alcohol in the past year and 88.7% had used cannabis. In other areas of the province, 97.5% of students who had misused prescription drugs in the past year had also used alcohol and 80.0% had also used cannabis in the past year. Among Edmonton students who reported past-year misused of prescription drugs, cannabis use was followed by other hallucinogen use (60.4%), past 30-day smoking (59.8%), PCP use (48.1%) and Ecstasy/MDMA use (45.3%). Among Alberta students who reported past-year non-medical use of prescription drugs, other hallucinogens (53.1%), past 30-day smoking (43.4%), Ecstasy/MDMA (33.8%), and cocaine (31.3%) were also reported to be used.

*Table 9. Proportion of Alberta youth prescription drug misusers (past 12 months) who reported using other drugs in the past year*

<b>Drug Type</b>	<b>Edmonton</b>	<b>All Other Students</b>
Alcohol	99.1%	97.5%
Cannabis	88.7%	80.0%
Other hallucinogens	60.4%	53.1%
Tobacco (smoking) <sup>1</sup>	59.8%	43.4%
PCP	48.1%	11.3%
MDMA or “ecstasy”	45.3%	33.8%
Cocaine	39.6%	31.3%
Crack cocaine	31.1%	18.8%
LSD or “acid”	25.5%	16.3%
Methamphetamine (“speed”)	16.0%	20.0%
Solvents	11.3%	21.3%
Glue	10.4%	18.8%
Heroin	6.6%	8.8%
Crystal methamphetamine	4.7%	11.3%
GHB	3.8%	3.8%

<sup>1</sup>Participants were counted if they reported smoking of at least one cigarette past 30-days.  
 Source: *Addiction and Mental Health Research Laboratory, University of Alberta, TAYES, 2005.*

## Marginalized Populations: Inner-City Drug Users

Information about polydrug use among inner-city prescription drug users was based on the OPICAN and ARC studies and is presented in Table 10.

Prescription drug use was measured as using at least one type of prescription drug in the past 30 days. Other drug use was measured as using any other drug during the past 30 days.

Among prescription drug misusers who participated in the OPICAN study, 92.7% had used tobacco in the past month. Alcohol, crack, and marijuana were the next most commonly used substances among prescription drug misusers (65.6%, 66.7%, and 63.5%, respectively). This pattern was consistent among prescription drug misusers who participated in the ARC study, as well, in which 80.2% had used crack in past month, 64.2% had used alcohol, and 59.3% had used marijuana.

Key informant interviews with nine current prescription drug users in Edmonton's downtown core provided additional support for the high prevalence of crack/cocaine and marijuana usage.

*Table 10. Proportion of past 30-day Edmonton inner-city drug prescription drug misusers who also reported using other drugs in the last month, by other drug type*

Drug Type	Data Source	
	ARC	OPICAN
Tobacco	n/a	92.7%
Crack cocaine	80.2%	65.6%
Alcohol	64.2%	66.7%
Marijuana	59.3%	63.5%
Powder cocaine	30.9%	38.3%
Heroin	14.8%	29.2%
Hash	9.9%	6.3%
MDMA or "ecstasy"	7.4%	s
Speedballs	7.4%	n/a
Mushrooms	6.2%	s
LSD or "acid"	6.2%	s
Inhalants	0.0%	n/a

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, ARC, 2007, OPICAN, 2002; n/a = not asked; s = suppressed due to small cell size*

# Treatment Seekers

## Alberta Adults

A large proportion of adults seeking treatment services from AADAC report using one type of prescription drug. In the period from April 2006 – March 2007, some 19% of adult AADAC clients reported using antidepressants, 13% tranquilizers, 6% barbiturates/sedatives, 5% stimulants, 2% steroids, and 1% Talwin and Ritalin. However, less than 3% of adults who reported using any one type of prescription drug described that a prescription drug was their primary 'drug of concern' (AADAC, September 2007). Note that in this case, use of these drugs may include legitimate, prescribed use.

Data from key informant interviews conducted with Edmonton current and former prescription drug users indicated that every participant had attempted to quit their drug use at least one time. Current and former users reported trying to quit on their own or using a detox program, or by using services from AADAC or the Edmonton Drug Treatment and Community Restoration Court.

When asked about their perception of these programs, three of the four former prescription drug users agreed it was the decision to quit or self-motivation that was the primary reason for their success in quitting. The programs and services were viewed as secondary to a personal decision to quit. There were mixed opinions when participants were asked if there are enough programs or treatment centres available and if prescription drug users have any special treatment needs. Some participants thought there are enough programs, while others thought that more treatment options are needed. Some believed that prescription drug addiction is like any other drug addiction while others believed it is different and programs should be tailored to this type of addiction. However, most participants agreed that more knowledge about this problem and change to address it is needed.

Addiction treatment service providers were asked about trends among their clients. A counsellor from the EDTCRC indicated prescription drugs are the drugs of choice for about 30% of their clients. The challenge faced in the EDTCRC with prescription drug abuse comes when clients require some prescription drugs for medical purposes. Drug screening will register prescription drugs regardless of the quantity used, and so for this service provider, it is hard to ascertain if a positive drug screen means that the client is using or misusing prescription drugs. Furthermore, many clients who abuse prescription drugs report doing so because of chronic pain and a service provider indicated that it is hard to work with these patients because their pain issues need to be addressed first (personal communication, 2008). Addiction treatment programs face a difficult challenge in distinguishing between medically necessary and inappropriate use of prescription drugs among clients.

In AADAC's Opioid Dependency Clinic, about 30 clients are admitted per month for methadone maintenance treatment. Currently there are 530 clients in the ODC program, with opioids and benzodiazepines reportedly being the prescription drugs most abused prior to treatment entry. According to a report from AADAC, 6% (1,207) of all AADAC adult clients seek help from the ODC (September, 2007). In this program, retention and methadone maintenance is a primary treatment goal; only 5-10% of clients reportedly request to reduce their methadone to wean themselves completely. Currently

only 40 clients are working towards this goal. Discharge from the program can happen because of voluntary completion of the program but also occurs because of incarceration, transfer out of province, or because clients simply stop attending. About 20 clients per month are discharged from the ODC (C. Mayberry, personal communication, 2008).

According to a representative of the Salvation Army's Anchorage Addiction Treatment program very few people – less than 5% - enter the Anchorage program with a prescription drug problem. Instead, this key informant indicated that the most common problems reported at intake are alcohol, followed by cocaine and crystal methamphetamine.

## **Alberta Youth**

Among youth who sought treatment from AADAC youth services from April, 2006 – March 2007, 82% went for treatment related to drug use other than alcohol, tobacco or gambling (including prescription drugs). Some 12% of youth in treatment report using stimulants, 6% antidepressants, 5% tranquilizers, 2% barbiturates/sedatives, 2% Talwin and Ritalin, and 1% steroids. Less than 2% of youth who use any one type of prescription drug report feeling concerned about their use of that drug (AADAC, September 2007).

## **Aboriginal Peoples**

Insights regarding issues relevant to the Aboriginal, First Nations, Inuit, and Métis population in Alberta were based on key informant interviews and results from an environmental scan of reports addressing prescription drug use among Aboriginals in Alberta. A representative from Health Canada's First Nations and Inuit Health Branch (FNIHB) and a doctoral student from the School of Public Health, University of Alberta, whose area of interest is addictions and Aboriginal populations, were consulted. Although representatives from Aboriginal communities could not be reached in time to be included in this report, it is important to note that consultation with members of a variety of Aboriginal communities is needed to fully understand the prescription drug misuse among both urban and on-reserve Aboriginals.

The key informants noted that Status First Nations people are provided prescription drug coverage by the Federal government. Thus, there may be a greater incentive to obtain prescription drugs from legal, as opposed to illegal sources for this population. The representative from FNIHB also noted that "many start [using prescription drugs] because of chronic pain care needs [and] because of things like post-traumatic stress disorder from sex abuse and the residential school system."

With regard to treatment issues, key informants commented that, in their experience, many Aboriginal people seek off-reserve treatment programs. Cultural appropriateness of treatment programs and training doctors to deal with drug-seeking patients were all cited as challenges by key informants. Both argued that current policies and programs should be changed to address these issues, and such changes should be developed in collaboration with Aboriginal community members. For example, in the community of Hobbema, a committee including community members, physicians, and researchers was created to address this issue.

## Access and Cost

### Sources of Prescription Drugs

Drug-using key informants from the inner-city were asked what sources are typically used to obtain prescription drugs. Results from this small sample are shown in Table 11, and should be considered preliminary. Interviews with the nine Edmonton inner-city prescription drug users suggest that access to prescription drugs is related to the type of drug being acquired. Prescription drugs (except stimulants and Demerol) were more commonly acquired on the street, as opposed to a physician. Notably, key informants indicated that Dilaudid was almost exclusively obtained from street sources, and rarely from physicians. However, some drugs such as downers and OxyContin were reportedly acquired from both sources almost equally.

*Table 11. Inner-city key informants' sources of prescription drugs*

Drug	Source		
	Street	Physician	Both
Dilaudid	88.8%	0.0%	11.1%
Tylenol 3 and 4	55.5%	22.2%	22.2%
Percocet	55.5%	22.2%	22.2%
Talwin and Ritalin	55.5%	33.3%	0.0%
Valium and Benzodiazepine	55.5%	33.3%	11.1%
Downers	44.4%	33.3%	11.1%
OxyContin	44.4%	22.2%	22.2%
Morphine	33.3%	11.1%	33.3%
Demerol	22.2%	33.3%	22.2%
Stimulants	22.2%	33.3%	22.2%

*Source: Key Informant Interviews, Addiction and Mental Health Research Laboratory, University of Alberta, 2008.*

Respondents of the OPICAN study (inner-city opiate users) were asked to identify the sources they had used in the past month to obtain the prescription drugs they had used. Table 11.1 presents the proportion of users of the drug who reported obtaining that drug from each of five sources. Note that respondents were also asked about theft as a potential source but no users reported using this method for any of the prescription drugs. Half of those who had misused T3's and T4's reported having obtained these prescription drugs from a doctor at least once in the past month. Other common sources for this drug were a friend (23.5%) and an irregular dealer (20.0%). Consistent with the key informant interviews, Dilaudid, and Talwin and Ritalin were less frequently obtained from physicians (4.3% and 0.0%, respectively).

Table 11.1. Inner-city opiate sources of prescription drugs

Source	Drug				
	T3's/T4's	Dilaudid	Valium	Talwin and Ritalin	Downers
Regular dealer	10.0%	39.1%	11.1%	69.9%	10.5%
Irregular dealer	22.0%	19.6%	28.9%	0.0%	10.5%
Doctor	50.0%	4.3%	20.0%	0.0%	42.1%
Partner	2.0%	2.2%	2.2%	0.0%	100.0%
Friend	23.5%	34.8%	42.2%	43.5%	42.1%

Source: Addiction and Mental Health Research Laboratory, University of Alberta, OPICAN, 2002

### Perceived Ease of Access

Current and former prescription drug users, law enforcement, physicians, and service providers were asked about the accessibility of prescription drugs. In addition data from the ARC study presented in Table 12 show the perceptions about ease of access among individuals who have used at least one prescription drug in the last 12 months. Some 72.9% of prescription drug misusers reported that it is easy or very easy to get the drugs they use.

Most current and all former prescription drug users interviewed agree that it is easy to get prescription drug from the streets; "It's easy to get on the streets. There is always someone selling prescription drugs" (inner-city user, 2008). However, some also note that it is becoming harder to get prescription drugs from doctors; "It's becoming harder, not many doctors are willing to give out scripts" (inner-city user, 2008).

Table 12. Ratings of accessibility of prescription drugs among inner-city prescription drug misusers

How easy or difficult is it for you to get the prescription drugs you use?				
Very Difficult	Difficult	Neutral	Easy	Very Easy
1.2%	7.4%	18.5%	42.0%	30.9%

Source: Addiction and Mental Health Research Laboratory, University of Alberta, ARC, 2007.

Service providers from the EDTCRC, the AADAC Opioid Dependency Clinic, the Salvation Army Anchorage program agreed that it is easy for their clients to get prescription drugs. A representative from the RCMP's Drugs and Organized Crime Awareness Service, and a physician who serves the inner-city population agree it is very easy for people to get prescription drugs by double-doctoring, finding out who prescribes easily, and by diverting prescription drugs and trafficking.

## Cost

Information about the cost of prescription drugs was gathered from a variety of sources including current prescription drug misusers, pharmacists, and the RCMP. While recent data is not available outlining the cost of inappropriate prescribing, AADAC reported the cost in 1995 was around \$3.5-4.5 billion and is increasing (AADAC, 2006).

Table 13 shows the 'black market' cost of prescription drugs reported by current prescription drug misusers during key informant interviews. Drug units were not always indicated and, when given, varied among key informants. Consequently, prices listed are not prices per unit but typically refer to the cost per pill.

The cost of prescription drugs varies based on the type of drug being acquired, the experience of the buyer, availability of drugs, current supply, and the date in relation to monthly social assistance cheques. The most expensive drugs include Talwin and Ritalin which can cost up to \$25 for one pill or \$50 for what key informants called a 'set' (1 Talwin and 1 Ritalin), downers, which can cost up to \$30, Dilaudid which can cost up to \$40 (for a 'dilli 8'), and morphine which can up to \$25 depending on the percent of concentration. Commonly used drugs such as Tylenol 3 and 4 only cost around \$.50-\$1.00 (T3) or \$1-2 (T4) (personal communication, 2008).

*Table 13. Street cost of prescription drugs*

<b>Drug</b>	<b>Street Cost</b>
Morphine*	\$1-\$50
Dilaudid*	\$2-\$40
Downers*	\$1-\$30
Talwin and Ritalin*	\$2-\$25
OxyContin*	\$1.50-\$25
Valium and Benzodiazepine	\$1-\$5
Stimulants*	\$1-\$5
Percocet	\$2-\$3
Tylenol 3 and 4	\$.50-\$2
Demerol	\$.50-\$2
Methadone	\$1

*Source: Key informant interviews with inner-city prescription drug misusers, AMHRL, 2008.*

\*Prices depend on the amount or percent of concentration or combination of pills. Prices represent the range of cost.

Street prices are considerably higher than prices available for legitimate prescriptions, as noted by a key informant interview with a pharmacist from located in downtown Edmonton. For example, Tylenol 3 is priced at \$0.08 for one tablet or \$11.00 for 10 tablets, a package of 10 tablets of Valium is priced between \$11-12, and the price per tablet of OxyContin, MS-Contin, or Percocet is \$13.50.

Consistent with the varying cost of prescription drugs, the amount people typically spend on prescription drugs varies from person to person, and drug to drug. Results from the OPICAN study, shown in Table 14, indicates that most inner-city drug users spend less than \$100 in one month on any type of prescription drug and the largest proportion will spend less than \$10 in one month (AMHRL, 2002). Participants in key informant interviews reported spending between \$80 and \$1,000 a week on prescription drugs. Key informants also reported that some users have their drugs covered through medical insurance or will get their drugs free from friends or on the street.

*Table 14. Amount spent on prescription drugs in the 30-days preceding the interview, by prescription drug type*

Drug Type	Amount spent on prescription drugs (\$)					
	0-10	11- 50	51-100	101-200	201-300	301+
Demerol	73.4%	11.6%	11.6%	8.8%		
Downers	85.0%	10.0%	3.0%	1.0%	1.0%	
Methadone (Street)	55.6%	21.7%	13.3%	4.9%	0.7%	4.9%
Talwin and Ritalin	36.5%	9.7%	2.4%	12.2%	9.8%	24.4%
Tylenol 3 or 4	72.4%	17.1%	6.0%	3.9%	0.0%	0.4%
Valium	81.1%	14.0%	3.0%	0.8%	0.8%	0.4%

*Source: Addiction and Mental Health Research Laboratory, University of Alberta, OPICAN, 2002.*

# Morbidity and Mortality

## Hospital Visits

Capital Health provided aggregate data on the rates of hospital admissions, Emergency Department visits, and deaths that are attributed to prescription drug-related causes, for the years 2003, 2004, 2006, and 2006.

Table 15 shows the average hospitalization rate for three prescription drug-related causes for 2003 – 2006. Drug withdrawal syndrome accounted for the most prescription drug-related hospitalizations (4.37 per 100,000), however, it is important to note that this category may include withdrawal due to drugs other than prescription drugs. The rate of disorders due to stimulants other than cocaine was also high, at 3.47 per 100,000.

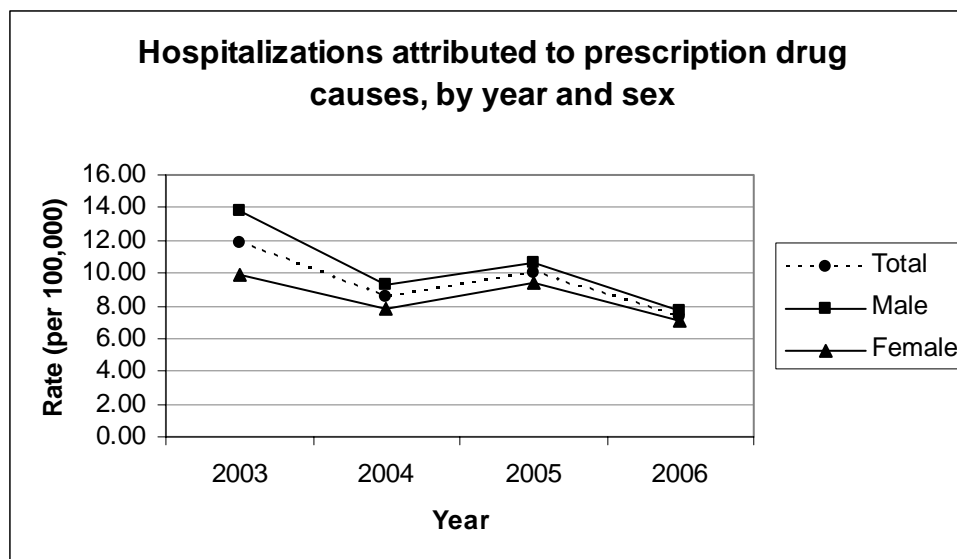
Table 15. Hospitalization rates (per 100,000) attributed to prescription drug-related causes in the Capital Health Authority, 2003 – 2006

Hospitalization Code	Rate (per 100,000)
Drug withdrawal syndrome	4.37
Disorders due to stimulants other than cocaine	3.47
Disorders due to sedatives of hypnotics	1.60

Source: Capital Health Authority data, 2008

Data regarding CHA hospitalizations between 2003 and 2006 that are attributed to drug withdrawal syndrome (may be caused by drugs other than prescription drugs), disorders due to sedatives or hypnotics, and disorders due to stimulants other than cocaine are shown by sex, in Figure 1. The pattern across these years is fairly consistent among males and females, with males having slightly higher rates of hospitalization than females, and a decreasing trend over these four years. By 2006 the rate of hospitalizations for prescription drug-related causes fell to 7.38 per 100,000. It is possible that the decreasing trend may reflect the overall decrease in hospitalizations that has occurred in recent years.

Figure 1.



## Emergency Department Visits

Capital Health provided aggregate data regarding emergency department (ED) visits falling into 10 categories related to prescription drugs, for the years 2003 – 2006. The average rate of ED visits attributed to prescription drug-related causes over those four years was 36.61 per 100,000.

Table 16 shows the rates of ED visits attributed to prescription drug-related causes between 2003 and 2006. The most prevalent reason for prescription drug-related ED visits was disorders due to stimulants other than cocaine (16.64 visits per 100,000). The rates of prescription drug poisoning, regardless of intent, were low overall, ranging between .30 visits per 100,000 for intentional self-poisoning by antiepileptics, sedatives, antiparkinsonism, narcotics, or other drugs to .05 visits per 100,000 for poisoning with undetermined intent.

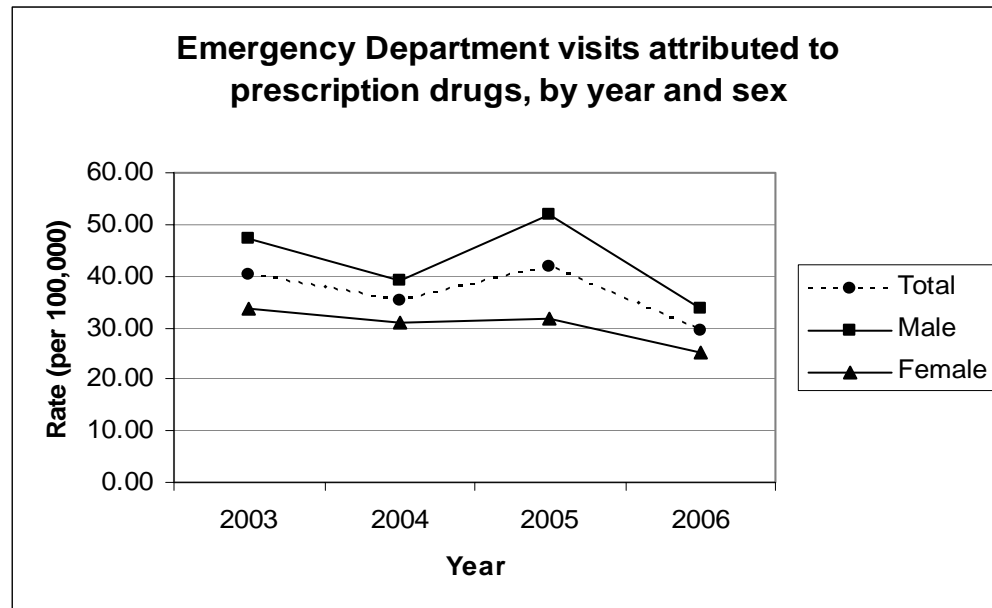
*Table 16. Rates of Emergency Department visits attributed to prescription drug causes, 2003 – 2006*

<b>Emergency Department Visit Reason</b>	<b>Rate (per 100,000)</b>
Disorders due to stimulants other than cocaine	16.64
Drug withdrawal syndrome	15.22
Disorders due to sedatives or hypnotics	3.82
Intentional self poisoning by antiepileptic, sedative, antiparkinsonism, or psychotropic drugs, or other unspecified	0.30
Accidental poisoning by antiepileptic, sedative, antiparkinsonism, narcotics, or psychotropic drugs	0.22
Accidental poisoning by unspecified drugs medicaments and other biological substances	0.22
Intent self poisoning by analgesics, antipyretics, or antirheumatics	0.12
Poisoning by sedative, antiparkinsonism, psychotropic drugs, undetermined intent	0.05
Poisoning by narcotics or psychodysleptics, undetermined intent	S

*Source: Capital Health Authority data, 2008; S – suppressed.*

In Figure 2, ED visit rates are shown in for 2003-2006, for males and females. The overall rate of ED visits fluctuated from 40.35 per 100,000 in 2003, to 29.35 per 100,000 in 2006. Males consistently evidenced higher rates of ED visits, compared to females over these years. The rate of ED visits for males was 47.24 in 2003, 39.18 in 2004, 52.00 in 2005, and 33.56 in 2006, per 100,000. In comparison, the rate of ED visits per 100,000 for females was 33.57 in 2003, 31.15 in 2004, 31.92 in 2005, and 25.22 in 2006.

Figure 2.



## Mortality

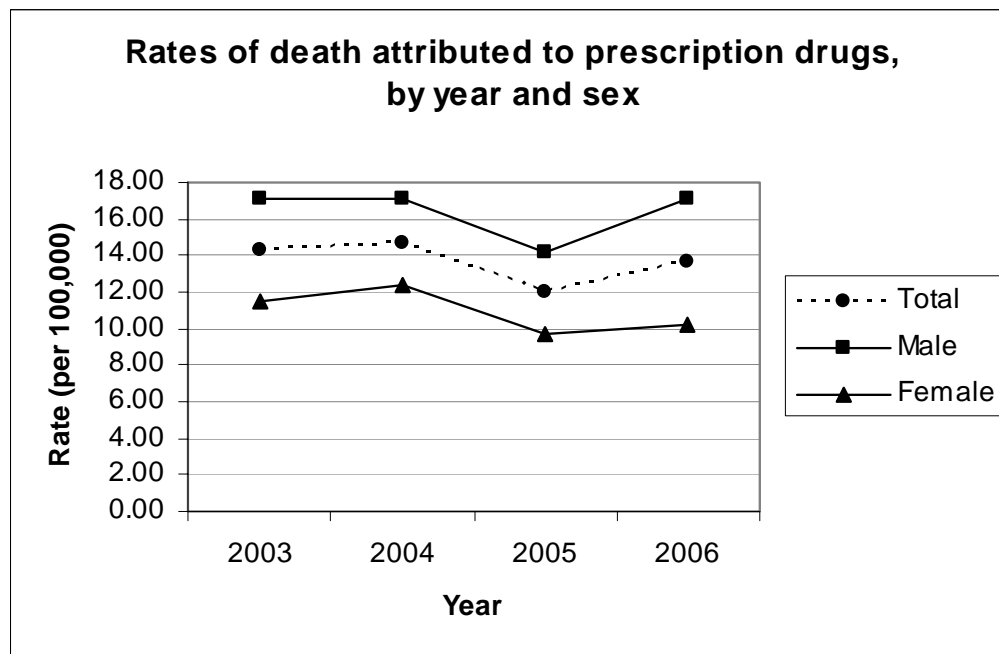
Deaths attributable to prescription drug-related causes may be classified in one of 14 codes in the ICD-10 system. Table 17 shows the rates of deaths between 2003 and 2006 associated with each of these causes. Poisoning with undetermined intent by means of unspecified drugs (4.07 per 100,000), or by means of narcotics or psychodysleptics (3.79 per 100,000) accounted for the highest death rates associated with prescription drugs.

Death rates attributed to prescription drug-related causes for male, females and the total population in years 2003 – 2006 are shown in Figure 5. The overall rate of deaths attributable to prescription drugs across these four years was 20.53 per 100,000. Consistent with other health service indicators, males evidence higher rates of death attributed to prescription drug-related causes in each year between 2003 and 2006. However, while morbidity indicators (hospitalizations and ED visits) show an overall decrease between 2003 to 2006, death rates attributed to prescription drugs are fairly consistent over these two years.

Table 17. Rates of death attributed to prescription drug-related causes, 2003 – 2006

Attributed Cause of Death	Rate (per 100,000)
Poisoning by other unspecified drugs, medicaments, and substances, undetermined intent	4.07
Poisoning by narcotics or psychodysleptics, undetermined intent	3.79
Intentional self poison by other unspecified drugs, medicaments, and substances	2.92
Accidental poisoning by unspecified drugs, medicaments, and other biological substances	2.77
Intentional self poisoning by antiepileptic, sedative, antiparkinsonism, or psychotropic drugs	2.27
Accidental poisoning by exposure to narcotic or psychodysleptics	1.85
Intentional self poisoning by exposure to narcotics or psychodysleptics	0.77
Poisoning by sedative antparkinsonism, psychotropic drugs, undetermined intent	0.60
Accidental poisoning by antiepileptic, sedative, antiparkinsonism, or psychotropic drugs	0.57
Intentional self poisoning by analgesics, antipyretics, or antirheumatics	0.32
Drug withdrawal syndrome	0.25
Poisoning by analgesic antipyretics or antirheumatics, undetermined intent	0.17
Accidental poisoning by nonopioid analgesics, antipyretics, or antirheumatics	0.15
Intent self poisoning by other drugs acting on the autonomic nervous system	N/A

Figure 5.



## Policies and Programs

Information about policies and programs currently in place was generated from key informant interviews and an environmental scan. Key informants including pharmacists, physicians, and service providers were asked about the knowledge and perceptions of current programs and policies.

### Environmental Scan

An environmental scan was conducted to identify a cross-section of current programs and policies in place to address the issue of prescription drug abuse.

### Programs

**Pharmacy Information Network (PIN).** The Pharmacy Information Network (PIN) program links together physicians, pharmacists, hospitals and other health care providers by giving access to prescription information from physicians, prescribed dispensing information from pharmacies, drug-to-drug interaction alerts to avoid prescriptions that conflict, and a database of all available drugs and their common dosages. This allows those who use the program tools to support decision making for prescribing and dispensing medications. This also allows for monitoring compliance. PIN has been integrated within the Alberta Health and Wellness' Netcare Electronic Health Record program. As of 2007, all community-based pharmacies in Alberta are required to submit information to PIN.

**Wellnet.** Initiated as a pilot project in 1999, the Alberta Wellnet project enables nurses, physicians and other health professionals to gain secure access to drug prescription information routinely collected by pharmacists through the Pharmaceutical Information Network and provided electronically to Alberta Blue Cross Insurance. Health professional involved in the program are able to access the drug history of patients, and phone numbers of physicians, pharmacists and other health care professionals who have recently provided medication to the individual. In addition a drug profile database provides the ingredient information of drugs recently dispensed to individual patients. The aim is to assist health professionals in making timely decisions, particularly when patients are unable to accurately recall their medication history.

**Triplicate Prescription Program (TPP).** The Triplicate Prescription Program (TPP) resulted from an agreement between the Alberta College of Pharmacists (ACP), the Alberta Dental Association and College (ADA & C) and the College of Physicians and Surgeons of Alberta (CPSA), and has been implemented since 1986. Designed to monitor prescribing patterns and prevent the diversion of prescription drugs to the black market this program also improves patient care by providing physicians with timely drug prescribing information. This in turn reduces the misuse and abuse of certain drugs. The program works by requiring any prescription of one of the 14 drugs on the TPP list to be completed in triplicate, with one copy retained by the

prescriber, one by the pharmacist, and one forwarded to CPSA. Drugs included on the TPP list include those most commonly misused, such as morphine, oxycodone, fentanyl, and meperidine.

**Agency Initiatives.** The College of Physicians and Surgeons, the Alberta College of Pharmacists and the Canadian Legal Information Institute have drafted policies and guidelines addressing prescription drug issues. The CPSA guidelines (CPSA, 1993) make several recommendations for physicians managing patients with chronic pain: (1) complete a pain history and physical examination; (2) assess for potential co-existing psychiatric problems; (3) obtain all relevant documentation of past treatment efforts; (4) consider ways that the patient can be empowered to implement lifestyle changes that may improve functioning and comfort; (5) utilize long-term treatment with analgesics if improvements to functioning and/or pain relief can be achieved; (6) opioids should not be a first line treatment option, but can be employed in keeping with the World Health Organization's "analgesic ladder"; and (7) a multidisciplinary approach should be used, when possible.

**Alberta Alcohol and Drug Abuse Commission.** AADAC supports a number of programs and services aimed at reducing the harmful effects of prescription drug abuse and other addictions. In addition, AADAC has adopted a harm-reduction approach that is integrated in their services and programs. Included in these services are detoxification and short-term treatment centres, shelters/halfway houses, referral and outpatient counselling services, and specialized treatment services such as the Opioid Dependency Clinic. In a recent report on *Policy on Addictions and Medications* AADAC has outlined multiple approaches to address the issue of prescription drug misuse, including prevention, harm reduction strategies and joint initiatives with medical, pharmacy, and other health care agencies and associations.

## Key Informant Interviews

### Physicians

Key informants reported knowledge of the CPSA prescribing guidelines and triplicate program, and programs run through AADAC. When asked if these programs and policies are adequate, physicians consulted for this report indicated that they did not perceive them to be sufficient to address the problem of prescription drug misuse. They argue that the guidelines need improvement, support and treatment services need to be more readily available, and physicians need enhanced training to manage potential prescription misuse by patients. Further, key informants expressed a desire for brief, systematic methods to screen for prescription drug misuse. Furthermore, some recommended that stakeholders be engaged in a process to increase the efficiency and effectiveness of the TPP.

### Pharmacists

Key informants reported knowledge of AADAC-based programs, as well as programs offered by the Boyle McCauley Health Centre and the Boyle Street Coop Streetworks program, detox centres, PIN, methadone programs, and social assistance programs. When asked about the adequacy of the programs and policies in place, most suggested that they were not sufficient

to address the community's needs. One pharmacist argued the challenge they face in dealing with prescription drug abusers is recognizing at what point to conclude that the customer is double-doctoring. Furthermore, one pharmacist noted that there is no formal mechanism or procedure to manage situations of concern, such as when a pharmacist is asked to comply with a physician's order to fill the prescription, even when suspicion regarding the situation has been noted.

### **Service Providers**

Addiction treatment service providers were asked questions about their knowledge and perceptions of current programs and policies. Counsellors from the EDTCRC, AADAC ODC, and the Salvation Army Anchorage program agree programs and policies in place are adequate to address the issue of prescription drug misuse but that issues can arise when trying to translate policies into operation. Examples of how programs can fail include waiting lists, people abusing the system, and lack of education and lack of knowledge among users of available resources (personal communication).

Most service providers are aware of the Triplicate Program and the Pharmacy Information Network. A representative from the ODC also identified the CPSA standards and guidelines for methadone maintenance, the National Anti-Drug Strategy, PIN, Netcare, the Alberta Drug Strategy, the World Health Organization, and AADAC as examples of policies and programs and organizations with policies and programs designed to address prescription drug misuse.

When asked to provide recommendations for changes to current programs, this key informant suggested that the TPP have additional support to ensure information in the database is accurate and timely, that shorter dispensing intervals should be used, and that the Pharmacy Information Network increase the speed of information retrieval and clarification of medication codes. Another key informant recommended developing additional strategies to address the practice of double doctoring, in particular.

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# Appendix: Key Informant Interview Guides

## Inner-City Drug Users

1. How old are you?
2. What kind of place do you usually stay in?
3. Can you tell me a bit about how long you've been using drugs?
4. What drugs do you do these days?

Now I'm going to ask you a few questions about prescription drugs. When I use the term prescription drugs, I am talking about drugs or medicines that are used when they are not prescribed to you or using them more than what the doctor has told you to use. Things like Ts and Rs, T3's and T4s, street methadone. I don't mean other kinds of drugs like cocaine or meth, or marijuana.

5. For people who don't know anything about the prescription drug scene in Edmonton, what should they know?
6. How easy do you think it is to get prescription drugs in general?

7. In the past 30 days have you used \_\_\_?
8. On how many days in the last 30 have you used \_\_\_?
9. How do people usually get \_\_\_?
10. What are people paying for \_\_\_ these days?
  - a. Talwin and Ritalin (Ts & Rs)
  - b. Valium or benzodiazepines (tranqs, roofies, Librium)
  - c. Downers (barbiturates, Seconol, barbs, rainbows)
  - d. T3s & T4s (any codeine)
  - e. Methadone (from the street, not prescribed to you)
  - f. Demerol (meperidine, demmies)
  - g. Dilaudid (hydromorphone, dillies)
  - h. Percocet or Percodan (perks, oxycodone with either acetomenophen or aspirin)
  - i. Morphine
  - j. Oxycontin (oxycodone, oxy, OC)
  - k. Vicodan (vikes, hydrocodone and acetomenophen)
  - l. Stimulants (other than cocaine or Ritalin such as diet pills, dex)
  - m. Other prescription drug not given to you by a doctor or nurse?

11. Which prescriptions drugs are most popular right now with people you know?
12. How much do you typically spend on prescription drugs in a week?
13. Have you ever tried to quit? What have you done or tried?
14. Do you think prescription drug use is a problem in Edmonton? Why or why not?

## Pharmacists

1. What kind of training do pharmacists typically receive to help them recognize and manage the issue of prescription drug misuse?
2. What challenges do pharmacists face in addressing the issue of prescription drug misuse?
3. Is prescription drug misuse a problem in Edmonton?
4. What prescription drugs are most commonly misused in Edmonton?
5. Which groups, if any, show higher rates of prescription drug misuse, in your experience?
6. What programs and policies are you aware of that currently address this issue?
  - a. Are they adequate?
  - b. What suggestions do you have to improve the programs (prescription triplicate program, Wellnet, Pharmacy Information Network) and policies (AB College of Pharmacists) currently available?
  - c. Specifically, has the pharmacy information network helped to address the problem at all?
7. What impact do think providing pharmacists with some prescribing rights might have on the problem of prescription drug misuse?
8. Is there anything else you think I should know in order to understand the problem of prescription drug misuse in Edmonton?

## Physicians

1. What kind of training do physicians typically receive to help them recognize and manage the issue of prescription drug misuse?
2. What challenges do physicians face in addressing the issue of prescription drug misuse?
3. Is prescription drug misuse a problem in Edmonton?
4. What prescription drugs are most commonly misused in Edmonton?
5. Which groups, if any, show higher rates of prescription drug misuse, in your experience?
6. How easy is it for people misusing prescription drugs to get them in Edmonton?
7. What programs/policies are you aware of that address this issue?
8. Are current programs and policies adequate?
9. What changes/improvements would you make to programs (prescription triplicate program, pharmacy information network, Wellnet) and policies?
10. Is there anything else you think I should know in order to understand the problem of prescription drug misuse in Edmonton?

## Service Providers

1. What do you know about the prescription drug scene in Edmonton?
2. Is prescription drug misuse a problem in Edmonton? Why or Why not?
3. Which groups, if any, show higher rates of prescription drug misuse, in your experience?
4. What prescription drugs are most commonly misused in Edmonton?
5. How easy is it to get prescription drugs in Edmonton?
6. How do people usually get prescription drugs in Edmonton? (on the street or through doctors and nurses)
7. Do people with a prescription drug problem have special needs, compared to people with other substance use problems?
8. What proportion of people who seek help from your service/program have a prescription drug misuse problem each year?
9. About what proportion of people seeking help for prescription drug misuse typically complete treatment programs? Are they more or less likely to complete treatment, compared to people with other substance use problems?
10. What challenges do service providers like yourself face in addressing the issue of prescription drug misuse?
11. What programs/policies are you aware of that address prescription drug misuse in Edmonton?
12. Are current programs and policies adequate to address the issue of prescription drug misuse?
13. Are current programs and policies adequate to address the needs of people addicted to prescription drugs?
14. What changes/improvements would you make to programs and policies?

## Enforcement Representatives

1. Is prescription drug misuse a problem in Edmonton? How big is the issue in comparison to the misuse of other illegal drugs in and around the city?
2. What prescription drugs are most commonly misused in Edmonton, in your experience?
3. How much do prescription drugs go for on the black market, or on the street, in Edmonton?
  - Talwin and Ritalin
  - Benzodiazepines (e.g., Valium)
  - Barbiturates (e.g., Seconol, other downers)
  - T3s & T4s (any codeine)
  - Methadone (from the street)
  - Demerol (or meperidine)
  - Dilaudid (hydromorphone)
  - Percocet or Percodan (oxycodone with either acetomenophen or aspirin)
  - Morphine
  - Oxycontin (oxycodone, oxy, OC)
  - Vicodan (hydrocodone and acetomenophen)
  - Stimulants (other than cocaine or Ritalin, such as diet pills, etc.)
  - Other prescription drug that tend to be misused
4. Who primarily misuses prescription drugs in Edmonton?
5. How easy is it to get prescription drugs in Edmonton? How do users usually get them?
6. What kind of criminal activity is associated with prescription drug misuse or the illegal prescription drug trade?
7. In your opinion, what else are the best things that are being done to address the issue of prescription drug misuse? What else could or should be done?
8. What challenges does law enforcement face in tackling the problem of prescription drug misuse?
9. Is there anything else you think I should know in order to understand the problem of prescription drug misuse in Edmonton?